

General Education Program

A total of 44-46 credits of general education studies, not including the foreign language requirement, must be completed as part of all baccalaureate degrees. Nine credits must be taken in Study Area I, 9 credits in Study Area II, 6 credits in Study Area III, 6-7 credits in Study Area IV, 6 credits in Skill Area I, 6 credits in Skill Area II, up to 6 credits in Skill Area III, and 2-3 credits in Skill Area IV. A maximum of 8 credits in the study area portion and a maximum of 8 credits in the skill area portion of the general education program may be fulfilled by major and/or minor courses that are designated as applicable to general education, with no more than 8 credits total from any one field of study. Credits must be taken in each of four study areas and four skill areas as follows.

General Education: Courses Under the Study and Skill Areas

The general education program embraces four Study Areas and four Skill Areas. First-year students starting in fall 1998 and all students entering in fall 1999 or later are subject to the following program.

The Study Areas are:

- I. Arts and Humanities
- II. Social Sciences
- III. Behavioral Sciences
- IV. Natural Sciences

The Skill Areas are:

- I. Communication Skills
- II. Mathematics
- III. Foreign Language Proficiency
- IV. University Requirement

Credit requirements for each area are listed below. A listing of the appropriate course choices is linked below the relevant area.

Study Areas

I. Arts and Humanities 9 credits

At least 3 credits required in 200-level literature, and no more than 6 credits from any one discipline. Courses that focus on creative expression and interpretations of human experience, or the appreciation and development of thought and ideas. (In this study area, students will typically be exposed to courses in literature, philosophy, and fine arts.)

Study Area I Courses

Literature Requirement for Study Area I

II. Social Sciences 9 credits

At least 3 credits required in history, and no more than 6 credits from any one discipline. Courses dealing with formal social structures (such as governments, interest groups, territorial entities, economic firms) in their historical and contemporary contexts. (In this study area, students will typically be exposed to courses in economics, geography, history, and political science.)

Study Area II Courses

III. Behavioral Sciences 6 credits

Courses that focus on the interaction(s) between and among individuals and/or groups and social/cultural institutions. (In this study area, students will typically be exposed to courses in anthropology, psychology, and sociology.)

Study Area III Courses

IV. Natural Sciences 6-7 credits

A laboratory experience is required. Courses that focus on the scientific analysis of the natural world. (In this study area, students will typically be exposed to courses in biology, biomolecular science, chemistry, earth science, and physics.)

Study Area IV Courses

Skill Areas

I. Communication Skills 6 credits

ENG 110 required.* Students who have not completed ENG 110 prior to earning 61 credits are required to take both ENG 110 and ENG 202. Courses designed to improve communications skills relevant for the successful pursuit of a university education and for the enhancement of career opportunities.

Skill Area I Courses

II. Mathematics 6 credits

A mathematics or statistics course (above 101 level) appropriate to the student's major interests, plus one additional course in MATH, STAT, CS, or FYS 106, totaling 6 credits. The courses must be selected from the Skill Area II approved course list.

Skill Area II Courses

III. Foreign Language Proficiency 0-6 credits

Proficiency in a foreign language must be demonstrated before graduation. This requirement may be met by any of the following:

- a) Three sequential years of one foreign language at the high-school level.
- b) Elementary proficiency as demonstrated by successfully completing a second semester-level CCSU foreign language course (112), or the equivalent at another institution. Students with no previous background in a language must take the first and second semesters (111 and 112, or 118); students who place out of 111 due to previous background in the language may satisfy the requirement by taking 112 only.
- c) Passing a standardized examination that demonstrates knowledge of a foreign language equivalent to completion of a second semester course or higher.
- d) Demonstration of native proficiency in a language other than English (requires evaluation of skill level by an appropriate faculty member and/or official documentation, and approval by the chair of the Department of Modern Languages).

Skill Area III Courses

IV. University Requirement 2-3 credits

Courses designed to foster personal well-being and the development of academic skills essential for the successful pursuit of a university education. PE 144 (Fitness/Wellness Ventures) is required of all students entering with fewer than 15 credits, and it is recommended that it be taken in the student's first year. Those entering with 15 credits or more may complete this requirement with 2-3 additional credits in the skill areas above or with other Skill Area IV courses. Remedial courses, MATH 101, and elementary language courses (111 or 112) will not fulfill this requirement.

Skill Area IV Courses

*All entering students are required to take ENG 110 (Freshman Composition), which is an introductory course in expository writing, unless exempt due to previous coursework. A score of 450 on the writing or critical reading portion of the SAT (or 21 on the ACT) is needed to enroll in ENG 110. If a student's SAT writing score is below 450 (or 21 on the ACT), the student will be required to complete ENG 099 (Remedial English), which focuses on improvement of basic writing skills, prior to taking ENG 110. Student writing is assessed during the first week of class. Course adjustments may be made if, based on the writing assessment, it is determined that a student is enrolled in the wrong writing course.

Study Area I

ART 100	Search in Art
ART 110	Introduction to Art History [I]
ART 112	History of Art I [I]
ART 113	History of Art II [I]
ART 120	Design I
ART 124	Three-Dimensional Design
ART 130	Draw ing I
ART 216	Modern Art [I]
ART 224	Illustration I
ART 230	Draw ing II
ART 240	Printmaking I
ART 247	Photography I
ART 250	Watercolor Painting
ART 252	Painting I
ART 260	Ceramics I
ART 261	Sculpture I
ART 264	Design-Handicraft Materials and Techniques I
CHIN 304	Topics in Chinese Literature [I] [L]
CINE 201	The Language of Film
DAN 299	Dance History [I]
DES 100	Introduction to Graphic/Information Design
DES 122	Fundamentals of Graphic/Information Design
ENG 203	Survey of World Literature: Ancient to Early Modern [I] [L]
ENG 204	Survey of World Literature: 17th Century to the Present [I] [L]
ENG 205	Survey in British Literature: Middle Ages to the 18th Century [L]
ENG 206	Survey of British Literature: Romanticism to the Present [L]
ENG 210	Survey of American Literature: Pre-Civil War [L]
ENG 211	Survey of American Literature: Civil War to the Present [L]
ENG 212	African-American Literature [L]
ENG 213	Studies in American Literature [L]
ENG 214	Studies in International Literature [I] [L]
ENG 215	Introduction to Women Writers [I] [L]
ENG 220	Shakespeare [L]
ENG 250	Contemporary Literature [L]
ENG 260	Introduction to Poetry [L]
ENG 261	Introduction to Fiction [L]
ENG 262	Introduction to Drama [I] [L]
ENG 347	Latino/a Literature [I] [L]
FR 304	Introduction to French Literature [I] [L]
FR 305	Introduction to Francophone Literature [I] [L]

FYS 101	First Year Seminar-Arts and Humanities
GER 304	Introduction to German Literature I [I] [L]
GER 305	Introduction to German Literature II [I] [L]
HON 110	Western Culture I
HON 210	Western Culture II: Topics in Western Culture
HON 440	Writing & Research II
HUM 100	Search in the Humanities
HUM 250	Topics in European Literature [I] [L]
ITAL 304	Introduction to Italian Literature I [I] [L]
ITAL 305	Introduction to Italian Literature II [I] [L]
LAS 375	Spanish-American Literature I [I] [L]
LAS 376	Spanish-American Literature II
LTN 347	Latino/a Literature [I] [L]
MUS 100	Search in Music
MUS 109	Fundamentals of Music
MUS 110	Listening to Classical Music [I]
MUS 111	Music of the World's People [I]
MUS 112	Computer Applications to Music
MUS 113	History of Jazz
MUS 214	Electro-acoustic Music and Sonic Art
PHIL 100	Search in Philosophy
PHIL 112	Introduction to Philosophy
PHIL 121	Introduction to Philosophy through Literature
PHIL 125	Introduction to Philosophy through Popular Culture
PHIL 135	Nature, Mind, and Science
PHIL 144	Moral Issues
PHIL 232	Medieval and Renaissance Philosophy
PHIL 235	Philosophy of Social Science
PHIL 241	Environmental Ethics
PHIL 248	Philosophy of the Arts
PHIL 250	Introduction to Asian Philosophy [I]
PHIL 255	Philosophy of Religion
PHIL 260	African Philosophy [I]
PHIL 275	Chinese Philosophy [I]
PHIL 344	Topics in Philosophical and Social Justice
PHIL 366	Existentialism [I]
PS 232	Ancient and Medieval Political Thought
REL 105	Development of Christian Thought
REL 110	World Religions [I]
REL 250	Japanese Religion [I]
REL 256	Philosophy, Religion, and Culture [I]
REL 257	Special Topics in Religion
SPAN 304	Introduction to Spanish Literature I [I] [L]
SPAN 305	Introduction to Spanish Literature II [I] [L]

SPAN 375	Spanish American Literature I [I] [L]
SPAN 376	Spanish American Literature II [I] [L]
TH 110	Introduction to Theatre
TH 111	Stagecraft
TH 117	Lighting
TH 121	Costuming
TH 126	Makeup I
TH 135	Speaking-Voice Development
TH 143	Theatre Games and Improvisations
TH 145	Acting I
TH 146	Introduction to High Impact Theatre
TH 148	Studio Performance I
TH 222	History of Fashion [I]
TH 253	Script Analysis for the Theatre

Literature Requirement for Study Area I

Courses with the letter [L] have been designated as fulfilling the literature component of the general education literature requirements. The following is a list of courses with the [L] designation.

CHIN 304	Topics in Chinese Literature [L]
ENG 203	Survey of World Literature: Ancient to Early Modern [L]
ENG 204	Survey of World Literature: 17th Century to the Present [L]
ENG 205	Survey in British Literature: Middle Ages to the 18th Century
ENG 206	Survey of British Literature: Romanticism to the Present
ENG 210	Survey of American Literature: Pre-Civil War
ENG 211	Survey of American Literature: Civil War to the Present
ENG 212	African-American Literature
ENG 213	Studies in American Literature
ENG 214	Studies in International Literature [L]
ENG 215	Introduction to Women Writers [L]
ENG 220	Shakespeare
ENG 250	Contemporary Literature
ENG 260	Introduction to Poetry
ENG 261	Introduction to Fiction
ENG 262	Introduction to Drama [L]
ENG 347	Latino/a Literature [L]
FR 304	Introduction to French Literature [L]
FR 305	Introduction to Francophone Literature [L]
GER 304	Introduction to German Literature I [L]
GER 305	Introduction to German Literature II [L]
HUM 250	Topics in European Literature [L]
ITAL 304	Introduction to Italian Literature I [L]
ITAL 305	Introduction to Italian Literature II [L]
LAS 375	Spanish American Literature I [L]
LTN 347	Latino/a Literature [L]
SPAN 304	Introduction to Spanish Literature I [L]
SPAN 305	Introduction to Spanish Literature II [L]
SPAN 375	Spanish American Literature I [L]
SPAN 376	Spanish American Literature II [L]

Study Area II

AFAM 110	Introduction to African-American Studies
AMS 241	Introduction to Planning
CHIN 315	Topics Chinese Culture [I]
CRM 110	Introduction to the Criminal Justice System
ECON 200	Principles of Economics I
ECON 201	Principles of Economics II
ECON 250	Contemporary Economic Issues
ET 399	Engineering Economy
FR 315	Aspects of French History & Culture [I]
FR 316	Contemporary France [I]
FYS 102	First Year Seminar-Social Studies
GEOG 100	Search in Geography
GEOG 110	Introduction to Geography
GEOG 120	World Regional Geography [I]
GEOG 130	Intro. to Geography Information Science
GEOG 220	Human Geography [I]
GEOG 223	Geography of the Popular Music Industry
GEOG 241	Introduction to Planning
GEOG 244	Economic Geography [I]
GEOG 270	Geography of Hazards
GEOG 290	Geography of Tourism [I]
GEOG 291	National Parks and World Heritage Sites [I]
GEOG 333	Political Geography
GER 315	German Civilization to 1800 [I]
GER 316	German Civilization from 1800 to Present [I]
HIST 100	Search in History
HIST 121	World Civilization I [I]
HIST 122	World Civilization II [I]
HIST 161	American History to 1877
HIST 162	American History from 1877 to Present
HIST 231	Ancient Mediterranean World [I]
HIST 232	Medieval Europe [I]
HIST 233	Renaissance and Enlightenment Europe [I]
HIST 234	Modern Europe [I]
HIST 251	East Asia to 1800 [I]
HIST 252	East Asia since 1800 [I]
HIST 253	History of the South Pacific
HIST 271	Intro. to African History and Culture
HIST 277	History of Christianity I [I]
HIST 278	History of Christianity II [I]
HIST 281	History of Latin America to 1823 [I]
HIST 282	History of Latin America since 1823 [I]

HIST 291	Modern Middle East [I]
HIST 292	History of Judaism [I]
HIST 375	History of Africa to 1800 [I]
HIST 376	History of Africa Since 1800 [I]
HON 130	World Cultures I [I]
HON 230	World Cultures II: Topics in World Cultures [I]
HON 442	Writing & Research IV: Thesis Workshop
IS 225	The World as a Total System [I]
IS 240	Caribbean Cultural Patterns [I]
IS 245	Puerto Rico [I]
ITAL 315	Italian Civilization to 1861 [I]
ITAL 316	Italian Civilization from 1861 to the Present [I]
LAS 235	International Relations [I]
LAS 282	Latin American History Since 1823 [I]
LAS 316	Latin American Civilization [I]
LTN 110	Introduction to Latino Studies
PES 110	Introduction to the Study of Peace & War
PES 111	War & Peace through Films
PS 104	The World's Political Systems [I]
PS 110	American Government & Politics
PS 230	American State and Local Government
PS 235	International Relations [I]
PS 260	Public Administration
PS 270	Law and Politics
PS 280	Religion & Politics
PS 315	Internet & Media Politics
PS 334	Modern Political Thought
SPAN 315	Spanish Civilization [I]
SPAN 316	Latin American Civilization [I]
TE 110	Technological Systems

Study Area III

AMS 110	Introduction to American Studies
ANTH 140	Introduction to Anthropology [I]
ANTH 150	Introduction to Archaeology
ANTH 160	Introduction to Biological Anthropology
ANTH 170	Introduction to Cultural Anthropology [I]
ANTH 200	Dimensions of Diversity and Inequality
ANTH 210	The Ancient World
ANTH 215	Before History
ANTH 240	The Supernatural [I]
CEN 200	Introduction to Community and Civic Engagement
COMM 215	Introduction to Interpersonal Communication
COMM 230	Introduction to Mass Media
CM 110	The Built Environment and Global Society [I]
CRM 220	Ideology & Violence
CRM 230	Law Enforcement & Society
CRM 245	Diversity and Criminal Justice
ENGR 291	Engineering Diversity [D]
FYS 103	First Year Seminar-Behavioral Sciences
HON 220	Science and Society II: Social Sciences and Society
HON 250	Western/World Culture III: Comparative Topics [I]
IS 226	Intercultural Sensitivity [I]
LING 200	Introduction to Linguistics
LING 230	The Study of Language [I]
PSY 112	General Psychology I
PSY 125	Environment & Behavior
PSY 200	Learning & Memory
PSY 236	Life-Span Development [D]
PSY 241	Introduction to Health Psychology
PSY 281	Cognitive Psychology
SOC 110	Introductory Sociology
SOC 111	Social Problems
SOC 212	Race, Class, and Gender
SOC 233	The Family
SOC 240	The Sociology of Gender
SW 100	Exploration in Social Work
WGSS 200	Introduction to Women, Gender and Sexuality Studies
WGSS 240	The Sociology of Gender

Study Area IV

BIO 100	Search in Biology
BIO 101	Search in Biology w ith Lab
BIO 102	International Search in Biology [I]
BIO 111	Introductory Biology
BIO 113	Laboratory Experience in Biology
BIO 120	Plants of Connecticut
BIO 121	General Biology I
BIO 122	General Biology II
BIO 132	Introductory Ecology [I]
BIO 133	Laboratory in Introductory Ecology
BIO 150	Long Island Sound-Introductory Ecology
BIO 170	Introductory Field Studies in Biology
BIO 171	Introductory Field Studies in Biology [I]
BIO 211	Concepts in Biology
BIO 230	Natural History
BMS 100	Search in Biomolecular Sciences
BMS 101	Search in Biomolecular Sciences w ith Lab
BMS 102	Introduction to Biomolecular Science
BMS 103	Introduction to Biomolecular Science Laboratory
BMS 111	Cells and the Human Body
BMS 113	Laboratory Experience in Biomolecular Science
BMS 201	Principles of Cell and Molecular Biology
CHEM 100	Search in Chemistry and Biochemistry
CHEM 102	Chemistry of Nutrition
CHEM 111	Introductory Chemistry
CHEM 116	Introduction to Forensic Chemistry
CHEM 150	Chemistry of Allied Health I
CHEM 152	Chemistry of Allied Health II
CHEM 161	General Chemistry I
CHEM 162	General Chemistry I Laboratory
CHEM 163	General Chemistry II
CHEM 164	General Chemistry II Laboratory
ESCI 100	Search in Earth Science
ESCI 101	Search in Earth Science w ith Laboratory
ESCI 110	Introduction to the Earth
ESCI 117	Introduction to the Solar System
ESCI 118	Introduction to Stars and Galaxies
ESCI 121	Physical Geology
ESCI 122	Historical Geology
ESCI 129	Introduction to Meteorology

ESCI 178	Planetary Astronomy
ESCI 179	Stellar Astronomy
ESCI 278	Observational Astronomy
ET 241	Applied Statics and Strength of Materials
FYS 104	First Year Seminar-Natural Sciences
GEOG 272	Physical Geography
GEOG 275	Soils and Vegetation
HON 120	Science & Society I
ISCI 104	Science Connections
ISCI 118	Women's Contributions to Science
PHYS 111	Introductory Physics I
PHYS 113	The Sound of Music
PHYS 121	General Physics I
PHYS 122	General Physics II
PHYS 125	University Physics I
PHYS 126	University Physics II
SCI 111	Elementary Earth-Physical Sciences

Skill Area I

ASL 111	American Sign Language I
ASL 112	American Sign Language II
CHIN 125	Intermediate Chinese I [I]
CHIN 126	Intermediate Chinese II [I]
CHIN 225	Intermediate Chinese III [I]
CHIN 226	Intermediate Chinese IV [I]
COMM 115	Fundamentals of Communication
COMM 140	Public Speaking
COMM 256	Professional Communication
COMM 280	Business and Professional Speaking
ENG 110	Freshman Composition
ENG 202	Intermediate Composition
ENGR 290	Engineering Technical Writing and Presentation
ESL 108	English as a Second Language: Writing I
ESL 109	English as a Second Language: Writing II
ESL 201	Advanced Study in English as a Second Language
FR 125	Intermediate French I [I]
FR 126	Intermediate French II [I]
FR 225	Intermediate French III [I]
FR 226	Intermediate French IV [I]
FYS 105	First Year Seminar-Communication Skills
GER 125	Intermediate German I [I]
GER 126	Intermediate German II [I]
GER 225	Intermediate German III [I]
GER 226	Intermediate German IV [I]
HON 140	Writing & Research I
HON 441	Writing & Research III: Honors Thesis
ITAL 125	Intermediate Italian I [I]
ITAL 126	Intermediate Italian II [I]
ITAL 190	Italian for Italian Speakers [I]
ITAL 225	Intermediate Italian III [I]
ITAL 226	Italian Structure and Idiom [I]
JAPN 125	Intermediate Japanese I [I]
JAPN 126	Intermediate Japanese II [I]
JAPN 225	Intermediate Japanese III [I]
JAPN 226	Intermediate Japanese IV [I]
JRN 200	Introduction to Journalism
JRN 235	News Writing and Reporting I
ML 125	Intermediate Modern Language I
ML 126	Intermediate Modern Language II
ML 200	Topics in Modern Language Studies [I]
POL 125	Intermediate Polish I [I]

POL 126	Intermediate Polish II [I]
SPAN 125	Intermediate Spanish I [I]
SPAN 126	Intermediate Spanish II [I]
SPAN 128	Intensive Intermediate Spanish I [I]
SPAN 190	Language for Heritage Speakers of Spanish I [I]
SPAN 191	Language for Heritage Speakers of Spanish II [I]
SPAN 225	Intermediate Spanish III [I]
SPAN 226	Intermediate Spanish IV [I]
SPAN 261	Business Spanish [I]
SPAN 290	Hispanic Culture for Heritage Speakers of Spanish I [I]
SPAN 291	Hispanic Culture for Heritage Speakers of Spanish II [I]

Skill Area II

CS 110	Introduction to Internet Programming and Applications
CS 113	Introduction to Computers
CS 151	Computer Science I
CS 207	Introduction to Computer Graphics
CS 213	Applications of Computing I
CS 214	Applications of Computing II
FYS 106	First-Year Seminar-- Mathematics and Computer Science
MATH 105	Survey of Mathematics for Liberal Arts
MATH 106	Mathematical Topics for Liberal Arts
MATH 110	Finite Mathematics
MATH 113	Structure of Mathematics I: Number Systems
MATH 115	Trigonometry
MATH 116	Pre-Calculus Mathematics
MATH 119	Pre-Calculus with Trigonometry
MATH 123	Applied Business Mathematics
MATH 124	Applied Calculus with Trigonometry
MATH 125	Applied Calculus
MATH 135	Applied Engineering Calculus I
MATH 136	Applied Engineering Calculus II
MATH 152	Calculus I
MATH 213	Structure of Mathematics II: Probability & Geometry
MATH 221	Calculus II
PHIL 221	Introduction to Modern Logic
STAT 104	Elementary Statistics
STAT 200	Business Statistics
STAT 215	Statistics for Behavioral Sciences I
STAT 216	Statistics for Behavioral Sciences II

Skill Area III

CHIN 111	Elementary Chinese I
CHIN 112	Elementary Chinese II
CHIN 261	Business Chinese [I]
FR 111	Elementary French I
FR 112	Elementary French II
FR 151	French for Reading Knowledge [I]
FR 261	Business French [I]
GER 111	Elementary German I
GER 112	Elementary German II
ITAL 111	Elementary Italian I
ITAL 112	Elementary Italian II
ITAL 118	Intensive Elementary Italian [I, 3 credits only]
ITAL 123	Basic Italian Review
JAPN 111	Elementary Japanese I
JAPN 112	Elementary Japanese II
LAT 111	Elementary Latin I
LAT 112	Elementary Latin II
ML 111	Elementary Modern Language I
ML 112	Elementary Modern Language II
POL 111	Elementary Polish I
POL 112	Elementary Polish II
SPAN 111	Elementary Spanish I
SPAN 112	Elementary Spanish II
SPAN 118	Intensive Elementary Spanish [I, 3 credits only]
SPAN 123	Basic Spanish Review [I]

Skill Area IV

PE 144	Fitness/Wellness Ventures (required of all students entering with fewer than 15 credits and recommended to be taken in a student's first year)
CET 113	Introduction to Information Processing
CS 115	Workshop in Computer Science
CS 210	Computing and Culture
GRT 112	Digital Imaging for Graphics Technology
GRT 212	Graphic Arts Processes
LSC 150	Library Resources and Skills
RDG 140	Reading Efficiency

INTERDISCIPLINARY PROGRAMS

[African-American Studies](#)

[American Studies](#)

[Biochemistry](#)

[Cinema Studies](#)

[Community Engagement](#)

[Gerontology](#)

[Hospitality and Tourism Studies](#)

[Latino Studies](#)

[Peace Studies](#)

[Polish Studies](#)

[Religious Studies](#)

[Social Justice](#)

[Women, Gender, and Sexuality Studies](#)

Biochemistry

Faculty

T. Burkholder (860-832-2675), J. P. Mulrooney (860-832-3560), *Co-coordinators*; J. V. Arena, G. Brown-Wright, G. Crundwell, M. A. Davis, B. L. Dobbs-McAuliffe, N. M. Glagovich, B. Hoopengardner, C. A. Jones, M. A. Kapper, T. R. King, K. A. Martin, , C. L. Watson, S. Watton, B. L. Westcott, Jr.

Program Overview

The BS in biochemistry program provides a strong foundation in both molecular biology and chemistry and is based on faculty, facilities, and research resources in both the Department of Biomolecular Sciences and the Department of Chemistry and Biochemistry. In addition to in-class laboratory instruction, this interdepartmental program emphasizes independent student research carried out under the guidance of a faculty member from either department. This program is designed to prepare students for careers or advanced study in molecular biology, biochemistry, or health-related fields.

Program

Major in Biochemistry, BS (Non-teaching, 57-60 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Gerontology

Faculty

C. Andreoletti (860-832-1646) and M. Levvis (860-832-0184), *Co-Chairs*; M. Fallon, J. Melnyk, P. Osei, C. Watson

Program Overview

The gerontology minor is an interdisciplinary program designed to provide students with a comprehensive background in different issues related to adult development and aging in order to prepare them to serve the aging population in various capacities. Students are encouraged to visit the gerontology minor website at www.psychology.ccsu.edu/gerontology for more information about the program and to learn more about career opportunities in the field of aging.

Program

Minor in Gerontology (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Hospitality and Tourism Studies

Faculty

How ook "Sean" Chang, *Director* (860-832-2782); Dr. SeungWoo "John" Lee; Mr. David Johnson

Program Overview

Hospitality and tourism involves the business of attracting, transporting, lodging, entertaining, and providing food and beverages to people. It is one of the fastest growing segments in Connecticut's economy. This unique course of study is designed as an interdisciplinary program that incorporates courses from the Carol A. Ammon School of Arts and Sciences and the School of Business, leading to a BS degree in hospitality and tourism. Tourism hospitality studies (THS) courses are being added to the program as the program grows, and students are encouraged to visit the program website at <http://www.ccsu.edu/tourism> for further information and updates on our expanding tourism curriculum.

Program

Major in Hospitality and Tourism. BS (54 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Minor in Polish Studies (18 credits)

18 credits including 6 credits of Polish language, unless waived by the Modern Language Department. The remaining credits from the following:

Philosophical Reasoning - 6 credits

ANTH 426	People and Cultures of Eastern Europe	3
HIST 319	Race, Ethnicity, Migration in the United States	3
HIST 356	History of East Central Europe	3
HIST 379	History of Poland before 1795	3
HIST 380	Modern Poland	3
HIST 481	The Jews of Poland	3
HIST 482/ SOC 480	The Polish-American Immigrant and Ethnic Community	3
SOC 478	Current Topics in Sociology (as approved by Coordinator)	3

Or electives approved by the Coordinator

Minor in Social Justice (18 credits)

The minor in Social Justice provides students with a solid background in philosophical concepts and theories of social justice, and fosters skills necessary for critical analysis of social justice issues that arise in contemporary society. (This minor is not open to Philosophy majors).

Philosophical Reasoning - 6 credits

PHIL 221	Introduction to Modern Logic	3
PHIL 290	Philosophical Methods	3

Social Justice Core - 12 credits

PHIL 244	Introduction to the Philosophy of Social Justice	3
PHIL 344	Topics in Philosophy & Social Justice	3

6 credits from the following (other courses may be substituted with the approval of the Department Chair).

PHIL 144	Moral Issues	3
PHIL 211	Global Justice	3
PHIL 222	Philosophy of Gender	3
PHIL 360	African-American Philosophy	3
SOC 212	Gender, Race & Class	3
SOC 240	Sociology of Gender	3

Women, Gender, and Sexuality Studies

Faculty

Cindy L. White, *Co-coordinator (860-832-2695)*; Cynthia Pope, *Co-coordinator (860-832-2799)*

Program Overview

Women, gender, and sexuality studies is an interdisciplinary program concerned with issues that affect people due to their gender or sexual identity. The minor allows students to take courses in various departments that will enrich their lives as they explore topics such as the meanings of femininity and masculinity, sexual orientation, gender roles in society, sex, feminism, and global gender issues.

Program

Minor in Women, Gender, and Sexuality Studies (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

International & Area Studies

CCSU offers an interdisciplinary degree program in international studies, with specializations leading to the BA degree for students in arts and sciences.

Minors in African studies, East Asian studies, Latin American studies, Slavic and East European studies, and European Union/Western European studies are also offered.

Each student planning to major in international studies should contact the international studies program director (860-832-2617). Students planning a minor in a region, or those interested in a region as part of the BA major program, should contact the coordinator of the appropriate area studies program.

Programs

Major in International Studies, BA

[African Studies](#)

[East Asian Studies](#)

[European Union/West European Studies](#)

[Latin American Studies](#)

[Middle Eastern Studies](#)

[Slavic/East European Studies](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Major in International Studies, BA (57 credits)**Core Curriculum** (15 credits)

IS 225	The World as a Total System	3
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IS 475	Senior Project	3
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one research course of:

ANTH 374	Anthropology Field Methods	3
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HIST 301	Research Methods	3
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and two of:

GEOG 120	World Regional Geography	3
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HIST 122	World Civilization II	3
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PS 104	The World's Political Systems	3
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Regional Specialization (15 credits)

Courses in the language, literature, and social or behavioral science of a particular world region selected in consultation with a faculty advisor.

Modern Language (18 credits)

Courses in a single modern language or demonstration of competency in reading, writing, speaking, and understanding of a single modern language equal to completion of the 226 level, as determined by a CCSU instructor of the language and/or the chair of the Department of Modern Languages.

Directed Electives (9 credits)

Courses in either the regional specialization or a related area, or those designated international, or those labeled international studies; selected in consultation with a faculty advisor.

Structured International or Multicultural Experience

At least one semester of faculty-supervised, in-depth exposure to another way of life.

Note: Students will be encouraged to select a regional specialization coinciding with existing CCSU area studies programs, although a specialization from other world regions may be selected if desired and courses are available.

The modern language selected must be related to the regional specialization.

Students who complete the modern language component with fewer than 18 credits must take additional courses, in either the regional specialization and/or directed electives, selected in consultation with a faculty advisor.

Ideally, international studies majors will spend one academic year abroad. As an alternative, international studies faculty will assist students to develop a local multicultural experience related to the student's academic track or regional specialization.

A minor is not required for this major.

African Studies

Faculty

S. Fafunwa-Ndibe, W. Perry, Co-directors, Center for Africana Studies, (860-832-2816); F. Best, W. Brown Foster, J. Buxton, T. Darko, G. Emeagwali, P. English, K. Harris, M. Howell, S. Jones, P. Kyem, P. LeMaire, C. Marshall, A. Moemeka, E. Newman-Phillips, S. Odesina, P. Osei, S. Sogunro

Program Overview

The African studies program promotes an interdisciplinary approach to the study of Africa through a range of programs, activities, and courses. Students are exposed to Africa, its environment, the people, and the various historical, social, political, cultural, and economic aspects of the continent. The program has established links with local, regional, and international educators and institutions worldwide. The program provides students with opportunities to study in institutions in Africa.

Programs

Major in African Studies, BA

Students wishing to construct a major program in African studies may do so using the framework provided by the BA in international studies.

Minor in African Studies (18 credits)

HIST 375	History of Africa to 1800	3
HIST 376	History of Africa since 1800	3
PS 421	Government & Politics of Africa	3
PS 434	Government and Politics of the Middle East and North Africa	3

and 6 credits of electives as approved by the program coordinator

East Asian Studies

Faculty

S. Tomoda, Coordinator (860-832-2892); M. Jones, Y. Ju, S. Lee, J. McKeon, P. Petterson, X. Shen

Programs

Major in East Asian Studies, BA

Students wishing to construct a major program in East Asian studies may do so using the framework provided by the BA in international studies.

Minor in East Asian Studies

18 credits of electives in East Asian courses, subject to approval of the coordinator. Courses used for a major may not be used to fulfill the requirements of the minor.

European Union/West European Studies

Faculty

P. Lapuerta, *Coordinator (860-832-2884)*; R. Benfield, M. Casas, J. C. Del Ama, J. Kazecki, C. Liard-Muriente, A. Morales, M. Passaro, C. Pesca, P. Petterson, K. Ritzenhoff, L. Uribe

Programs

Major in European Union/West European Studies, BA

Students wishing to construct a major program in European Union/West European studies may do so using the framework provided by the BA in international studies.

Minor in European Union/West European Studies (18 credits)

The minor in European Union/West European Studies includes GEOG 452, PS 336, competency at the intermediate level (126) in a West European language other than English, and 6 additional credits of language, culture, or other suitable regional courses, in consultation with an advisor. Students achieving the language competency with fewer than 6 credits will be required to take additional directed electives, in consultation with an advisor, to bring the total number of credits taken for the minor to 18.

Middle Eastern Studies

Faculty

A. Antar, *Coordinator (860-832-2932)*; F. Abdollahzadeh, N. Al-Masoud, A. Ayalon, , A. Cannella, G. El-Eid, G. Emeagw ali, M.Hammad, M. Gadalla J. McKeon, N. Mezvinsky, T. Rickard (emeritus), N. Sadanand, M. Salinas, L. Zidani-Eroglu

Programs

Major in Middle Eastern Studies, BA

Students wishing to construct a major program in Middle Eastern studies may do so using the framework provided by the BA in international studies.

Minor in Middle Eastern Studies (18 credits)

HIST 291	Modern Middle East	3
PS 434	Government and Politics of the Middle East and North Africa	3
PS 439	U.S. Middle East Policy	3

and 12 credits from the following:

HIST 292	History of Judaism	3
HIST 474	History of the Arab-Israeli Conflict	3
PS 339	International Law	3
PS 439	U.S. Middle East Policy	3
PS 491	Advanced Studies in Political Science	1-6

Slavic/East European Studies

Faculty

M. Ciscel, *Coordinator (860-832-2749)*; R. Benfield, J. Bergman, M. Biskupski, M. Erdmans, I. Gotchev, P. Karpuk, D. Kideckel, E. Wolynska

Programs

Major in Russian Studies, BA

Students wishing to construct a major program in Russian studies may do so using the framework provided by the BA in international studies. For a sample program, please contact the coordinator.

Major in Slavic/East European Studies, BA

Students wishing to construct a major program in Slavic and East European studies may do so using the framework provided by the BA in international studies. For a sample program, please contact the coordinator.

Minor in Slavic/East European Studies (18 credits)

At least 9 selected from the following:

ANTH 426	People and Cultures of Eastern Europe	3
GEOG 448	Russia and Neighboring Regions	3
HIST 348	History of Russia II	3
HIST 356	History of East Central Europe since 1919	3
HIST 379	History of Poland: From the Piasts to Partition, 966-1795	3
PS 435	Russian and Eastern Europe	3

Study of an East European language at an equivalent level is strongly recommended. Courses in Polish studies may be applied to a Slavic/East European minor (see Polish Studies Center)

Course Descriptions

Note: Symbols referring to course cycling information are: (O) = odd year, (E) = even year, no symbol = course offered both semesters of the academic year.

The content of this catalog is provided for the information of the student. It is accurate at the time of printing but subject to change from time to time as deemed appropriate by Central Connecticut State University in order to fulfill its role and mission or to accommodate circumstances beyond its control. Any such changes may be implemented without prior notice and without obligation and, unless specified otherwise, are effective when made.

Common Course Equivalents. A set of common course equivalents across Central, Eastern, Southern, and Western state universities include 84 courses in 21 disciplines. All the courses are listed on a [common course chart](#), which will be updated annually. A Common Course Equivalent is one that:

- transfers among at least three CSUS universities in a fully reciprocal fashion;
- is made easily identifiable to students and the general public; and
- is maintained and updated at each university responding to any curricular changes that may take place.

The set of common courses include 100- and 200-level courses meeting General Education/Liberal Arts requirements at each university.

Course Credit in Transfer toward Intended Major. Annotations of General Education/Liberal Arts credit refer to general university requirements. They do not necessarily reflect lower division course requirements for specific major programs. In addition to the common course chart, students are urged to consult curriculum sheets for their intended majors at the universities they are attending or considering attending.

Transferring Credits from Connecticut Community Colleges. CSUS and the Connecticut Community College system have developed a Transfer Compact in recent years which offers Dual Admission to students who are planning to enroll at a CSUS university after completing associate degrees. In addition, various specific academic programs have transfer compacts in place that provide effective pathways to advance from the community colleges to the CSUS universities.

The list below provides links to the relevant individual courses. Please note that a major in any particular subject (Accounting, for example) requires courses in other disciplines.

Accounting (AC)	Engineering (ENGR)	Manufacturing Technology (MFG)
Actuarial Science (ACTL)	Engineering Technology (ET)	Marketing (MKT)
African-American Studies (AFAM)	Engineering Technology-Civil (ETC)	Mathematics (MATH)
American Sign Language (ASL)	Engineering Technology-Mechanical/Manufacturing (ETM)	Mechanical Engineering (ME)
American Studies (AMS)	English (ENG)	Modern Languages (ML)
Anthropology (ANTH)	English as a Second Language (ESL)	Music (MUS)
Art (ART)	Entrepreneurship (ENT)	Nursing (NRSE)
Biology (BIO)	Exercise Science (EXS)	Peace Studies (PES)
Biomolecular Sciences (BMS)	Finance (FIN)	Philosophy (PHIL)
Business (BUS)	Fine Arts (FA)	Physical Education (PE)
Business Education (BE)	First Year Experience (FYE)	Physics (PHYS)
Chemistry (CHEM)	First Year Seminar (FYS)	Polish (POL)
Chinese (CHIN)	French (FR)	Political Science (PS)
Cinema Studies (CINE)	Geography (GEOG)	Psychology (PSY)
Civil Engineering (CE)	German (GER)	Quantitative Reasoning (QR)
Communication (COMM)	Graphics Technology (GRT)	Reading (RDG)
Community Engagement (CEN)	History (HIST)	Recreation (REC)
Computer Electronics & Graphics Technology (CEGT)	Honors (HON)	Religious Studies (REL)
Computer Electronics Technology (CET)	Humanities (HUM)	Robotics (ROBO)
Computer Science (CS)	Intensive English Language Program (IELP)	School of Engineering and Technology (SET)
Construction Management (CM)	Interdisciplinary (ID)	Science Education (SCI)
Counseling (CNSL)	Interdisciplinary Sciences (ISCI)	Social Sciences (SSCI)
Criminology and Criminal Justice (CRM)	International Studies (IS)	Social Work (SW)
Dance (DAN)	Italian (ITAL)	Sociology (SOC)

Design (Graphic/Information) (DES)Earth Sciences (ESCI)Economics (ECON)

Education (ED)

Education-Elementary (EDEL)

Education-Secondary (EDSC)

Education-Teacher (EDTE)

Educational Foundations (EDF)

Educational Opportunity Program (EOP)

Educational Technology (EDT)

Electro-Mechanical Technology (EMEC)

Japanese (JAPN)Journalism (JRN)Latin (LAT)

Latin American Studies (LAS)

Latino Studies (LTN)

Law (LAW)

Library Science (LSC)

Linguistics (LING)

Management (MGT)

Management Information Systems (MIS)

Managerial Communication (MC)

Spanish (SPAN)

Special Education (SPED)

Statistics (STAT)

Technology & Engineering Education (TE)

Technology Management (TM)

Theatre (TH)

Tourism & Hospitality Studies (THS)

Vocational-Technical Education (VTE)

Women, Gender, & Sexuality Studies (WGSS)

Word Processing (WP)

Accounting

Note: Enrollment in 300- and 400-level accounting courses requires admission to the School of Business or permission of the department chair.

AC 210 Principles of Industrial Accounting 3

An introductory study of the measurement of financial position, net income, manufacturing costs, cost behavior, direct costing, standard costs, and budgeting. Emphasis on the managerial uses of accounting data in industry. IT majors only.

AC 211 Introduction to Financial Accounting 3

Prereq.: MATH 101 (C- or higher). Basic concepts and practice of accounting's role in providing information to external users to aid their decision-making activities. Topics include the preparation of financial statements and accounting for cash, receivables and payables, inventories, prepaid expenses and long-term assets. Business majors cannot receive General Education credit for this course.

AC 212 Introduction to Managerial Accounting 3

Prereq.: AC 211 (with C- or higher). Basic concepts and practice of accounting's role in providing information to managers to assist in their planning, control, and decision-making activities. Topics include cost accounting systems, cost behavior relationships, analysis for managerial decisions, and the budget process.

AC 300 Foundations of Accounting: The Profession, Processes & Analysis 3

Prereq.: FIN 295 (may be taken concurrently), and AC 212 (both with C- or higher). Develop understanding of accounting profession and role in society. Review of the accounting cycle and analysis of enterprise economic resources, obligations, revenues, and expenses, including: methods of measurement and recognition; the conceptual framework; and authoritative standards. Analysis of financial statements, risk, and role of internal controls. Emphasis on research, measurement and reporting, and problem solving and decision making.

AC 301 Cost Management Systems 3

Prereq.: AC 300 (may be taken concurrently), and STAT 200 (both with C- or higher). Development of principles of cost management systems. Emphasis on job order, process, activity-based, operations, just-in-time and standard costing procedures. Focus on accounting system choices and the implications of cost information for managing and reporting costs.

AC 302 Introduction to Income Taxation 3

Prereq.: LAW 250 and AC 212 (both with C- or higher). Analysis of the basic framework utilized in measuring and reporting taxable income of individuals and business entities including gross income, deductions, tax rates, credits, timing issues and procedural matters.

AC 311 Accounting Applications 3

Prereq.: AC 212 (C- or higher). Current financial reporting processes, issues and applications are studied. Emphasis on bookkeeping processes and technology. Irregular.

AC 312 Financial Reporting I 3

Prereq.: AC 300 (C- or higher). Financial accounting with special emphasis on measurement and recognition issues pertaining to assets.

AC 313 Financial Reporting II 3

Prereq.: AC 312 (C- or higher) taken within five years. Designed to further prepare students for professional competency. Topics include accounting for liabilities, stockholders' equity, investments, income taxes, employee compensation, post-employment benefits, leases, cash flows, changes and errors, and disclosure.

AC 340 Accounting Information Systems 3

Prereq.: AC 312 (may be taken concurrently) and AC 300 (both with C- or higher); MIS 201. Developing data models of evolving business processes and implementing accounting information systems based on the semantic data models. Analysis, development and documentation of

internal controls for organizational systems are also emphasized.

AC 402 Fundamentals of Corporate Taxation 3

Prereq.: AC 401 (C- or higher). Analysis of federal tax law relating to the formation, operation, and liquidations of corporations including dividend distributions and stock redemptions.

AC 404 Taxation of Business Pass-Through Entities 3

Prereq.: AC 401 (C- or higher). Analysis of federal tax law relating to (1) the formation, operation, and liquidation of partnerships and LLCs including current distributions; and (2) the election, operation, and termination of Subchapter S corporations. Irregular.

AC 407 Advanced Accounting 3

Prereq.: AC 313 (C- or higher). Accounting for partnerships and branches; business combinations and consolidated financial statements; foreign currency transactions and translation of foreign currency financial statements.

AC 410 Fraud Examination 3

Prereq.: AC 211. Principles and methodology of fraud detection and deterrence. Topics include: skimming, cash larceny, check tampering, register disbursement schemes, non-cash misappropriations, corruption, accounting principles and fraud, fraudulent financial statements and interviewing witnesses. Irregular.

AC 420 Managerial Analysis & Cost Control 3

Prereq.: AC 301 (C- or higher). Advanced topics in managerial and cost accounting. Emphasis on the use of accounting information for management decision making and cost management in traditional and lean business enterprises. Cases and problems. Fall.

AC 421 Accounting for Lean Enterprises 3

Prereq.: AC 301 with a grade of C- or higher. Replacing traditional accounting with techniques supporting continuous improvement and a lean culture, including value stream performance measurement and costing, features and characteristics costing, and target costing. Linked with AC 521. AC 421 and 521 cannot both be taken for credit. Spring.

AC 430 Accounting for Non-Profit Institutions 3

Prereq.: AC 313 (C- or higher). Comprehensive survey of governmental and other non-profit institution accounting as it relates to budgeting, cost accounting and financial reporting. Statutory influences which direct and control operation funds, bonded debt, fixed assets, investments, revenue and expenditure classification, general property taxes, and inter-fund relationships are subjected to detailed study.

AC 445 Auditing 3

Prereq.: AC 313 (may be taken concurrently), AC 340, STAT 201 (all with C- or higher). Introduction to the audit process and reporting using PCAOB and ASB auditing standards. Topics include demand for audit and other assurance service, legal and regulatory environment, professional ethics, and rules of conduct.

AC 455 Internal Auditing 3

Prereq.: AC 313 (may be taken concurrently), AC 340, STAT 201 (all with C- or higher). Role and responsibilities of internal auditors in financial auditing. Understanding the need and role of governmental auditing. Topics include operational audits, compliance audits, performance audits.

AC 490 Current Accounting Topics 3

Prereq.: Permission of instructor. Seminar course that will focus on current topics in financial accounting, tax, managerial accounting, accounting systems. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. Irregular.

AC 497 Independent Study in Accounting 3

Prereq.: Senior standing and permission of instructor. Research-oriented project in a special area of accounting. On demand.

AC 498 Internship in Accounting 3

Prereq.: AC 312 (C- or higher); permission of internship instructor and department chair. Accounting majors with approved contracts work with an accounting organization for at least 150 hours. Minimum eight weeks. Internships are opportunities for students to gain practical work

experience to enhance their academic studies. Students already in an accounting position may not receive credit for continuing in the same position.

Actuarial Science

ACTL 335 Theory of Interest 3

Prereq.: MATH 152. Theory and applications of the theory of interest. Topics include simple and compound interest, installment buying, annuities certain, sinking funds, amortization, depreciation, bonds, and related securities. Fall. (E)

ACTL 465 Actuarial Models I 4

Prereq.: STAT 315. Life contingency topics including survival models and life tables, net premium and reserve calculation including an introduction to multiple life and multiple decrement models. Students will not receive credit for both ACTL 465 and ACTL 565. Fall. (O)

ACTL 466 Actuarial Models II 4

Prereq.: STAT 315. Topics related to risk theory including frequency and severity of losses, approaches to calculation of the aggregate loss distribution, and estimation of the probability of ruin. Students will not receive credit for both ACTL 466 and ACTL 566. Spring. (O)

ACTL 480 Topics in Actuarial Science 1 TO 3

Prereq.: Permission of instructor. Topics chosen from theory of interest, risk theory, demography, and graduation. Irregular. [GR]

ACTL 481 Review-SOA/CAS Course I 3

Review and extension of the principles of calculus and probability as related to the material on the SOA/CAS Course 1 exam. Spring. [GR]

ACTL 482 Review-SOA/CAS Course II 3

Prereq.: ACTL 335 and permission of instructor. Review and extension of the principles of theory of interest, economics, and finance as related to the material on the SOA/CAS Course 2 exam. Spring. [GR]

African-American Studies

AFAM 110 Introduction to African-American Studies 3

Interdisciplinary survey of African-American experience from pre-colonial Africa to today, focusing on key figures and on discussion of a wide range of contemporary issues. Fall. Study Area II

AFAM 200 Dimensions of Diversity and Inequality 3

Cross listed with ANTH 200. See ANTH 200 for detailed description. No credit given to students with credit for ANTH 200.

AFAM 212 African-American Literature 3

Cross listed with ENG 212. See ENG 212 for detailed description. No credit given to students with credit for ENG 212.

AFAM 345 Modern African-American Literature 3

Cross listed with AMS 345 and ENG 345. See ENG 345 for detailed description. No credit given to students with credit for ENG 345 or AMS 345.

AFAM 424 Peoples and Cultures of Africa 3

Cross listed with ANTH 424. See ANTH 424 for detailed description. Fall. (E)

AFAM 469 African Americans in the 20th-Century 3

Prereq.: HIST 301 or 310 or permission of instructor. Cross listed with HIST 469. See HIST 469 for detailed description. No credit given to students with credit for HIST 469. Fall. (O)

American Sign Language

ASL 111 American Sign Language I 3

Introduction to American Sign Language, the language used by the Deaf community in the United States. Fundamentals of the basic structure of ASL grammar, vocabulary, fingerspelling/numbers, information related to Deaf Culture. May not be used to fulfill the foreign language requirement. Skill Area I

ASL 112 American Sign Language II 3

Prereq.: ASL 111 Continuation of American Sign Language I. Further coverage of the fundamentals of ASL grammar, vocabulary, fingerspelling/numbers, visual-gestural communication, and information related to Deaf Culture. May not be taken to fulfill the foreign language requirement. Skill Area I

American Studies

AMS 110 Introduction to American Studies 3

Examines socio-cultural, political, and historical factors, as well as literary and artistic expressions, in addressing the overarching questions: What does it mean to be an American? and What is America?. Spring. Study Area III

AMS 241 Introduction to Planning 3

Cross listed with GEOG 241. See GEOG 241 for detailed course description. No credit given to students with credit for GEOG 241. Study Area II

AMS 322 Race and Ethnic Relations 3

Prereq.: SOC 110, 212. Cross listed with SOC 322. See SOC 322 for detailed course description. No credit given to students with credit for SOC 322. Fall.

AMS 332 Civil Liberties 3

Prereq: PS 110. Cross listed with PS 332. See PS 332 for detailed course description. No credit given to students with credit for PS 332.

AMS 341 The American Renaissance 3

Cross listed with ENG 341. See ENG 341 for detailed course description. No credit will be given to students with credit for ENG 341.

AMS 345 Modern African-American Literature 3

Cross listed with AFAM 345 and ENG 345. See ENG 345 for detailed course description. No credit given to students with credit for either AFAM 345 or ENG 345.

AMS 422 Native Americans 3

Cross listed with ANTH 422. See ANTH 422 for detailed course description. No credit will be given to students with credit for ANTH 422. Fall. [I]

AMS 430 The American Presidency 3

Prereq.: PS 104, 110 or permission of instructor Cross listed with PS 430. See PS 430 for detailed course description. No credit given to students with credit for PS 430. Spring.

AMS 448 Studies in American Literature 3

Cross listed with ENG 448. See ENG 448 for detailed course description.

AMS 490 Internship in American Studies 3

Prereq.: Permission of program coordinator. Supervised work in appropriate institutions requiring application of interdisciplinary principles related to American Studies. Series of consultations and a final project analyzing procedures and conclusions are required. On demand.

Biology

BIO 100 Search in Biology 3

Examination of various topics, contemporary issues, and problems in biological sciences. Three hours of lecture per week. No credit given toward biology majors or minors. Course may be repeated one time with a different topic. CSUS Common Course. Irregular. Study Area IV

BIO 101 Search in Biology with Lab 3

Examination of various topics, contemporary issues, and problems in biological sciences. Sections include two lectures and one two-hour lab per week. No credit given toward biology majors or minors. Course may be repeated one time with a different topic. CSUS Common Course. Irregular. Study Area IV

BIO 102 International Search in Biology 3

Examination of various international biological topics, global contemporary issues, and biological problems of current society. Three hours of lecture per week. No credit given toward biology majors or minors. CSUS Common Course. Irregular. Study Area IV [I]

BIO 111 Introductory Biology 3

Humans and the biological world, with emphasis on structure and function of the human organism, including topics on disease, heredity and evolution. Cannot be used to meet requirements for major or minor in biology. Three lectures per week. No credit given to those with credit for BMS 111. CSUS Common Course. Study Area IV

BIO 113 Laboratory Experience in Biology 1

Prereq.: BIO 100 or 111 (may be taken concurrently), or permission of department chair. Laboratory experiences in biology, with a strong emphasis on hypothesis development, experimentation, data analysis, and written reports. One two-hour laboratory per week. Study Area IV

BIO 120 Plants of Connecticut 3

From sea lettuce to mountain laurel-introduction to the plants of Connecticut. Naturalistic approach dealing with common names and practical information. Field walks and plant collections required. Two lectures and one three-hour laboratory per week. Not open to Biology majors. Summer. Study Area IV

BIO 121 General Biology I 4

Structural and physiological organization of cells involved in growth and inheritance of living organisms is discussed. Consideration of growth of flowering plants and comparisons of levels of specialization reached among major groups within the plant kingdom. Lecture topics are paralleled in laboratory, where living, prepared and preserved materials are used for study and dissection. Three lectures and one three-hour laboratory per week. Required for major, minor, or specialization in biology, but open to anyone interested in the subject. CSUS Common Course. Study Area IV

BIO 122 General Biology II 4

Prereq.: BIO 121. Consideration of major animal groups, emphasizing diversity of animal life and its wide distribution. Vertebrate type is used to illustrate differentiation, division of labor, and development of organ systems, stressing integration to make unified whole. Embryology, evolution, and ecology. In laboratory, living, prepared, and preserved materials are used for study and dissection. Three lectures and one three-hour laboratory per week. CSUS Common Course. Study Area IV

BIO 132 Introductory Ecology 3

Introductory course that introduces students to ecological processes structuring the biosphere and our impacts on it. Emphasis will be placed on current local and global environmental issues and ways of making human lifestyles sustainable. Three lectures per week. Cannot be used to meet requirements for major or minor in Biology. Study Area IV [I]

BIO 133 Laboratory in Introductory Ecology 1

Prereq.: BIO 132. Introductory biology laboratory course in field ecology to accompany, or follow, BIO 132. One three-hour laboratory or field trip per week. Cannot be used to meet requirements for major or minor in Biology. Study Area IV

BIO 150 Long Island Sound -- Introductory Ecology 4

An introduction to the physical, chemical, geological, and biological characteristics of estuaries, using Long Island Sound as a model. Laboratories and field trips will emphasize identifying common coastal organisms and understanding their roles in estuarine ecosystems. Lectures, laboratories, and field trips. Summer. Study Area IV

BIO 170 Introductory Field Studies in Biology 1 TO 4

Prereq.: Permission of instructor based on interview. Travel-based field biology experience. Non-major students will learn to identify biological questions, design and conduct observations and/or experiments, analyze their data, and reach valid conclusions. May be repeated at different field sites. Irregular. Study Area IV

BIO 171 Introductory Field Studies in Biology 1 TO 4

Prereq.: Permission of instructor based on interview. Travel-based international field biology experience. Non-major students will learn to identify biological questions, design and conduct observations and/or experiments, analyze data, and reach valid conclusions. May be repeated at different international field sites. Irregular. Study Area IV [I]

BIO 200 Integrative Biology 4

Prereq.: BIO 121 and BIO 122. Emphasis on integration of genetic concepts with ecology, evolution, and biodiversity. Includes DNA replication, gene expression, viruses, phylogeny, animal behavior, and population dynamics. Laboratories include biotechnology and field ecology research techniques. Three hours of lecture and one three-hour laboratory per week.

BIO 211 Concepts in Biology 3

Introduction to cellular, genetic, evolutionary, and ecological principles with laboratory emphasis on application of basic concepts. Two lectures and one two-hour laboratory per week. Cannot be used to meet requirements for major or minor in Biology. Study Area IV

BIO 230 Natural History 2

Prereq.: BIO 121; or BIO 132 and 133; or BIO/BMS 111 and 113. Consideration of local wild species and their range, habitats, natural history traits, and evolutionary history. Two, one-hour lecture meetings per week. Noteworthy field and library work expected outside of class time. Fall. Study Area IV

BIO 290 Biology Research Experience I 2

Prereq.: MATH 101 (or math placement exam) and BIO 121 (may be taken concurrently). Introduction to research design and the analysis, interpretation, and presentation of biological data. Includes lectures, seminars, and computer laboratory.

BIO 315 Microbial Ecology 4

Prereq.: BIO 200 (or permission of instructor) and CHEM 161 and 162 or CHEM 121. Ecology and biodiversity of aquatic and terrestrial microbes. Laboratories deal with microbial distribution, ecosystem function, and methods of studying microbes in the environment. Three hours of lecture and one, three-hour laboratory per week. Fall.

BIO 318 Anatomy and Physiology I 4

Prereq.: BIO 122 or BMS 201 or NRSE 150; or permission of department chair. Human gross morphology, histology, and physiology of the skeletal, integument, muscular, nervous, and respiratory systems, including effects of aging. Three hours of lecture and one three-hour laboratory per week. Cross listed as BMS 318. No credit given to students with credit for BMS 318. Fall.

BIO 319 Anatomy and Physiology II 4

Prereq.: BIO 122; or BMS 201; or NRSE 150; or permission of department chair. Human gross morphology, histology, and physiology of the endocrine, cardiovascular, lymphatic, renal, digestive, and reproductive systems. Nutrition, metabolism, fetal development and aging will also be covered. Three hours of lecture and one three-hour laboratory per week. Cross listed as BMS 319. No credit given to students with credit for BMS 319. Spring.

BIO 322 Vertebrate Zoology 4

Prereq.: BIO 200 or permission of the department chair. Vertebrate classification and life histories of representative forms. Laboratory work will emphasize identification of North American species. Three lectures and one three-hour laboratory per week. No credit given to those with credit for BIO 222. Spring. (E)

BIO 326 Mushrooms, Mosses, & More 4

Prereq.: BIO 200 or permission of the department chair. Natural history and importance to human health, agriculture, and industry of fungi, algae, lichens, liverworts, and mosses. Three hours of lecture and three hours of lab/field trips per week. Occasional Saturday field trips. No credit given to those with credit for BIO 226. Irregular.

BIO 327 Vascular Plants 4

Prereq.: BIO 200 or permission of the department chair. Phylogenetic relationships, life cycles, distribution and economic significance of vascular plants. Emphasis is placed on the seed plants. Three lectures and one three-hour laboratory per week. No credit given to those with credit for BIO 227. Spring.

BIO 331 Neurobiology 4

Prereq.: Bio 200 or permission of instructor. Basic principles of neuroscience. Resting potentials, action potentials, synaptic transmission, sensory systems, learning, neural circuits underlying behavior, neurological diseases and mental illness. Three hours of lecture and one, three-hour laboratory per week. Spring. (O)

BIO 333 Endocrinology 3

Prereq.: Bio 200 or permission of department chair. Structure and function of endocrine systems. Endocrine disease and hormonal control mechanisms involved in regulating reproduction, growth, and homeostatic systems within animals. Spring. (E)

BIO 390 Biology Research Experience II 1

Prereq.: BIO 290, or permission of instructor and department chair. Specific projects in various aspects of biology under the supervision of one or more department members. Written report or poster presentation, and portfolio review required. Course may be repeated with a different instructor for a maximum of two credits. On demand.

BIO 391 Internship in Biology 1 TO 6

Prereq.: Written permission of instructor and department chair. Projects in Biology under the supervision of one or more department members. Projects generally involve work with associated organizations off campus. Written report or poster presentation, and portfolio review required. On demand.

BIO 401 Human Nutrition and Metabolism 3

Prereq.: BIO 200 and BIO 290, or permission of department chair. Biochemical and physiological processes that affect the nourishment of humans, including newborns and the aging. Interactions among nutrients, the environment and the body resulting in perturbations affecting human health are considered. Spring. [GR]

BIO 402 Evolutionary & Ecological Genetics 3

Prereq.: BIO 200 and 290 or permission of instructor. Study of the genetic diversity of species and populations, and the processes that affect their evolution, including natural selection, gene flow, and mutation. Review of basic genetics from General Biology. Applications of genetics to modern problems in ecology and conservation. Spring. [GR]

BIO 405 Ecology 4

Prereq.: BIO 200 and BIO 290 (or permission of department chair) and CHEM 163 and CHEM 164 or CHEM 122. Distribution and abundance of different types of organisms and the physical, chemical, and biological features and interactions that determine survival, growth, and reproduction in changing environments. Ecological theory and quantitative analyses included in lecture and laboratory. Three hours of lecture and one three-hour laboratory per week. Fall. [GR]

BIO 410 Ecological Physiology 4

Prereq.: BIO 200 and BIO 290 and CHEM 163 and CHEM 164 or CHEM 122 or permission of department chair. An examination of the physiological interactions between organisms and their associated ecosystems. Equivalent of three hours of lecture and three hours of laboratory per week. Summer. [GR]

BIO 412 Human Physiology 3

Prereq.: BIO 122; or BMS 201; or BIO/BMS 318 or 319; or permission of department chair. Study of the human body and its reactions to internal and external environmental changes. Physiology of the musculoskeletal, nervous, circulatory, respiratory, excretory and endocrine systems is considered. Integrative mechanisms of the system are emphasized. Cross listed as BMS 412. No credit given to students with credit for BMS 412. Fall. [GR]

BIO 413 Human Physiology Laboratory 1

Prereq. or coreq.: BIO 412 or BMS 412 (either may be taken concurrently). Laboratory course to accompany BIO 412. One three-hour laboratory per week. Cross listed as BMS 413. No credit given to students with credit for BMS 413. Fall. [GR]

BIO 414 Human Disease 3

Prereq.: BIO 200 and BIO 290. Human diseases caused by pathogenic organisms, environmental factors, and physiological and immunological disturbances. Review of normal functions and homeostasis followed by discussion of altered function. Irregular.

BIO 420 Ornithology 4

Prereq.: BIO 200 and BIO 290 or permission of department chair. Life histories, physical and physiological adaptations, evolution, ecology, and behavior of birds. Laboratories will include field identification and other behavioral and ecological research techniques. Three hours of lecture and one three-hour field or laboratory period per week. Spring. (E) [GR]

BIO 421 Marine Invertebrate Biology 4

Prereq.: BIO 200 and 290; or permission of the department chair. Evolutionary relationships and morphological, physiological, developmental, and ecological variation within and among taxonomic groups of marine invertebrates. Three hours of lecture and one, three-hour laboratory per week. Irregular. [GR]

BIO 425 Aquatic Plant Biology 4

Prereq.: BIO 200 and BIO 290, or permission of department chair. Ecology and classification of microalgae, macroalgae and vascular plants from marine, estuarine, and freshwater environments. Laboratories and field trips include collection and identification of plants from Connecticut aquatic habitats. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. Fall. (E) [GR]

BIO 434 Ecology of Inland Waters 4

Prereq.: BIO 200 and BIO 290, or permission of department chair and CHEM 163 and CHEM 164 or CHEM 122. A comparison of lotic and lentic freshwater environments, with emphasis on physical and chemical parameters influencing the distribution of aquatic organisms, nutrient cycling, and factors affecting aquatic productivity. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. Fall. (O) [GR]

BIO 436 Environmental Resources and Management 3

Prereq.: BIO 200 and BIO 290, or permission of department chair and CHEM 163 and CHEM 164 or CHEM 122. Analysis of the interactions of human population-resource depletion-pollution at local to global scales from an environmental management/protection perspective. Emphasis upon better understanding the impacts of over-population and methods for control, significance and loss of biodiversity, aquatic pollution, and global climate change. Spring. (E) [GR]

BIO 438 Aquatic Pollution 4

Prereq.: BIO 200 and BIO 290 (or permission of department chair) and CHEM 163 and CHEM 164 or CHEM 122. Study of the various types of aquatic pollutants, their sources and control/treatment, and the effects of water pollution upon aquatic ecosystems, as well as Federal and State water pollution regulatory programs. Laboratory will include field collection of water samples and measurement of indicators of water quality. Three hours of lecture and one three-hour laboratory per week. Some Saturday field trips required. Spring. (O) [GR]

BIO 440 Evolution 3

Prereq.: BIO 200 and BIO 290 or permission of department chair. Mechanisms of inter-generational change including mutation selection, and drift; sexual selection; speciation; and extinction. Fall. (O) [GR]

BIO 444 Plant Taxonomy 3

Prereq.: BIO 200 and BIO 290 or permission of department chair. Scientific approach to identification and classification of locally occurring plants using taxonomic keys. Includes ferns, fern allies, conifers and flowering plants, with emphasis on the latter. Field walks and plant collections required. Two hours of lecture and one three-hour laboratory per week. Fall. [GR]

BIO 449 Plant Physiology 3

Prereq.: BIO 200 and BIO 290; or BMS 201 or permission of department chair. Basic principles of plant function. Emphasis on the soil-plant-air continuum, phloem transport, photosynthesis and mechanisms of plant responses to the environment. Spring. [GR]

BIO 450 Investigations in Plant Physiology 1

Prereq.: BIO 449 (may be taken concurrently) or permission of instructor. Investigative laboratory in plant physiology. Topics include water potential, transpiration, mineral nutrition, phloem transport, photosynthetic and respiratory gas exchange, photosynthetic electron transfer, plant movements, and plant hormones. One three-hour lab per week. Spring. [GR]

BIO 469 Entomology 4

Prereq.: BIO 200 and BIO 290 or permission of department chair. In depth study of insect systematics and biology. Laboratory includes building an insect collection and working with live specimens. Fall. [GR]

BIO 470 Field Studies in Biology 1 TO 4

Prereq.: BIO 200 and BIO 290, or permission of department chair (interview with instructor required for courses outside of the U.S.). Travel-based field biology experience. Students will learn to identify biological questions, design and conduct observations and/or experiments, and analyze their data and reach valid conclusions. May be repeated at different field sites. Irregular.

BIO 471 International Field Studies in Biology 1 TO 4

Prereq.: BIO 200 and BIO 290, or permission of department chair; and interview with instructor. Travel-based international field experience. Students will learn to identify biological questions, design and conduct observations and/or experiments, analyze data, and reach valid conclusions. May be repeated at different field sites. Irregular. [I]

BIO 480 Animal Behavior 4

Prereq.: BIO 200 and BIO 290 or permission of department chair. Understanding animal behavior from the perspectives of adaptive function, evolutionary history, development and physiological. Laboratories focus on techniques of observation, experimental design, and data analysis. Three hours of lecture and one three-hour field or laboratory session per week. Fall. (E) [GR]

BIO 489 Vertebrate Dissection 2

Prereq.: BIO 200 and BIO 290, or permission of department chair. The anatomy of representative vertebrates, with emphasis on the muscular, digestive, circulatory, reproductive, excretory, and other soft tissue systems. Laboratory work will include dissection of specimens. One hour of lecture and three hours of laboratory per week. Irregular.

BIO 490 Topics in Biology 3 TO 4

Prereq.: BIO 200 and BIO 290 or permission of department chair; minimum of junior status required. For advanced undergraduates. Selected studies in the biological sciences. Lectures, seminars, discussions, independent readings, reports and laboratory work appropriate for the topic will be utilized. Four credit hour offerings will include one three-hour laboratory per week. May be repeated with different topics. Irregular.

BIO 491 Advanced Studies in Biology 1 TO 3

Prereq.: BIO 390, written permission of instructor and department chair. Advanced projects in biology under the supervision of one or more department members. It is expected that this research will be a continuation of, or closely related to research begun in BIO 390. Written report or poster presentation, and portfolio review required. May be repeated for a maximum of five credits. On demand.

BIO 499 Undergraduate Thesis in Biology 1

Prereq.: BIO 491 (may be taken concurrently), written permission of thesis adviser and department chair. Student must submit thesis proposal based on project done in BIO 491, to the Biology Department and complete the undergraduate thesis under the supervision of the thesis adviser. The same BIO 491 project may not be the subject of both a HON 491 thesis and a BIO 499 thesis. On demand.

Biomolecular Sciences

BMS 100 Search in Biomolecular Sciences 3

Examination of various topics, contemporary issues, and problems in biomolecular sciences. Three hours of lecture per week. No credit given toward a major or minor in the sciences. Course may be repeated one time with a different topic. Winter, summer. Study Area IV

BMS 101 Search in Biomolecular Sciences with Lab 3

Examination of various topics, contemporary issues, and problems in biomolecular sciences. Sections include two lectures and one, two-hour laboratory per week. No credit given toward life sciences majors or minors. Course may be repeated one time with a different topic. Irregular. Study Area IV

BMS 102 Introduction to Biomolecular Science 3

An introduction to cell physiology and basic metabolism (including the fundamentals of molecular genetics) and the organization, structure and function of animal tissues and organ systems. Study Area IV

BMS 103 Introduction to Biomolecular Science Laboratory 1

Prereq.: BMS 102 (may be taken concurrently). Laboratory course to accompany BMS 102. One, three-hour lab per week. Study Area IV

BMS 111 Cells and the Human Body 3

An overview of the structure and function of the cell and its metabolism. Topics include genetics and molecular mechanisms underlying cellular structure and function, and the need for and generation of multiple cell types and organ systems in the human body. Covers the workings of the major organ systems in maintaining the overall health of an individual. No credit given to students with credit for BIO 111. Cannot be used to meet requirements for major or minor in biomolecular sciences. Study Area IV

BMS 113 Laboratory Experience in Biomolecular Science 1

Prereq.: BMS 100 or BMS 102 or BMS 111 or BIO 100 or BIO 111 (any of these may be taken concurrently). Laboratory experiences in biomolecular sciences, with a strong emphasis on hypothesis development, experimentation, data analysis and written reports. One, two-hour laboratory per week. Study Area IV

BMS 190 Introduction to Research I .5

Prereq.: BMS 102 (may be taken concurrently). Weekly discussions with research seminars, presentations by students currently doing research, and other instruction appropriate to the first year biomolecular sciences major (portfolio, career advising, workshops, etc.). One hour per week.

BMS 201 Principles of Cell and Molecular Biology 4

Prereq.: BMS 102 and BMS 103 or BIO 121; or permission of department chair. Introduction to the major principles of cell biology including cell compartmentalization; flow of genetic information; protein structure, synthesis, and trafficking; signal transduction; and molecular responses resulting in changes in cell activity, cell division, or apoptosis. Three hours of lecture and one, three-hour laboratory per week. Study Area IV

BMS 206 Genetics for Nursing 3

Prereq.: BMS 102, or BMS 111, or BIO 111, and CHEM 150. Introduction to human and clinical genetics for nursing majors. Will include overview of transmission and molecular genetics, with special emphasis on human and health-related issues. Cannot be used to satisfy the requirements for a major in biomolecular science or biology. Three hours of lecture per week. Irregular.

BMS 216 Microbiology for Nursing 3

Prereq.: BMS 102, or BMS 111, or BIO 111, and CHEM 150, or permission of department chair. Introduction to bacteriology, virology, mycology, immunology, and parasitology. Course will focus on the interactions between humans and the microbial world that influence health and disease. The laboratory exercises will give students significant experience with basic techniques for studying and manipulating microorganisms, including microscopy, culturing of bacteria, and biochemical and behavioral testing of known and unknown samples. Cannot be used to satisfy the requirements for a major in biomolecular science or biology. Two, one-hour lectures and one, two-hour laboratory per week. Irregular.

BMS 290 Introduction to Research II .5

Prereq.: BMS 201 (may be taken concurrently) and BMS 190; or permission of department chair. Weekly discussions consisting of research seminars by biomolecular sciences faculty and students. Coverage of career options, the nature of research, and advising. One hour per week.

BMS 306 Genetics 3

Prereq.: BMS 201 or permission of the department chair, and CHEM 161 and CHEM 162 or CHEM 121. Historical development of basic principles and modern concepts of genetics. Integrated survey of each of the major fields of genetics is presented. Three hours of lecture and one.

BMS 307 Genomics 4

Prereq.: BMS 201 and CHEM 161 & 162, or permission of department chair. Covers foundational material regarding genome structure and introduces modern analytical techniques for comparative genome studies. Topics include proteomics and molecular systems. Labs emphasize modern nucleic acid-based techniques and bioinformatics approaches. Three hours of lecture and one, 3-hour laboratory per week. Spring.

BMS 308 Genetics Laboratory 1

Prereq.: BMS 306 (may be taken concurrently). Laboratory to accompany BMS 306.

BMS 311 Cell Biology 4

Prereq.: BMS 201 or permission of the department chair, and CHEM 161 and CHEM 162 or CHEM 121. Cellular structure and function in terms of chemical composition, physiochemical, and functional organization of cells and organelles, including basic cellular metabolism. Membrane transport phenomena, excitation, contraction, trafficking, cell interactions, and other specialized cellular functions. Three hours of lecture and one three-hour laboratory per week. No credit given to students with previous credit for BIO 411. Irregular.

BMS 316 Microbiology 4

Prereq.: BMS 201 or permission of the department chair and CHEM 161 and CHEM 162 or CHEM 121. Genetics and metabolism of bacteria, focusing on microorganisms that affect human health and the environment. Discussion areas include biochemistry, molecular genetics, immunology, biotechnology, infectious diseases, and environmental microbiology. Laboratory exercises deal with bacterial growth and control, diagnostic identification, bacterial genetics, and the roles of bacteria in humans and the world. Three-hours of lecture and one, three-hour laboratory per week.

BMS 318 Anatomy and Physiology I 4

Prereq.: BIO 122 or BMS 201 or NRSE 150, or permission of department chair. Human gross morphology, histology, and physiology of the skeletal, integument, muscular, nervous, and respiratory systems, including effects of aging. Three hours of lecture and one, three-hour laboratory per week. Cross listed as BIO 318. No credit given to students with credit for BIO 318. Fall.

BMS 319 Anatomy and Physiology II 4

Prereq.: BIO 122 or BMS 201 or NRSE 150 or permission of department chair. Human gross morphology, histology, and physiology of the endocrine, cardiovascular, lymphatic, renal, digestive, and reproductive systems. Nutrition, metabolism, fetal development and aging will also be covered. Three hours of lecture and one, three-hour laboratory per week. Cross listed as BIO 319. No credit given to students with credit for BIO 319. Spring.

BMS 320 Histology 2

Prereq.: BMS 201 or permission of department chair. A laboratory-based course building on the concepts of protein and cell structure learned in BMS 201. Students will identify tissues and understand their special function and location in the body. Students will also learn techniques for tissue embedding, sectioning and staining. Two, two-hour laboratories per week. Irregular.

BMS 321 Experimental Developmental Biology 2

Prereq.: BMS 201 or permission of department chair. Laboratory-based course introducing students to the techniques biologists use to understand fundamental processes of embryonic development. Investigations will include gene and protein expression, morphogenetic processes that shape embryos, genetic manipulations of development and effects of environmental toxicants on development. Two two-hour laboratories per week. Irregular.

BMS 322 Comparative Animal Physiology 4

Prereq.: BMS 201. Basic animal physiology course comparing strategies used by different organisms. Topics may include: respiration, oxygen delivery, metabolism, excretion of wastes, motion, temperature regulation and osmotic balance. Topics will be studied on tissue, cellular and molecular levels. The laboratory component (3 hours, one day per week) will be student designed experiments assisted by faculty. In addition, there will be several longer experiments that will be done over the entire semester.

BMS 340 Biomolecular Techniques 2

Prereq.: BMS 201 or permission of department chair. Laboratory-based course building on molecular-genetic concepts introduced in BMS 201. Methods covered will include basic techniques of molecular biology including DNA restriction, cloning, and transformation along with procedures for assessment of gene expression and genome analysis. Two, two-hour laboratories per week. Irregular

BMS 380 Emergency Medical Technician (EMT) 6

Recognition of illnesses and injuries; training in the administering of appropriate emergency medical care. Classes will include demonstrations, practice sessions, and 10 hours of in-hospital practicum. Note: Credit will be given automatically upon proof of current EMT certification as issued by the Office of Emergency Medical Service, State of Connecticut. Cannot be counted towards a major in biology.

BMS 390 Independent Research in Biomolecular Science 1

Prereq.: BMS 290 and written permission of instructor and department chair. Laboratory research under the guidance of one or more department members. Written report or presentation, portfolio review, and attendance at research seminars required. May be repeated with a different instructor for a maximum of two credits. On demand.

BMS 391 Internship in Biomolecular Science 1 TO 3

Prereq.: Written permission of instructor and department chair. Projects in biomolecular science under the supervision of one or more department members. Projects generally involve work with associated organizations off campus. Written report or poster presentation, and portfolio review required. On demand.

BMS 412 Human Physiology 3

Prereq.: BIO 122, or BMS 201; or BIO/BMS 318 or 319; or permission of department chair. Study of human body and its reactions to internal and external environmental changes. Physiology of the musculoskeletal, nervous, circulatory, respiratory, excretory and endocrine systems is considered. Integrative mechanisms of the system are emphasized. Cross listed as BIO 412. Fall. [GR]

BMS 413 Human Physiology Laboratory 1

Prereq.: BMS 412 or BIO 412 (either may be taken concurrently). Laboratory course to accompany BMS 412. One three-hour laboratory per week. Cross listed as BIO 413. Fall. [GR]

BMS 414 Pharmacology, Physiology, and Drug Development 3

Prereq.: BMS 318 or BMS 319 or BMS 412 or BIO 318 or BIO 319 or BIO 412; and CHEM 163 and CHEM 164; or permission of department chair. Basic principles of pharmacology and the physiological mechanisms underlying drug action. Focus on the pharmacology of: the nervous and cardiovascular systems, chemical dependency and chemotherapy for cancer. Irregular.

BMS 415 Advanced Exploration in Cell, Molecular, and Physiological Biology 3

Prereq.: BMS 306 or BMS 307; or BMS 311 or BMS 316 or permission of department chair. The focus will be on understanding a modern biological issue at the level of molecular, cellular, and physiological inquiry. The treatment of the topic will be at an advanced level, reflective of

current research in the field. May be repeated under a different topic for a maximum of 6 credits. Irregular. [GR]

BMS 416 Experimental Microbiology 2

Prereq.: BMS 316, or permission of department chair. Laboratory-based course which builds on the concepts and skills learned in BMS 316: Microbiology. Topics will include microbial genetics and physiology, and behavior and interactions between microorganisms. Two, two-hour laboratories per week. Irregular.

BMS 490 Topics in Biomolecular Sciences 1 to 4

Prereq.: BMS 201 or permission of department chair. Selected studies in the biomolecular sciences. Lectures, seminars, discussions, independent readings, reports, and laboratory work appropriate for the topic will be utilized. Four credit hour offerings will include one, three-hour laboratory per week. May be repeated with different topics. Irregular.

BMS 491 Advanced Independent Research in Biomolecular Science 1 TO 3

Prereq.: BMS 390 and written permission of instructor and department chair. Advanced laboratory research under the guidance of one or more department members. Continuation of research begun in BMS 390. Written report or presentation, portfolio review, and attendance at research seminars required. May be repeated for a maximum of five credits. On demand.

BMS 492 Mentorship in Biomolecular Science 1

Prereq.: BMS 491, and written permission of instructor and department chair. Faculty-supervised mentorship by an advanced undergraduate of one or two high-school interns on a research project in biomolecular science. Student meets for 1 hour weekly with faculty advisor for planning and evaluation, and works with intern(s) for 3 hours per week during a regular semester (40 hours research mentoring expected). Poster presentation (with interns), written report, and portfolio review required. May be repeated for a maximum of two credits. On demand.

BMS 495 Capstone in Molecular Biology 4

Prereq.: BMS 306 or permission of the department chair. For advanced undergraduates. Introduction to the structure and function of DNA. Emphasis on approaches currently being used to analyze the expression of genes. Examination of regulated gene expression and its relationship to cellular growth and differentiation. Three hours of lecture and one three-hour laboratory per week. Irregular.

BMS 496 Capstone in Biosynthesis, Bioenergetics and Metabolic Regulation 3

Prereq.: BMS 306 or BMS 311 or BMS 316; and CHEM 212 and CHEM 213; or permission of department chair. For advanced undergraduates. Study of the molecular reactions that sustain life in connection to their role in biological systems. Structure and function of biomolecules. Bioenergetic principles involved in the synthesis and degradation of biological macromolecules. Integration and regulation of metabolic pathways will be discussed. Irregular.

BMS 497 Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory 1

Prereq. or coreq.: BMS 496 or BMS 506. Laboratory to accompany BMS 496 or 506. One three-hour laboratory per week. Irregular. [GR]

BMS 499 Undergraduate Thesis in Biomolecular Sciences 1

Prereq.: BMS 491 (may be taken concurrently) and written permission of thesis advisor. Student must submit thesis proposal based on project done in BMS 491 to the biomolecular sciences department and complete the undergraduate thesis under the supervision of the thesis advisor. The same BMS 491 project may not be the subject of both an HON 441 thesis and a BMS 499 thesis. On demand.

Business**BUS 101 Introduction to Business 3**

Introduction to the functional areas of business designed for first-year students. This course is intended to be taken simultaneously with an FYE 101 section offered by the School of Business. Students who have taken any course in the lower division business core may not take this course.

Business Education

BE 410 Office Education Methods 3

Prereq.: Senior status, MIS 201, Keyboarding Proficiency Examination, and Word Processing Proficiency Examination or WP 204. Concepts underlying office systems technologies taught at the secondary level. Includes instructional methods and techniques, teaching and reference material, and the use of community resources. Spring. [GR]

BE 450 Office Systems Application Software and Records Management 3

Prereq.: BE 410. Survey of selected office application software and evaluation techniques. Includes a discussion of records management, forms design, formatting, and layout. Fall. [GR]

Chemistry

CHEM 100 Search in Chemistry and Biochemistry 3

Examination of various topics, contemporary issues, and problems related to chemistry and biochemistry. Three hours of lecture per week. No credit given toward a major or minor in the sciences. May be repeated with a different topic for up to 6 credits. Irregular. Study Area IV

CHEM 102 Chemistry of Nutrition 3

An introduction to nutrition, the basic nutrients, their chemistry, and their role in health. Two hours of lecture and one two-hour laboratory per week. Study Area IV

CHEM 111 Introductory Chemistry 3

Introduction to fundamental concepts of chemistry; descriptive aspects of inorganic and organic chemistry. For Art, Technology, Elementary, and other non-science majors. Two hours of lecture and one two-hour laboratory per week. Study Area IV

CHEM 116 Introduction to Forensic Chemistry 3

The concepts of chemistry as applied to law. Emphasis will be placed on the utility and validity of scientific evidence and the techniques of chemical analysis as used in criminal investigations. Two hours of lecture and one two-hour laboratory per week. Intended for students with a criminology major or minor. No credit given to students with credit for CHEM 111. Fall. Study Area IV

CHEM 150 Chemistry of Allied Health I 3

Prereq.: MATH 101. Introduction to the structure and behavior of matter in relation to its functions in the body and in health. Topics include: atomic structure, nuclear chemistry, chemical bonding, the mole, chemical reactions and energy changes, gas laws, acid-base theory and an introduction to biomolecules of living systems. Three hours of lecture per week. Intended for non-science majors in physical education nursing, and allied health fields. Fall. Study Area IV

CHEM 152 Chemistry of Allied Health II 4

Prereq.: CHEM 150. Basic principles of organic and biological chemistry in the context of living systems. Topics include functional groups and reactions of organic compounds; structure and function of biomolecules in the cell; enzymes and vitamins; principles of metabolism and energy production. Three hours of lecture and one, three-hour laboratory per week. Intended for non-science majors in nursing, physical education and allied health fields. Spring. Study Area IV

CHEM 161 General Chemistry I 3

Prereq.: MATH 101 or math placement exam. Emphasizes relationships of basic chemical principles and theories to properties of substances, their reactivity and uses. Contributions to the quality of life are introduced. Intended for science and engineering students. Three hours of lecture per week. CSUS Common Course. Study Area IV

CHEM 162 General Chemistry I Laboratory 1

Prereq.: CHEM 161 (may be taken concurrently). Basic techniques of chemical synthesis and analysis. One three-hour laboratory per week. CSUS Common Course. Study Area IV

CHEM 163 General Chemistry II 3

Prereq.: CHEM 161 and CHEM 162. Quantitative aspects of chemistry including kinetics, thermodynamics, and oxidation-reduction chemistry. Three hours of lecture per week. CSUS Common Course. Study Area IV

CHEM 164 General Chemistry II Laboratory 1

Prereq.: CHEM 163 (may be taken concurrently). Intermediate techniques of chemical synthesis and analysis. One three-hour laboratory per week. CSUS Common Course. Study Area IV

CHEM 210 Organic Chemistry I 3

Prereq.: CHEM 163 and CHEM 164 (formerly combined as CHEM 122). The syntheses, reactions, and nomenclature of the principal classes of aliphatic and aromatic carbon compounds will be introduced. The topics of stereochemistry and conformational analysis are also considered. Three hours of lecture per week.

CHEM 211 Organic Chemistry I Laboratory 1

Prereq.: CHEM 163 and CHEM 164 and CHEM 210 (may be taken concurrently). Basic techniques used in organic synthesis. Determination of physical constants such as melting and boiling point, refractive index, and optical rotation. Basic separation techniques including recrystallization, simple and fractional distillation, extraction, and chromatography. Several experiments elucidating the chemistry of organic compounds introduced in CHEM 210. Three hours of laboratory per week.

CHEM 212 Organic Chemistry II 3

Prereq.: CHEM 210 and CHEM 211. Syntheses, reactions, and nomenclature of the advanced classes of aliphatic, aromatic, and carbonyl-containing carbon compounds. Mass spectrometry, and infrared and nuclear magnetic resonance spectroscopies are considered. Three hours of lecture per week. Spring, Summer.

CHEM 213 Organic Chemistry II Laboratory 1

Prereq.: CHEM 210 and CHEM 211 and CHEM 212 (may be taken concurrently). Synthesis and reactions of the organic functional groups introduced in CHEM 212 will be performed. Spectral analysis of organic compounds also emphasized. Three hours of laboratory per week. Spring, Summer.

CHEM 238 Introduction to Research 1 TO 6

Prereq.: CHEM 162 and permission of instructor. Research experience for first-year students to juniors under faculty supervision. May be repeated for a maximum of 6 credits. On demand.

CHEM 250 Basic Organic and Biochemistry 4

Prereq.: CHEM 152 or CHEM 163 and 164. Principal family of organic compounds important in biological systems; fundamentals of biochemistry including acid-base properties, and metabolic pathways for energy production and biosynthesis of cellular components. Relevance is made to human health and everyday living. Three hours of lecture and one three-hour laboratory per week. Spring. (O)

CHEM 301 Analytical Chemistry 4

Prereq.: CHEM 163 and 164 (formerly combined as CHEM 122), and MATH 119 (formerly combined MATH 121). Theory and practice of gravimetric and volumetric quantitative analysis, introduction to colorimetric analysis, and methods of separation. Two hours of lecture and two three-hour laboratories per week. Fall.

CHEM 316 Spectrometric Identification of Organic Compounds 3

Prereq.: CHEM 212 and CHEM 213. A study of physical methods of structure determination, with emphasis on infrared, ultraviolet, nuclear magnetic resonance and mass spectrometry. Two hours of lecture and one, three-hour laboratories per week. Fall. (O)

CHEM 320 Biophysical Chemistry 3

Prereq.: CHEM 212 and MATH 152 and PHYS 122 or 126. Principles of physical chemistry emphasizing those areas of critical importance to biological equilibria. Topics include thermodynamics, solution equilibria, molecular transport, and enzyme kinetics. Three hours of lecture per week. Spring. (E)

CHEM 321 Physical Chemistry of Thermodynamics & Kinetics 3

Prereq.: CHEM 301, and CHEM 212 and PHYS 126 and MATH 221. In-depth examination of solid, liquid, and gas behavior, including

thermodynamics and kinetics as applied to chemical processes. Three hours of lecture per week. Fall. (O)

CHEM 322 Physical Chemistry of Quantum & Statistical Mechanics 3

Prereq.: CHEM 212, CHEM 301, PHYS 126, MATH 221. Quantum mechanics as applied to atomic and molecular structure. Introduction to symmetry concepts. Theory of rotational, vibrational, electronic, and magnetic resonance spectroscopies. Statistical foundations of thermodynamics. Three hours of lecture per week. Fall. (E)

CHEM 323 Physical Chemistry Laboratory 1

Prereq.: CHEM 321 or 322 (either may be taken concurrently). Physical chemistry methods in laboratory including spectroscopic methods, computational methods, thermochemical analysis, vacuum system methods and instrumentation construction. Fall. (O)

CHEM 354 Biochemistry 3

Prereq.: CHEM 212. General principles of biochemistry, chemical constituents of cells, metabolic pathways, energies, and biochemical regulators. Three hours of lecture per week. Fall.

CHEM 402 Instrumental Methods in Analytical Chemistry 4

Prereq.: CHEM 301 and CHEM 322 or CHEM 320; or admission to graduate studies. Theoretical and practical aspects of the most important instrumental techniques used in chemical analysis, including potentiometry, coulometry, voltammetry, UV/Visible absorption spectrophotometry, fluorescence spectrophotometry, atomic spectrometry, gas chromatography, and high-performance liquid chromatography. Three hours of lecture and one four-hour laboratory per week. Spring. (E) [GR]

CHEM 406 Environmental Chemistry 3

Prereq.: CHEM 301 and CHEM 210 and 211. Nature and properties of pollutants, their interaction with each other and the environment, preventative and remedial methods of control. Laboratory concerned with sampling and analysis of pollutants. Two hours of lecture and one two-hour laboratory period per week. Spring. (O) [GR]

CHEM 432 Chemistry Seminar 2

Prereq.: CHEM 321 or 322. Students will prepare presentations on topics of current interest in various fields of chemistry and may be required to attend seminars by faculty or outside speakers. Introduction to the use of the library, literature, and searching procedures in chemical research. One conference per week. Spring. [GR]

CHEM 438 Undergraduate Research 1 TO 6

Prereq.: CHEM 213 and permission of instructor. Research participation for sophomore to senior students under faculty supervision. May be repeated for a maximum of 6 credits. On demand.

CHEM 455 Biochemistry Laboratory 1

Prereq.: CHEM 213 and 354. Experimental work to accompany CHEM 354. One three-hour laboratory period per week. Fall. (E) [GR]

CHEM 456 Toxicology 3

Prereq.: CHEM 212. Classes of toxic chemicals, their biotransformation and mechanisms of toxicity in humans. Includes natural and man-made chemicals, methods of risk assessment, environmental, and occupational regulatory standards. Spring. [GR]

CHEM 458 Advanced Biochemistry 3

Prereq.: CHEM 354 or BMS 496. Advanced consideration of biochemistry topics including biophysical concepts in the action of proteins and nucleic acids; enzyme catalysis and regulation, and cell-cell communication. Current experimental methodologies will be emphasized. Spring. [GR]

CHEM 459 Bioinorganic Chemistry 3

Prereq.: CHEM 354. Principles of inorganic chemistry as applied to biology. Focuses on correlation of function, structure and reactivity of metals in biological systems. Three hours of lecture per week. Spring. (O) [GR]

CHEM 460 Inorganic Symmetry & Spectroscopy Spring. 3

Prereq.: CHEM 322. Electronic structure and theories of bonding as they relate to the molecular structures, properties, and spectroscopy of inorganic compounds. Primary focus will be on the compounds of the d-block elements. Three hours of lecture per week. (E) [GR]

CHEM 461 Descriptive Inorganic Chemistry 3

Prereq.: CHEM 321. A systematic study of main-group elements and the multitude of compounds they form. Acid-base, substitution, and oxidation-reduction reactions along with structural descriptions will be emphasized. Three hours of lecture per week. Spring. (O) [GR]

CHEM 462 Inorganic Chemistry Laboratory 1

Prereq.: CHEM 460 or 461 (may be taken concurrently). Laboratory course concerned with the synthesis and characterization of inorganic compounds. Topics include air-sensitive manipulation, coordination chemistry and chemistry of materials. One three-hour laboratory periods per week. Spring. (O) [GR]

CHEM 485 Topics in Chemistry 3

Prereq.: CHEM 320 or CHEM 321 or CHEM 322. Advanced treatment of chemistry topics in analytical chemistry, inorganic chemistry, organic chemistry and physical chemistry. Three lectures or two lectures and one two-hour laboratory period per week depending on topic. May be repeated with different topics for a maximum of 9 credits. Irregular. [GR]

CHEM 490 Independent Study in Chemistry 1 TO 3

Prereq.: Permission of instructor. Special topics of interest in chemistry. May be repeated under different topics for a maximum of 6 credits. Irregular.

Chinese

CHIN 111 Elementary Chinese I 3

Open only to students with one year or less of high school study. Basic sounds and structure patterns of Mandarin-Chinese are established through a direct audio-lingual approach. CSUS Common Course. Fall. Skill Area III

CHIN 112 Elementary Chinese II 3

Prereq.: CHIN 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. A continuation of CHIN 111. CSUS Common Course. Spring. Skill Area III

CHIN 125 Intermediate Chinese I 3

Prereq.: One year of college Chinese or equivalent. Further work on the patterns of Chinese structure with readings and conversation in the language. No credit will be given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. Fall. Skill Area I [I]

CHIN 126 Intermediate Chinese II 3

Prereq.: CHIN 125. A continuation of CHIN 125. No credit will be given to students with previous credit for more advanced course work in Chinese except by permission of the department chair. Spring. Skill Area I [I]

CHIN 225 Intermediate Chinese III 3

Prereq.: CHIN 125 or 126, or permission of instructor. Designed to help students improve speaking skills through discussion of Chinese contemporary texts. Taught in Chinese. Fall. Skill Area I [I]

CHIN 226 Intermediate Chinese IV 3

Prereq.: CHIN 125 or 126, or permission of instructor. Designed to help students improve writing skills by means of frequent composition in Chinese. Taught in Chinese. Spring. Skill Area I [I]

CHIN 261 Business Chinese 3

Prereq.: CHIN 126 or permission of instructor. Development of oral and written skills needed for conducting business in the Chinese language. Study of cultural attitudes of Chinese business people. Taught in Chinese. Irregular. Skill Area III [I]

CHIN 304 Topics in Chinese Literature 3

Prereq.: CHIN 225 or 226 (either may be taken concurrently), or permission of instructor. Representative selections from modern Chinese authors. Taught in Chinese. May be repeated for up to 9 credits with different topics. Irregular. Study Area I [I] [L]

CHIN 315 Topics in Chinese Culture 3

Prereq.: CHIN 225 or 226 (either may be taken concurrently), or permission of instructor. Aspects of Chinese cultural development. Taught in Chinese. May be repeated for up to 9 credits with different topics. Irregular. Study Area II [I]

CHIN 335 Advanced Chinese for Oral Expression 3

Prereq.: CHIN 225 or permission of instructor. Student development of oral proficiency in Chinese through discussion of readings, films and other authentic materials. Taught in Chinese. Irregular. [I]

CHIN 336 Advanced Chinese Composition 3

Prereq.: CHIN 226 or permission of instructor. Student development of written proficiency in Chinese based on readings, translations, and frequent compositions. Taught in Chinese. Irregular. [I]

CHIN 475 Studies in Classical Chinese 3

Prereq.: CHIN 304 or 315, or permission of instructor. Introduction to classical Chinese literature, including etymology, semantics, grammar, and literature Taught in Chinese. May be repeated for up to 6 credits with different topics. Irregular. [I]

Cinema Studies

CINE 201 The Language of Film 3

Prereq.: ENG 110. Development of visual terminology analogous to literary terminology in order to understand better the intentions of the author of the film. The qualities of picture, movement, and editing are discussed in an effort to develop critical interpretation and judgment. Outside film screenings required. Fall. Study Area I

CINE 220 Introduction to History of Film 3

Survey of 100 years of movies from all over the world. Emphasizes the development of film as a narrative art, using films that are breakthroughs in creative expression and audience involvement. Cross-listed with COMM 220. No credit may be received by students who have received credit for COMM 220. Fall.

CINE 319 Filmic Narrative 3

Explores the most relevant elements used in filmic narrative to create meaning. The course further helps students identify ideological contents behind and beyond the audiovisual discourse. Cross-listed with COMM 319. No credit may be received by students who have received credit for COMM 319.

CINE 350 Laughter, Blood, and Tears: Studies in Film Genre 3

Prereq.: ENG 110. Considers the primary genres of narrative film, and asks how they reflect and comment on the history and culture of which they are a part. The emphasis of the course may change from semester to semester and may include: the western, melodrama, horror, comedy, science fiction, and film noir. Outside screenings required. Spring. (O)

CINE 365 Nonfiction and Documentary Film 3

Prereq.: ENG 110. Investigates the history and theory of nonfiction and documentary film. Outside screenings required. Spring. (E)

CINE 380 Women and Film 3

Examines selected films with regard to the representation of women on screen, women's filmmaking as a critical practice, and issues in feminist film theory and criticism. Includes perspectives on Hollywood and independent American and international cinema. Cross-listed with COMM 380. No credit may be received by students who have received credit for COMM 380. Fall. (E)

CINE 382 American Cinema 3

Examines the film industry in the United States. The genres of Hollywood cinema and independent films will be studied as unique economic, industrial, aesthetic, and cultural institutions. Cross-listed with COMM 382. No credit may be received by students who have received credit for COMM 382. Spring.

CINE 460 Shakespeare and Film 3

Explores what film can teach us about Shakespeare and his role in our culture; what Shakespeare can teach us about the nature and history of film; and what the intersection of the two can teach us about the politics of literary forms and entertainment media and about the many forms and media of politics in contemporary society. We will read 3-4 plays and view 2-3 films based on each play. May require outside screenings. Cross-listed with ENG 460. No credit may be received by students who have received credit for ENG 460. Spring. (O)

CINE 465 Global Cinema 3

Prereq.: ENG 110 or equivalent and junior or senior standing required; for non-English majors, permission of instructor recommended. Surveys international cinema after World War II with an emphasis on the fiction feature films of Africa, Asia, and Latin America; also considers major film movements such as the European New Wave and Italian Neo-realism. Cross-listed with ENG 465. No credit may be received by students who have received credit for ENG 465. Irregular. [I]

CINE 466 American Cinema in the 60s and 70s 3

Prereq.: ENG 110. Examines the extraordinary changes in film culture in the United States during the time of the civil right movement, the countercultures of the 60s, and the war in Vietnam. Students are required to attend a weekly screening in addition to regular class meetings. Cross-listed with ENG 466. No credit may be received by students who have received credit for ENG 466. Spring. (O)

CINE 480 Topics in Cinema Studies 3

Prereq.: ENG 110. Selected topics. Students may take this course under different topics for a maximum of 6 credits. Irregular.

CINE 489 Studies in Film Adaptation 3

Prereq.: ENG 110. Examines how literary works such as novels, short stories, plays, and poems have been adapted to the screen. What can literary works do that films cannot, and conversely, what can films do that literature cannot? Includes regular film screenings, literary readings, and critical and theoretical readings on the topic of adaptation. May be taken under different topics for a maximum of 6 credits. Cross listed with ENG 489. Irregular.

CINE 490 Cinema Studies: Independent Study 3

Prereq: Permission of program coordinator. Senior conference course for a student wishing to pursue a planned program of writing and study. On demand.

Civil Engineering

CE 253 Introduction to Engineering Surveying 3

Prereq.: ENGR 150 (C- or higher) and MATH 152; or permission of instructor. Application of survey instruments to perform measurements for design and construction. Use of survey instruments to measure elevations, distances, and angles; and application of survey mathematics to calculate locations, areas, earthwork, and roadway curves. Lecture/laboratory course. Fall.

CE 357 Advanced Surveying 0 TO 3

Prereq.: MATH 152 and CE 253. Advanced topics in surveying including horizontal and vertical curve layout, traversing earthwork, and computational geometrics. Computer applications and effective total station usage is stressed. Lecture/lab course. Spring. (O)

CE 375 Hydraulic Engineering 3

Prereqs: MATH 221 (C- or higher) and ME 354 (C- or higher). Engineering topics pertaining to the hydrological cycle. Application of basic fluid mechanics and incompressible flow in conduits for pipe system analysis and design. Dimensional analysis, hydraulic similitude, open channel flow, flow measurement, analysis and design of pumps systems, and groundwater flow. Spring.

CE 397 Structural Analysis 3

Prereq.: MATH 221 (C- or higher) and ENGR 257 (C- or higher). Analysis of statically determinate structures; influence lines, deflection analysis of trusses, beams and frames; introduction to indeterminate structural analysis using superposition principles and moment distribution; computer applications. Fall.

CE 451 Soil Mechanics & Foundations 0 TO 4

Prereq.: ENGR 257 (C- or higher) and ME 354 (C- or higher). Fundamentals of the physical and mechanical properties of soils. Application of solid mechanics and fluid mechanics to describe strength, permeability and consolidation. Design of simple foundation and earth retaining systems. Laboratory measurement of soil properties. Lecture/lab course. Spring.

CE 454 Introduction to Transportation Engineering 0 TO 3

Prereq.: MATH 226 and CE 253. Engineering for the planning, design, construction and maintenance of transportation projects. Driver and vehicle performance characteristics, highway geometric design, pavement design, intersection design, and traffic flow and safety. Lecture/lab course. Spring.

CE 458 GPE Mapping for GIS 3

Prereq.: CE 253 or GEOG 378. Use of the Global Positioning Systems to collect information for use in a Geographic Information System. Includes integration of vector and raster data sets with GPS data. Hands-on use of GPS equipment is introduced. Spring. (E)

CE 470 Structural Steel Design 3

Prereq.: CE 397 (C- or higher). Introduction to the analysis of steel structures using load and resistance factor design. Analysis of beams, columns, bolted and welded connections, trusses, and frames. Application of national/international codes for the design of steel structures. Fall.

CE 471 Reinforced Concrete Design 3

Prereq.: CE 397. Analysis and design of reinforced concrete members subjected to flexure, shear, and axial loads. Beams, columns, slabs, footings, retaining walls, and pre-stressed concrete. Application of national/international codes for design of reinforced concrete. Spring.

CE 472 Timber Structures 3

Prereq.: CE 397 (C- or higher). Application of the physical properties of wood for the design of structures using allowable stress design and load/resistance factor design. Analysis of beams, columns and shear diaphragms, selection of species and grades, and glue-laminated timber. Application of national/international codes for the design of timber structures. Spring. (E)

CE 475 Hydrology & Storm Drainage 0 TO 3

Prereq.: ME 354 (C- or higher) and CE 375 (C- or higher). Application of surface water hydrology for evaluation of floods and the design of surface runoff facilities. Watershed characteristics, probabilistic methods, design storms, infiltration methods, unit hydrographs, open-channel hydraulics, and hydrologic modeling. Laboratory sessions apply computer methods and physical models for analysis and design. Lecture/lab required. Fall.

CE 476 Environmental Engineering 3

Prereq.: CHEM 161 and 162, and MATH 221 (C- or higher) and CE 375 (C- or higher). Engineering analysis of environmental conditions including air, surface and groundwater pollution. Design of water and wastewater treatment systems, environmental monitoring and assessment, solid and hazardous waste collection and disposal systems, and groundwater characterization and treatment methods. Spring.

CE 497 CE Professional Practice and Senior Project Research 2

Prereq.: CE 253, CE 375 (C- or higher), CE 397 (C- or higher), and CE senior standing. First of two-course design sequence. Students work in teams in an environment appropriate to a professional engineering setting. Teams propose and begin development of a capstone design project. Class presentations include communication, engineering project management, the design function, ethics, professional liability and qualifications-based selection. Oral and written communication skills are emphasized. Fall.

CE 498 Civil Engineering Senior Design Project (Capstone) 2

Prereq.: CE 497. Second course in capstone design sequence. A culminating experience for civil engineering majors involving a substantive project that demonstrates a synthesis of accumulated learning. Students must work in design teams to finalize capstone projects. Oral and written presentations are required. Projects may originate from student, instructor, and/or industrial partner. Students must register to take the fall or spring NCEES FE exam. Spring.

Communication

COMM 115 Fundamentals of Communication 3

Basic course offering the student an opportunity to understand and improve communication skills. Performance, observation, and evaluation. May not be counted toward Communication major. Skill Area I

COMM 140 Public Speaking 3

Study of and practice in the principal forms of public address. Additional emphasis on the needs and expectations of persons preparing for business and professional careers. CSUS Common Course. Skill Area I

COMM 215 Introduction to Interpersonal Communication 3

Introductory survey of interpersonal communication theories and the application of these theories in dyadic, group and organizational contexts. Study Area III

COMM 220 Introduction to History of Film 3

Survey of 100 years of movies from all over the world. Emphasizes the development of film as a narrative art, using films that are breakthroughs in creative expression and audience involvement. Cross-listed with CINE 220. No credit may be received by students who have received credit for CINE 220.

COMM 230 Introduction to Mass Media 3

Study of the structure, roles and processes of the mass media. Primary emphasis is on radio, television and film. Examination of effects on society. CSUS Common Course. Study Area III

COMM 231 Communication Technologies 3

Hands-on introduction of new technologies within this evolving field, utilizing and exploring communication and publication technologies for print and/or online channels. Participation in the creative process while developing needed technical skills tied to design and content creation.

COMM 234 Introduction to Public Relations 3

Survey all aspects of public relations including theories of image-making, events planning, publicity, promotion, media campaigning, and crisis management.

COMM 240 Survey of the Field of Communication 3

Development of communication as a discipline and as an intellectual and practical field. Introduction to theories of rhetoric, public relations, broadcast journalism, media studies and organizational communication.

COMM 245 Introduction to Rhetorical Studies 3

Roots of communication as a discipline and as an intellectual and practical field. Basic principles of persuasion, rhetoric, genres and criticism.

COMM 253 Introduction to Organizational Communication 3

Introduction to the structure, function, and process of communication in organizational life and modern society. Fall.

COMM 255 Visual Communication 3

Introduces the codes and conventions of visual communication through the study of photography, paintings, advertising campaigns, television,

video, film and the web. Addresses the role of visual culture in a (multi)media immersed public domain.

COMM 256 Professional Communication 3

Skills required to be a successful professional. Emphasizes understanding and becoming proficient in relationship management, presentational speaking, interpersonal communication, written communication and communication in small groups. Spring. Skill Area I

COMM 280 Business and Professional Speaking 3

Principles of Communication in report making, parliamentary processes, interpersonal conferences and related managerial functions. Emphasis on understanding and practicing patterns of Communication in various organized settings. Skill Area I

COMM 296 Global Studies in Communication 3

On-site group studies in Communication. This topics course normally involves travel outside the United States. [I]

COMM 301 Critical Thinking 3

Prereq.: Sophomore standing (or higher). Development of critical thinking skills as a basis for thoughtful and effective communication. Analysis of arguments and persuasive appeals.

COMM 302 Problem-Solving and Decision Making 3

Prereq. Sophomore standing (or higher). Introduction to small group interaction processes with emphasis on fundamental forms of communication in all discussion settings. May require group meetings outside of class.

COMM 315 Political Communication 3

Examines the symbolic nature and dimensions of American politics and the American political system. Emphasis placed on the role, processes and effects of communication in political contexts. Fall.

COMM 319 Filmic Narrative 3

Explores the most relevant elements used in filmic narrative to create meaning. The course further helps students identify ideological contents behind and beyond the audiovisual discourse. Cross-listed with CINE 319. No credit may be received by students who have received credit for CINE 319.

COMM 320 History of African-American Speakers 3

Survey of African-American speakers from the end of the 18th century to the present. Examination of the lives and texts of both the famous and lesser-known speakers and how they contributed to our nation's culture. Spring.

COMM 329 Screenwriting 3

Investigates fundamental elements of theme, structure, story, character, setting, conflict and rhythm through writing exercises, film screenings and readings. Culminates in the development and completion of an original short screenplay.

COMM 330 Digital Film and Television Production I 3

Introduces and investigates television production and narrative filmmaking techniques and processes through field and/or studio production as a basis for visual forms of storytelling.

COMM 333 Web Publishing 3

Theoretical and practical knowledge tied to using digital technologies to create messages for different target audiences. Focuses upon the radical novelties that the Web introduces in the field of Mass Communication and the implication in the creation of meaning.

COMM 334 Public Relations Strategies and Techniques 3

Prereq.: COMM 234 (C- or higher). Public relations strategies and techniques through analysis and practical applications.

COMM 335 Communication Management 3

Communication management in broadcast, cable, closed-circuit, or related environments. Facility planning, scheduling, personnel supervision, programming, sales, marketing strategies, and government regulations are explored.

COMM 336 Media Literacy 3

A review of current changes in philosophy, content, and processes in media use and application as this use affects society and its value system.

COMM 338 Analysis of News 3

Prereq.: COMM 230 (C- or higher). Broad array of critical and interpretive skills that can be used to analyze the news. Examines economic, social and political underpinnings in the manufacturing of the news, and the processes affecting the formal and structural characteristics of the news. Substantial practical experience in the process of news analysis. Fall.

COMM 344 Models of Intercultural Communication 3

Study and discussion of models of intercultural communication in various contexts. Spring.

COMM 345 Writing for the Electronic Media 3

Prereq.: COMM 230, 330 (both with C- or higher). How to research, create, write, and produce news stories and narratives for broadcast and web-based media. Fall.

COMM 353 Interviewing Theory and Practice 3

Study and practice of different interview formats (excluding counseling) as a unique context of communication. Special attention given to interviews for employment, appraisal, and information gathering.

COMM 380 Women and Film 3

Examines selected films with regard to the representation of women on screen, women's filmmaking as a critical practice, and issues in feminist film theory and criticism. Includes perspectives on Hollywood and independent American and international cinema. Cross-listed with CINE 380. No credit may be received by students who have received credit for CINE 380.

COMM 382 American Cinema 3

Examines the film industry in the United States. The genres of Hollywood cinema and independent films will be studied as unique economic, industrial, aesthetic, and cultural institutions. Cross-listed with CINE 382. No credit may be received by students who have received credit for CINE 382.

COMM 384 Nonverbal Communication 3

Research-based class focused on understanding the various forms of nonverbal messages and their impact on perception, individuals, and communication. Spring.

COMM 405 Principles and Processes of Mass Communication 3

Prereq.: COMM 230 (C- or higher). Explanation of the theories, principles and processes of mass communication.

COMM 406 Case Studies in Public Relations 3

Prereq.: Junior or senior status. COMM 234 (C- or higher). Case studies of public relations/promotions principles and practices in variety of internal and external, public and private, for-profit and non-profit contexts. This is a link course with COMM 506. Spring. (E)

COMM 410 Public Opinion 3

Prereq.: Junior or senior standing. Dissects the social-psychological phenomenon of public opinion to understand its nature as well as to explore its social function. Goes in depth into the most important public opinion research methodologies. Cross-listed with JRN 410. No credit given to students who have received credit for JRN 410. Spring.

COMM 416 Gender and Communication 3

Prereq.: Junior standing or higher. Examines different theoretical approaches to gender and the implications these have for our understanding of communication theories and practices. Winter, Spring.

COMM 420 Principles of Digital Photography for Convergent Media 3

Prereq.: COMM 255 or 336 (either with C- or higher). Overview of the concepts, skills, and foundations of digital photography and its relevance and utility for convergent technologies such as the world wide web, streaming, podcasting, television production. Further explores its integration into media industries. Fall.

COMM 427 Digital Film and Television Production II 3

Prereq.: COMM 330 (C- or higher). Increased focus on story conception, investigation and structure while developing skills in cinematography, direction, lighting design, non-linear editing and audio acquisition in such genres as news, documentary, short film, music video and podcasting.

COMM 428 Digital Film and Television Production III 3

Prereq.: COMM 427 (C- or higher). Advanced focus on the production process from conception to delivery, including developing skills in cinematography, direction, lighting design, non-linear editing, and audio acquisition in such genres as news, documentary, short film, music video and podcasting.

COMM 431 Mass Media and Society 3

Prereq.: COMM 230, 330 (both with C- or higher). Examines the place of the mass media in society. Specifically, how the mass media affect and are affected by social, economic, cultural and political forces. Spring. (O)

COMM 434 Campaign Development Methods 3

Prereq.: COMM 234 (C- or higher). Objectives and methods of archival, focus group and survey research, analysis of data using SPSS and report writing procedures in the context of designing an actual strategic public communication campaign. Spring.

COMM 435 Images of Gender in the Media 3

Prereq.: Junior standing or higher. Examines media constructions and representations of femininity and masculinity. Focus on popular forms of media including television, film, and advertising. Cross listed with WGSS 435. No credit will be given to students with credit WS or WGSS 435. Spring.

COMM 436 Streaming Media in Web Publishing 3

Prereq.: COMM 333 (C- or better), or permission of instructor. Strategies and techniques for integrating audiovisual messages in Web-projects. Explores the potential of Internet to integrate different media formats and enhance the interactivity with the audiences. Further studies the current use of Web-publishing in specific professional fields, such as public relations, political communication, journalism, or education. Spring.

COMM 443 Communication and Social Influence 3

Prereq.: Junior standing or higher. Principles and processes of influencing attitudes, beliefs and behavior. Practical illustrations drawn from advertising, speeches, and other communicative settings. Spring.

COMM 445 Advertising and Society 3

Prereq.: Junior or above standing. Examines advertising as a cultural and economic force in mass society. Emphasis will be on concepts and methods that enable a critique of advertising campaigns and strategies. Irregular.

COMM 450 Communication Skills for Training and Development 3

Prereq.: Junior standing or higher. For graduate students, COMM 500 (may be taken concurrently). Application of communication strategies for training and development in public and private corporate and institutional settings. Additional written work will be required for graduate students. Irregular. [GR]

COMM 451 Environmental Communication 3

Prereq.: Junior standing or above. Knowledge, attitude, and behavior-change strategies related to environmental and natural resource conservation issues. Coercive, incentive based, and communication-based change strategies will be contrasted. Additional written work will be required for graduate students. On demand. [GR]

COMM 453 Organizational Communication 3

Prereq.: COMM 253 (C- or higher). Study of communication theory and processes within organizational contexts. Spring.

COMM 454 Communication and Social Change 3

Prereq.: Junior standing or above. For graduate students, COMM 500 (may be taken concurrently). Study of the relationship between communication and social change and the impact of socio-political and communication strategies on the achievement of effective community development and social change objectives. Additional written work will be required for graduate students. Fall. [GR]

COMM 455 Global Visual Communication 3

Prereq.: COM 255 (C- or higher). Examines visual communication and culture as well as visual competence and media literacy within a global perspective. Studies the impact of globalization on the circulation of messages via new technologies, and the circulation of consumer goods, brand packaging and the significance of gender. Spring. [I]

COMM 456 Corporate Communication 3

Prereq.: Junior standing or higher. Examines the origins and nature of corporate communication and how it is carried out within businesses, associations, agencies, and the government. Investigates the communication of an organization with its various shareholders, including investors, customers, employees, and the press. Fall. (E)

COMM 480 Television Documentary Production 3

Prereq.: COMM 427 (C- or higher). Students develop and produce short documentaries. Also focuses upon different modes of documentary filmmaking, and the history of documentary production in the U.S. and other countries. Spring.

COMM 485 Topics in Media and Culture 3

Prereq.: Junior standing (or higher). Study of selected topics using critical and interpretive approaches to Media. May be repeated once with a different topic. Irregular.

COMM 486 Topics in Film and Aesthetics 3

Prereq.: Junior standing (or higher). Study of selected topics in Film & Aesthetics. May be repeated once with a different topic. Irregular.

COMM 490 Internship Study 1 TO 6

Prereq.: Permission of faculty advisor and department chair. Work in approved organization. Series of consultations and assigned readings and a final paper describing practical experiences in relation to theory are required. Majors and minors only.

COMM 491 Independent Study 1 TO 3

Prereq.: Permission of advisor and department chair. Reading and research in approved topic under guidance of a faculty member of the Communication Department. May be repeated with different topics for a maximum of 6 credits. Majors and minors only. On demand.

COMM 492 Political/Legislative Intern Experience 3 OR 6

Prereq.: Junior standing or higher; permission of faculty and department chair. Major or minors only. Can be taken concurrently with COMM 490. Work in the State Legislature or other political contexts. In addition, a series of seminars, assigned readings, and completion of a substantial research project are required.

COMM 495 Special Topics in Communication 3

Prereq.: Junior or senior standing or permission of instructor. Study of selected topics in Communication. May be repeated once with a different topic. Majors and minors only.

COMM 496 Field Studies in Communication 3

Prereq.: Junior or senior standing or permission of instructor. On-site group studies in communication. This course normally involves travel outside the United States. May be repeated for a maximum of nine credits. [I]

Community Engagement

CEN 200 Introduction to Community and Civic Engagement 3

Introduction to the skills, knowledge and theory for students to solve problems in their own communities, and develop a sense of self and collective efficacy. Emphasis on civic agency, interpersonal, leadership and advocacy skills, critical analysis, appreciation for diversity and an enhanced understanding of community issues and challenges. Required for Community Engagement minor. Study Area III

Computer Electronics & Graphics Technology

CEGT 200 Seminar 1

Prereq.: CET 113. Review of mathematical operations, software and applications. Emphasis placed on written/oral communication for technical reports and assignment within the major courses.

Computer Electronics Technology

CET 113 Introduction to Information Processing 3

Emphasis placed on the computer as a productivity tool. Laboratory assignments are related to technical applications and problem solving. Two hours lecture and two hours laboratory, course meets four hours per week. On demand. Skill Area IV

CET 201 Photonics Principles 3

Prereq.: MATH 115. Exploration of light, the laws of reflection and refraction and how they apply to several devices. Examination of wavelike behavior of light. An overview of fiber optics and optical image is presented. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

CET 223 Basic Electrical Circuits 3

Prereq.: MATH 115 or MATH 119 (either with C- or higher) or math placement exam. Operation of DC circuits including voltage, current, resistance, power, electromagnetism, capacitance, inductance, and basic theorems. Laboratory experiments involve building circuits and using instruments to measure quantities. Three hours lecture and two hours laboratory, course meets five hours per week. No credit given to those with credit for CET 236.

CET 229 Computer Hardware Architecture 3

Laboratory based course emphasizing the computer architecture and related components. Analyzing and troubleshooting the interrelationships between the operating system, computer hardware, and peripheral devices. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

CET 233 Advanced Electrical Circuits 3

Prereq.: CET 223; PHYS 111 or 122 or 126. Reactance and power concepts in AC. Phasor analysis of RC, RL and RCL circuits, resonance, and filters. Laboratory experiments involve building circuits, using instruments to measure quantities, and observing phenomena. Three hours lecture and two hours laboratory, course meets five hours per week. No credit given to those with credit for CET 236. Spring.

CET 236 Circuit Analysis 3

Prereq.: ENGR 150 or ROBO 110, MATH 135 or MATH 152. Covers basic concepts and laws, methods of analysis and circuit theorems in DC and AC circuits. Topics include voltage, current, power, resistance, capacitance, inductance, node analysis, mesh analysis, Thevenin's theorem, Norton's theorem, phasors, transfer functions, steady state and transient analysis. Laboratory experiments involve building circuits, using instruments to measure quantities and observe phenomena. Three hours lecture and two hours laboratory, course meets five hours per week.

CET 249 Introduction to Networking Technology 3

Introduction to the OSI model concentrating on the network, data link and physical layers. Emphasis on IP addressing (IPv & IPv6), Ethernet technologies and copper and fiber optic cabling. Lab includes troubleshooting and testing Layer One devices. Two hours lecture and two hours laboratory, course meets four hours per week.

CET 301 Fiber-Optics Communications 3

Prereq.: CET 201. Introduction to fiber-optic communication systems. Optical detectors and receivers. Coherent light wave systems. WDM communication systems and optical amplifiers. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

CET 323 Electronic Circuits 3

Prereq.: CET 233 or CET 236. Basic structure and characteristics of diodes and transistors. Covers linear integrated circuits and applications including operational amplifiers, oscillators, rectifiers, power amplifiers and voltage regulators. Laboratory experiments stress circuit building, troubleshooting, theoretical and instrumental concepts. Three hours lecture and two hours laboratory, course meets five hours per week.

Irregular.

CET 339 Computer System Administration 3

Prereq.: CET 229. Laboratory course emphasizing concepts, tools, and application of technologies related to computer system administration. Includes the design, implementation, management, and maintenance of a state-of-the-art network operating system. Three hours lecture and two hours laboratory, course meets five hours per week.

CET 346 Signals & Systems 3

Prereq.: CET 236 and either MATH 136 or MATH 221; or PHYS 339. Signal representation, applications of Fourier series, Fourier transform, Laplace transform, and Z-transform in the analysis of circuits and systems. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

CET 349 Network Routing 3

Prereq.: CET 249. Major emphasis on routing theory and design, TCP/IP protocol stack, how this applies to Internet access. Concentrates on OSI model transport, network, data link and physical layers. Lab includes hands-on routing configuration and troubleshooting Layer 2 and Layer 3 equipment and software. Two hours lecture and two hours laboratory, course meets four hours per week.

CET 363 Digital Circuits 3

Prereq.: CET 223 or CET 236. Principles and applications of digital circuits, number systems, Boolean Algebra, combinatorial and sequential logic circuits, arithmetic circuits, and MSI logic circuits. Laboratory experiments focus on circuit building and troubleshooting using TTL integrated circuits. Three hours lecture and two hours laboratory, course meets five hours per week.

CET 402 Topics in Computer Electronics Technology 1 TO 3

Prereq.: Permission of department chair. An individualized inquiry of comprehensive study into a selected technical area. The students may elect to examine processes, products or developmental aspects of networking, telecommunications or electronics. May be used as an elective on a graduate student's planned program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand. [GR]

CET 405 Applied Topics in Computer Electronics Technology 3

Prereq.: Permission of department chair. A laboratory oriented course providing comprehensive study of a selected technological topic. May be used as an elective on a graduate student's planned program of study with the permission of the program advisor. Course may be repeated for a maximum of 6 credits for different topics. Three hours lecture and two hours laboratory, course meets five hours per week. On demand. [GR]

CET 443 Electronic Communications 3

Prereq.: CET 236 or acceptance to the Graduate MSCIT or MSTM programs. Radio Frequency transmitting and receiving circuits, modulation and detection techniques, noise in circuits and systems, transmission lines, antennas, analog and digital communications. Analysis and synthesis laboratory experiments emphasize building circuits, troubleshooting, and using instruments to measure quantities and observe phenomena. Three hours lecture and two hours laboratory, course meets five hours per week. On demand. [GR]

CET 449 Advanced Networking 3

Prereq.: CET 349 or acceptance to the Graduate MSCIT or MSTM programs. Major emphasis on switching and STP, VLANs and InterVLAN routing. Basic Wireless concepts and configuration. In-depth focus on WAN technology, theory and design including serial communication, HDLC, PPP, Frame Relay. Secure router management and ACL creation. Lab includes hands-on switching and routing configuration and troubleshooting Layer 2 and Layer 3 networking equipment and software. Three hours lecture and two hours laboratory, course meets five hours per week. [GR]

CET 453 Microcomputers 3

Prereq.: CS 213 or CS 151, and CET 363; or acceptance to the Graduate MSCIT or MSTM programs. Microcontroller architecture including basic memory design, address decoding and internal register structure, and assembly language programming including addressing modes and instruction set. Laboratory work consists of programming and interfacing experiments. Projects focus on solving real world problems following a standard development process. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

CET 459 Network Security Technologies 3

Prereq.: CET 249. Practical techniques of network security and how the field is related to information technology. Topics include general security concepts, communication security, infrastructure security, cryptography basics, and operational security. On demand.

CET 466 Logic Design 3

Prereq.: CET 363. Use of hardware design languages to implement digital design, including modular combinational circuits, flip-flops, latches, counter and synchronous sequential circuits in programmable devices such as FPGA. Three hours lecture and two hours laboratory, course meets five hours per week. Irregular.

CET 479 Network Administration 3

Prereq.: CET 339 or acceptance to the Graduate MSCIT or MSTM programs. Advanced network administration using network operating system. Emphasizes internet-related protocols and server configurations, including the planning, design, building, and management of internet name server, web server, mail server, and file server. Two hour lecture and two hours laboratory, course meets four hours per week. [GR]

CET 497 Capstone Project I 1

Prereq.: CET 346, CET 349. Identification, investigation, research, and proposal of an implementation approach to a selected solution for a problem. Social, environmental, ethical, economic, and legal factors are considered. A detailed concept and design proposal is presented. On demand.

CET 498 Capstone Project II 2

Prereq.: CET 497. Implementation of the proposed solution in the developed Report in CET 497. A functional prototype is simulated, built, measured, and evaluated. A final Report is presented and the project demonstrated. On demand.

Computer Science

CS 110 Introduction to Internet Programming and Applications 3

Examination of physical infrastructure of local and wide area networks, internet protocol implementation, world-wide web interface programming, interactive Java applet, and Visual Basic web programming. Skill Area II

CS 113 Introduction to Computers 3

Introduction to computer programming together with the consideration of the impact of computers on society. Emphasis on logical problem-solving and algorithms. No credit given to students with credit for CS 151, 213 or MATH 446, 471. Skill Area II

CS 115 Workshop in Computer Science 3

Prereq.: MATH 099 or placement test. Topics vary and include application-oriented languages, computer literacy-oriented software packages, and human-computer interface procedures. Skill Area IV

CS 151 Computer Science I 3

Prereq.: MATH 152 (may be taken concurrently) or placement test. First course in Computer Science. Introduces the fundamental concepts of computer programming with an object-oriented language with an emphasis on analysis and design. Topics include data types, selection and iteration, instance variables and methods, arrays, files, and the mechanics of running, testing and debugging. Skill Area II

CS 152 Computer Science II 3

Prereq.: CS 151 and MATH 152. Further topics in object-oriented programming: enhancing classes (inheritance, polymorphism) and using Application Programmer Interface. Event-driven programming. Elementary searching and sorting techniques. Introduction to software engineering issues. Recursion.

CS 153 Computer Science III 3

Prereq.: CS 152. Fundamental data structures: linked lists, stacks, queues. Introduction to binary search trees. Advanced sorting: quick and merge sorts. Study of a second programming language. Alternative implementations of linked lists. Basics of algorithmic analysis.

CS 207 Introduction to Computer Graphics 3

Prereq.: ART 110, 112 or 113 and either MATH 099 or placement test. This course will use the computer facilities to produce abstract designs and images, with special emphasis on color forms, shapes, texture, and basic design. Spring. Skill Area II

CS 210 Computing and Culture 3

Evolution of computing from early data processing to global networking. Examination of how society has accepted and transformed role of digital technology within its cultures and institutions. Emphasis on human-computer interaction, electronic communities, and examples of their applications. Online resources will be used. Skill Area IV

CS 213 Applications of Computing I 3

Prereq.: MATH 115 or MATH 116 or 119 or 125 or placement examination. Focuses on the use of programming techniques to solve problems encountered in the areas of mathematics, life science, physical science, engineering, education, and social science. No credit given to students with credit for CS 151. Skill Area II

CS 214 Applications of Computing II 3

Advanced topics in object-oriented programming. Event-driven and recursive programming. Searching and sorting techniques. Introduction to software engineering issues. On demand. Skill Area II

CS 253 Data and File Structures 3

Prereq.: CS 152. A software design course which develops concepts and techniques for structuring and manipulating data, both in the computer and on external storage devices. Topics include a review of basic data structures, balanced tree structure, graphs, sequential and direct access files, external sorting. An introduction to data base systems is also provided.

CS 254 Computer Organization and Assembly Language Programming 3

Prereq.: CS 151 or MATH 471. Concepts of assembly language, machine language, macro-instructions, subroutines, program checkout, interrupt structure of assemblers, and use of operating system. No credit given to students with credit for MATH 472.

CS 290 Topics in Computer Science 1 TO 3

Prereq.: CS 151 or equivalent, and permission of instructor. This course will provide an opportunity to introduce into the curriculum elementary topics of current interest. May be repeated with different topics for up to 6 credits. Irregular.

CS 300 Computer Science Work Experience I 3

Prereq.: Permission of department. Students must go through Co-op office prior to receiving credit. A six-month employment experience relevant to the Computer Science program. No more than 6 credits of other course work may be taken concurrently.

CS 301 Computer Science Work Experience II 3

Prereq.: CS 300 and permission of department. Students must have a job which is different from their CS 300 job. Students must go through the Co-op office prior to receiving credit. A six-month employment experience relevant to the Computer Science program. No more than 6 credits of other course work may be taken concurrently.

CS 354 Digital Systems Design 3

Prereq.: CS 254 and MATH 218. PHYS 338 must be taken concurrently by those students whose program requires PHYS 338. An introduction to the analysis and design of digital systems in terms of logical and sequential networks. Various minimization techniques are studied.

CS 355 Introduction to Systems Programming 3

Prereq.: CS 153 and 254 Introduction to the design of systems software. Topics include comparative machine organizations, the design of assemblers and loaders, an introduction to operating systems and an introduction to compiler design.

CS 385 Computer Architecture 3

Prereq.: CS 354. The architecture of the computer is explored by studying its various levels: physical level, operating system level, conventional machine level and higher levels. An introduction to microprogramming and computer networking is provided. Spring.

CS 398 Independent Study in Computer Science 1 TO 3

Prereq.: CS 152 and 254. Special independent work to meet individual interest in areas not covered by regular curriculum. Work will be under the supervision of a faculty member and in an area and for an amount of credit agreed upon prior to registration for the course. On demand.

CS 407 Advanced Topics in Computer Science 1 TO 3

Prereq.: CS 152 and 254 and permission of instructor. This course provides an opportunity to introduce into the curriculum topics of interest and new courses on an experimental basis. May be repeated with different topics for up to 6 credits. [GR]

CS 410 Introduction to Software Engineering 3

Prereq.: CS 253. An examination of the software development process from the initial requirement analysis to the operation and maintenance of the final system. The scope of the course includes the organization of software development projects, the verification and validation of systems, the problems of security and privacy, and the legal aspects of software development, including software protection and software liability. Irregular. [GR]

CS 423 Computer Graphics 3

Prereq.: CS 253 or (for graduates) CS 501. Wire frame and solid graphics in two and three dimensions, data structure for computer graphics, geometrical transformations in computer graphics, raster, and vector display device technologies. Fall. [GR]

CS 425 Image Processing 3

Prereq.: CS 253. Theory and algorithms of image processing and their implementation in computer programs. Image representation, sampling theory, image transforms, image enhancement, texture analysis, feature extraction, and computer vision. Spring.

CS 460 Database Concepts 3

Prereq.: CS 253 or (for graduates) CS 501. Data base systems are considered from both the designer's and user's point of view. Physical implementation and data access techniques are studied. Irregular. [GR]

CS 462 Artificial Intelligence 3

Prereq.: CS 253 or (for graduates) CS 501. Presentation of artificial intelligence as a coherent body of ideas and methods to acquaint the student with the classic programs in the field and their underlying theory. Students will explore this through problem-solving paradigms, logic and theorem proving, language and image understanding, search and control methods, and learning. Spring. [GR]

CS 463 Algorithms 3

Prereq.: CS 253 or (for graduates) CS 501. Topics include algorithms in combinatorics, integer and real arithmetic, pattern matching, list processing, and artificial intelligence. Algorithmic analysis and domain-independent techniques are also considered. Irregular. [GR]

CS 464 Programming Languages 3

Prereq.: CS 253 or (for graduates) CS 501. Emphasis on programming languages as one of many tools in the software development effort. Comparison of different language usages of data types, information hiding, control structures, block structure, sub-programs, re-entrance, and recursion. Irregular. [GR]

CS 465 Compiler Design 3

Prereq.: CS 355. Current techniques of compiler writing. Introduction to formal grammar and parsing techniques is given. Problems of semantic phase are discussed and some solutions are given. Optimization techniques are discussed. Fall. [GR]

CS 473 Simulation Techniques 3

Prereq.: CS 152 or 213, and STAT 315. Basic principles of simulation methods using digital computers. Topics covered include random number generators, stochastic variate generators, computer models, and simulation languages. Irregular. [GR]

CS 481 Operating Systems Design 3

Prereq.: CS 253 or CS 501. Theory and design of computer operating systems. Topics include machine and interrupt structure, memory, processor, device, and information management. Spring. [GR]

CS 483 Theory of Computation 3

Prereq.: MATH 218 and CS 463. The concept of algorithm, correctness and efficiency of algorithm, decidable vs. undecidable problems, recursion, halting problem, formal languages, context free and context-sensitive grammars, and introduction to automata and parallel algorithms. Irregular. [GR]

CS 490 Computer Communications Networks & Distributed Processing 3

Prereq.: CS 253 and 254. Study of networks of interacting computers. The problems, rationale, and possible solution for both distributed processing and distributed data bases will be examined. Irregular. [GR]

CS 491 Wireless Communication Networks 3

Prereq.: CS 253 and CS 254. Theory and analysis of wireless and mobile computing, and wireless communication networks. Topics include wireless network architectures, mobile Internet protocols, mobility management algorithms, performance and optimization issues, and emerging technologies. Irregular.

CS 492 Computer Security 3

Prereq.: CS 253 and CS 254. The fundamentals of computer and network security issues are explored. Topics include classical and modern techniques of conventional encryption; algorithms; public-key encryption, and hash functions; network security, with regard to e-mail, IP, and the Web; and system security intruders, viruses, worms, and firewalls. Irregular.

CS 495 Legal, Social, Ethical, and Economic Issues in Computing 3

Prereq.: Permission of instructor. Topics include privacy, security, law of torts in computing, and legal protection of software. Spring. [GR]

CS 498 Senior Project 1 TO 3

Prereq.: Senior standing, 21 credits toward major including one advanced course. Opportunity for student to participate in design and implementation of large problem with small group of people. Problem will be chosen in consultation with instructor. [GR]

CS 499 Seminar in Computer Science 3

Opportunity for student to explore topics of current interest not covered in normal curriculum. Majors only. Irregular. [GR]

Construction Management

CM 110 The Built Environment and Global Society 3

Survey of construction materials, methods and management throughout history and across the planet and their relationship with societal development. Focus on understanding how societal needs and the construction process interact. Fall. Study Area III [I]

CM 135 Construction Graphics/Quantity Take-Off 3

Understand and interpret drawing packages for building and heavy construction. Emphasis on analysis of architectural and structural drawings. Understand quantity take-off processes and conduct take-offs of sitework, concrete, masonry, steel, and rough carpentry. Two hours lecture and two hours laboratory, course meets four hours per week.

CM 155 Construction Documents 3

Examination of the role of the construction project administrator. Emphasis on interpretation of construction documents and administration of project-related documents and reports associated with the construction process.

CM 235 Building Construction Systems 3

Introduces basic body of knowledge of construction, including job identification, terminology, and the use of equipment as used in light and heavy construction.

CM 245 Heavy/Highway Construction Systems 3

Introduction to heavy and highway construction practices. Emphasis on construction equipment, labor, materials, and methods as they relate to field operations.

CM 275 Introduction of MEP Systems 3

Introduction to building mechanical, electrical and plumbing systems. Focus on how systems interact with other parts of the construction process. Identify major system components and understand how they operate. Spring.

CM 325 Building Construction Estimating 3

Prereq.: CM 135 and CM 235. Examination of the role of the construction estimator. Emphasis on pricing labor, material, and equipment costs in the areas of sitework, concrete, masonry, steel, and carpentry. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

CM 335 Construction Safety 3

A study of safety problems in the construction environment with emphasis on the day-to-day activities of the construction safety coordinator. Spring.

CM 345 Heavy/Highway Construction Estimating 3

Prereq.: CM 135 and CM 245. Examination of the role of the heavy and highway construction estimator. Emphasis on pricing labor, material, and equipment cost as they relate to civil construction projects. Two hours lecture and two hours laboratory, course meets four hours per week. Spring.

CM 353 Introduction to Surveying 4

Prereq.: MATH 115 or 119 or 121. Activities that will acquaint the student with instruments and tools of the surveyor including their use in the techniques of field surveying. Emphasis on actual layouts and areas and elevations as performed in the civil and construction discipline. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

CM 355 Construction Planning 3

Prereq.: CM 325 or 345. Examination of the role of the construction planner/ scheduler. Emphasis on CPM scheduling using arrow and precedence diagram techniques. Procedures associated with determining project completion dates, progress, schedule updating, and project time reduction. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

CM 356 Materials of Construction 4

Prereq.: MATH 115 or 119 and CM 235 or ET 150. Investigates the strength and other properties required of various materials used in construction. The testing, proper use, and application of aggregates, concrete, structural steel, and timber will be emphasized. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

CM 405 Topics in Construction 3

Prereq.: Permission of department chair. An individualized inquiry of comprehensive study into a selected construction area. The student may elect to examine materials, methods, or techniques in modern construction. Course may be repeated for a maximum of 6 credits in different topics. On demand.

CM 415 Introduction to Construction Law 3

Introduction to the basic concepts of construction law and its impact on the construction industry. Topics include basic legal principles, formation and interpretation of construction contracts and legal remedies for dispute resolution. This is a linked course with CM 515. Spring. (E)

CM 435 Construction Superintendency 3

Prereq.: Senior standing. Examination of the role of the construction supervisor. Emphasis on personnel scheduling, time keeping, trade unions, superintendents, and the duties of the project manager. [GR]

CM 455 Construction Project Management 3

Prereq.: CM 355 or admission to M.S. in Construction Management or Technology Management, or permission of department chair. Emphasis on administrative procedures, quality control, time and cost control, resource management, field office practices, construction processing, job site meetings, and correspondence. Two hours lecture and two hours laboratory, course meets four hours per week. Spring. [GR]

CM 465 Construction Internship 3

Prereq.: Junior Standing. Introduction to the construction workplace. Emphasis on field operations and management applications as they apply to building and heavy/highway construction projects. On demand.

CM 475 Construction Business Principles 3

Prereq.: CM 155 and AC 211. Examination of the roles of the owner of a construction company. Emphasis on ethical, organizational, financial, legal, managerial, and personnel issues. Fall/Spring.

CM 485 Construction Management Senior Seminar 1

Prereq.: Permission of department chair. Capstone activities including program assessments, networking events and lectures by industry representatives. Taken by students in the semester of graduation.

Counseling

CNSL 299 Human Service in the Residence Halls 3

Prereq.: Appointment to the staff (Department of Residence Life) and/or permission of instructor. Topics include competencies in personal development, student development theory and multicultural issues.

Criminology and Criminal Justice

CRM 110 Introduction to the Criminal Justice System 3

Introduction to the structure and operation of the criminal justice system in the United States. Attention will be focused on the individual and institutional levels. Topics include entrance into the criminal justice system, differential treatment of offenders, and the enforcement, judicial, and penal subsystems. Study Area II

CRM 220 Ideology & Violence 3

Examination of the causes and consequences of politically-motivated violent crime. Irregular. Study Area III

CRM 230 Law Enforcement & Society 3

Prereq.: CRM 110 (C- or higher). Comprehensive examination of the function of law enforcement in society. Emphasis is placed on such areas as police operations, discretion, police community relations, due process, use of deadly force, and police corruption and deviance. Study Area III

CRM 231 Criminal Procedure and the Courts 3

Prereq.: CRM 110 (with a grade of C- or higher). Organization and function of American courts, trial procedures, pre- and post-trial motions; legal procedures regarding arrest, interrogation, search and seizure; constitutional protections for the accused.

CRM 238 Corrections 3

Prereq.: CRM 110 (with a grade of C- or higher). Overview of corrections in America to include sentencing, probation, classification, incarceration, community corrections, and parole. Critical analysis of goals of sentencing, correctional organization and management, alternatives to incarceration, and theories of behavioral change.

CRM 240 Gender, Crime and Criminal Justice 3

Examines how gender is related to crime and criminal justice, with a particular focus on the experience for females. Topics to be covered include patterns of victimization and offending by gender, and women in the criminal justice system as offenders and workers. Theories to explain differences in victimization and offending by gender will be explored. Irregular.

CRM 245 Diversity and Criminal Justice 3

Impact of race, ethnicity, and/or gender on the commission of criminal offenses, the likelihood of criminal victimization, and the treatment of criminal offenders. Also examined is the impact of race, ethnicity, and/or gender on those working in the criminal justice system. Study Area III

CRM 260 Criminology 3

Prereq.: CRM 110. Historical and contemporary overview of the nature of crime and causes of criminal behavior. Examination of the relationship between criminological theory and criminal justice policy and practice.

CRM 322 Research Methods in Criminal Justice 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Overview of the methods of inquiry used in criminal justice research, principles of research design, knowledge of research strategies, conducting literature reviews, writing and presenting research ideas, and reading empirical reports.

CRM 330 Domestic Violence 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Theory, research, and current policy on domestic violence; patterns and trends, multi-disciplined theoretical explanations, historic and contemporary criminal justice response to domestic

violence are critically analyzed. Majors only. Irregular.

CRM 360 Victimology 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Current theory and research regarding the victims of crime. Topics include victim vulnerability and culpability, restitution, mediation, treatment, and compensation. Majors only. Irregular.

CRM 361 Principles and Ethics in Criminal Justice 3

Prereq.: CRM 230, CRM 231, CRM 238, CRM 260 (all with grades of C- or higher). Examination of selected principles of law enforcement, courts, and corrections. Overview of ethical dilemmas relevant to criminal justice.

CRM 362 Crime and Capitalism 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Critical examination of capitalism in crimes against humanity; white collar, corporate, transnational, and government crime; and the creation of a criminal underclass. Majors only. Irregular.

CRM 363 Constitutional Law and the Criminal Justice System 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Examines the various areas the Constitution affects. Topics include the concept of federalism, the incorporation clause, interstate commerce and the federal criminal code, limitations on civil liberties, and prisoners' rights. Irregular.

CRM 364 Criminal Justice Risk and Resilience 3

Prereq.: CRM 101, CRM 110, CRM 230, CRM 231, and CRM 238 (all with C- or higher). Introduction to risk and protective factors related to juvenile crime; factors that encourage or discourage continued involvement in crime as adults (the life-course perspective); and prevention and treatment approaches. Irregular.

CRM 365 Criminal Law and Legal Writing 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Sources of criminal law, limitations of criminal laws, the elements of criminal law, criminal law and the Constitution, criminal defense, and criminal offenses. Fundamental principles of legal writing including memoranda and briefs. Irregular.

CRM 366 Extreme Offending 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). Explores perpetrators whose crimes fall outside the realm of traditional patterns of offending. Topics include serial murder, cult murder/suicide, major corporate malfeasance, and terrorism. Students will analyze perpetrators through available scholarship and source material. Person and environmental factors that conceptually link different types of perpetrators will be explored.

CRM 367 Criminal Justice Prevention and Policy Planning 3

Prereq.: CRM 230, CRM 231, CRM 238 and CRM 260 (all with grades of C- or higher). This course is designed to provide students with a broad analysis of both historic and contemporary crime control strategies implemented by the police, courts, legislators, and the correctional system. Studies indicating strengths and weaknesses of each strategy are examined. The course will offer suggestions as to where more research in this area might be best directed. Irregular.

CRM 368 Defendant Assessment in the Legal System 3

Prereq.: CRM 230, CRM 231, CRM 238, and CRM 260 (all with grades of C- or higher). This course will focus on the various ways defendants are assessed and evaluated within the legal system (e.g., competence to stand trial, the insanity defense, juror evaluation, etc.). Emphasis will be placed on social science research across several disciplines (e.g., criminology, psychology, sociology, etc.) to achieve a better understanding of defendant assessment issues. Irregular.

CRM 401 Hate Crimes 3

Prereq.: CRM 322 (with a grade of C- or higher). Provides an historical and contemporary overview of hate crimes, hate speech, hate acts,

and hate crimes legislation. Focuses on case studies involving crimes against protected classes such as race, gender, religion, ethnicity, disability, and sexual orientation. Irregular.

CRM 403 Juvenile Offending: Origins and Interventions 3

Prereq.: CRM 322 (with a grade of C- or higher). This course will introduce students to the theory and research-based causes of juvenile offending and evidence-based intervention. Irregular.

CRM 404 Investigative Interviewing 3

Prereq.: CRM 322 (with grade of C- or higher). Principles, procedures, and research regarding crime-related investigative interviewing. Recommended (as opposed to detrimental) interviewing techniques for adult and child witnesses/victims of crimes. Irregular.

CRM 411 Community Corrections 3

Prereq.: CRM 322 (with a grade of C- or higher). Examination of the use of community corrections in the United States. Topics will include pre-trial and post-sentencing programs such as bail administration, diversion programs, probation, parole, and alternatives to corrections. Irregular.

CRM 412 Crime Prevention 3

Prereq.: CRM 322 (with a grade of C- or higher). Explores the theoretical basis and application of crime prevention techniques with a particular focus on environmental criminology and situational crime prevention. Ideological foundations of various crime prevention efforts are examined through case studies and limited fieldwork. Strong emphasis is placed on comparing and contrasting the situational/environmental crime prevention approach with traditional perspectives of crime. Strengths, weaknesses, practicality and policy difficulties of the situational/environmental approach are also examined. Irregular.

CRM 420 Current Issues in Criminal Justice Policy 3

Prereq.: CRM 322 (with a grade of C- or higher). Major issues and ethical considerations related to criminal justice policy and practices. Topics may include gun control, mandatory sentencing, death penalty, drug legalization and privatization. Irregular.

CRM 433 Independent Study in Criminal Justice 1 TO 3

Prereq.: CRM 322 (with a grade of C- or higher). Readings and research in selected areas of criminal justice. Student must present a written study proposal to the instructor directing the research prior to registering for the course. May be repeated for a maximum of 3 credits. On demand.

CRM 435 Supervised Field Studies in Criminal Justice I 3

Prereq.: CRM 322 (with a grade of C- or higher), senior status and permission of internship coordinator. Internship placement in a criminal justice setting under faculty direction and supervision. Corresponding class meetings and assignments are also required. Students must arrange for placement by contacting the internship director semester in advance. Fall, Spring, Summer.

CRM 450 Drugs and Society 3

Prereq.: CRM 322 (with a grade of C- or higher). For graduate students, admission to the M.S. Criminal Justice Program and in good standing; or permission of the department chair. Selected social issues relating to illegal drug use, including international and national drug trafficking, money laundering, drug enforcement, drug-related crimes, prevention strategies, and legalization. Majors only. Irregular. [GR]

CRM 460 Sexual Predators 3

Prereq.: CRM 322 (with a grade of C- or higher). Traces sexually aggressive behavior from its etiology to its manifestation in offending to its impact on the victim to criminal justice system responses to the offender. Topics include profiles of various sex crimes, community supervision of sex offenders, and registration and community notification laws. Irregular.

CRM 475 Controlling Anger and Aggression 3

Prereq.: CRM 322 (with a grade of C- or higher). For graduate students admission to the M.S. Criminal Justice Program and in good standing; or permission of department chair. Multi-disciplinary overview of theory and research on anger and aggression. Topics include the emotion of anger, theories of aggression, and intervention strategies. Majors only. Irregular. [GR]

CRM 478 Current Topics in Criminal Justice 1 TO 3

Prereq.: CRM 322 (with a grade of C- or higher). Analysis and evaluation of special topics in the general field of criminology and criminal justice. May be repeated with different topics for a maximum of 6 credits. Irregular.

Dance

Note: DAN 151-157 and 377 are general activity courses and are open to all students.

DAN 151 Beginning Modern Dance 2

Modern dance technique incorporating the Limon/Humphrey style. Attention is given to combinations across the floor. Choreographic approaches and improvisational skills are explored and developed resulting in short studio presentations. May be repeated for a maximum of 4 credits with permission of instructor. Fall.

DAN 152 Beginning Ballet 1

Introduces fundamentals, historical background and terminology of ballet. Application of barre exercises, basic positions, and beginning center floor work will be developed. May be repeated for a maximum of 2 credits with permission of instructor. Spring.

DAN 157 Beginning Jazz Dance 1

Introduction to jazz dance emphasizing the origin of dance in America. Simple center floor combinations will be taught. May be repeated for a maximum of 2 credits with permission of instructor. Irregular.

DAN 200 Dance Practicum 1

Provides a practical opportunity to hone skills through production. Meetings will be divided between production meetings, rehearsals, evaluation of recently completed projects and workshops lead by professionals in the field. May be repeated for a maximum of 8 credits.

DAN 235 Movement for Performers 2

While finding new ways to move through improvisation and self-exploration, students will have an opportunity to develop their own movement style. Fall.

DAN 236 Principles of Choreography 2

Prereq.: DAN 235. Introduces dance composition. Solo, partner and group work in basic choreographic processes and forms are explored, developed, presented, and evaluated. Includes readings, writings, and videos on choreographers and choreography. Fall.

DAN 252 Intermediate Ballet 1

Attention will be given to a full ballet barre with more complex adagio and allegro work. Turns will be emphasized. May be repeated for a maximum of 2 credits with permission of instructor. Spring.

DAN 257 Intermediate Jazz Dance 1

A fast-paced rhythmic class with more complex combinations. Choreographic approaches will be developed resulting in a short studio performance. May be repeated for a maximum of 2 credits with permission of instructor. Irregular.

DAN 272 Creative Dance in Education 2

Introduction to spatial and dynamic considerations of movement focusing on kinesthetic awareness and movement analysis. The Laban Framework and cross-curricular concepts are integrated in making and teaching creative dances and lessons for the elementary curriculum. Open only to Athletic Training and Exercise Science students.

DAN 299 Dance History 3

A study of the evolution of dance in world cultures and the influences they have had on the development of American dance in the 20th and

21st century. Course includes lecture, video presentations, and selected readings. Irregular. Study Area I [I]

DAN 377 Modern Dance & Theory 1

Prereq.: DAN 151 or DAN 272 or permission of department chair. Continuation of modern dance technique including elements of performance. Movement analysis, improvisation, and choreographic forms are developed and pedagogical material for the secondary level will be a strong focus. May be repeated for a maximum of 3 credits with permission of instructor.

DAN 477 Dance Methods 3

Prereq.: DAN 272, DAN 377, and admission to the professional program in Physical Education or permission of instructor. Explore appropriate methods for teaching K-12 dance. Gain an understanding of student and discipline-centered teaching styles, effective classroom management, and teaching practice. Professionals from dance and physical education will be involved. Irregular.

DAN 480 Project: Dance 1 TO 3

Prereq.: Permission of instructor. Individual projects in choreography, research, or production under the guidance of dance/theatre staff. Irregular. [GR]

Design (Graphic/Information)

Note: Students enrolled in the following courses will be assessed a \$65 Design Lab Fee: DES 222, 225, 322, 325, 326, 425, 436, 438, 439, 465, 498, 499. Contact the department at 860-832-2557 for additional information.

DES 100 Introduction to Graphic/Information Design 3

Overview of the principles, practices, and purposes of the field of graphic/information design. Not recommended for majors. Irregular. Study Area I

DES 122 Fundamentals of Graphic/Information Design 3

Exploration of Graphic/Information Design principles, practices, and problem solving. Pre-Graphic/Information Design majors only. No transfer credit will be accepted. May be repeated only with the permission of the department chair. Fall. Study Area I

DES 222 Graphic/Information Design I 3

Prereq.: ART 130 (with a grade of C- or higher). Introductory techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Explores issues relating to typographic, symbolic, and three-dimensional design. Open to majors only.

DES 225 History & Design of Typography 3

Prereq.: DES 222 (C- or higher). Exploration of the history of letterforms including exercise in design and application in contemporary use. Majors only. Fall.

DES 322 Graphic/Information Design II 3

Prereq.: DES 222 (grade of B or higher) and DES 225 (C- or higher) and either ART 230 or 224 (with a grade of C- or higher). Continuation of DES 222. Advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Typographic and series design solutions will be stressed. Open to majors only.

DES 325 Digital Imaging / Motion Graphics I 3

Prereq.: DES 322 (with a grade of C- or higher) admission to BA Graphic/Information Design or permission of instructor. Computer processing of image for design (graphic/information) using a variety of programs. Image enhancement, manipulation, and derivation techniques will be explored. Open to majors only. Fall.

DES 326 Digital Imaging / Motion Graphics II 3

Prereq.: DES 325 (with a grade of C- or higher). Advanced computer processing of image for design (graphic/information) using a variety of programs. Additional image enhancement, manipulation, and derivation techniques will be explored. Open to majors only. Spring.

DES 419 History of Design 3

Prereq.: ART 110 or 112 or 113 (with grades of C- or higher). History and philosophy of design function and aesthetics. Topics include graphic design, industrial design, and architectural design. NOTE: A grade of C or better is needed for graduate students to count this course as a prerequisite. [I] [GR]

DES 425 Three-Dimensional Imaging for Graphic/Information Design 3

Prereq.: DES 325 (C- or higher). Exploration of the artistic and creative three dimensional visual effects including modeling, texturing, lighting, rendering and compositing as it applies to the practice of Graphic/Information Design. Majors only. Spring.

DES 436 Graphic/Information Design III 3

Prereq.: ART 224 and DES 322 (both with grades of C- or higher). Continuation of DES 322. Additional advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Campaign and expansive design solutions will be stressed. Open to majors only. [GR]

DES 437 Design Internship 3

Prereq.: DES 326 and DES 436 (grade of C- or higher) and permission of instructor. Internship with professional graphic/information design organization. Open to majors only.

DES 438 Graphic/Information Design IV 3

Prereq.: DES 436 (with grade of C- or higher). Continuation of DES 436. Additional advanced techniques for the professional practice of graphic/information design. Includes instruction in appropriate computer applications. Professional presentation and design for the web will be stressed. Open to majors only. [GR]

DES 439 Central Design 3

Prereq.: DES 326 and DES 436 (both with grades of C- or higher) and successful Central Design portfolio review ; permission of instructor. Graphic/information design practice. Features real project and production situations with simulation of a real world graphic/information design atmosphere. Open to majors only. [GR]

DES 465 Topics in Graphic/Information Design 3

Prereq.: Permission of instructor. Selected topics in graphic/information design. May be repeated with different topics for a maximum of six credits. Open to majors only. [GR]

DES 498 Independent Study in Graphic/Information Design 1 TO 3

Prereq.: Permission of instructor. Special independent work to meet individual interest in areas not covered by regular curriculum. May include interdisciplinary information design projects. May be repeated with different topics for a maximum of 6 credits. Open to majors only. On demand. [GR]

DES 499 Computer Applications for Graphic/Information Design 3

Prereq.: DES 326 (with a grade of C- or higher) and DES 425 (with a grade of C- or higher) or permission of instructor. Study of the relationship of computer application in contemporary graphic/information design practice. Laboratory exploration of relevant software and its application in the field. Open to majors only. [GR]

Earth Sciences

ESCI 100 Search in Earth Science 3

Examination of various topics, contemporary issues and problems in earth sciences. Three hours of lecture per week. Cannot be used to meet requirements for majors or minors in earth science. No credit given to students having taken ESCI 100 or ESCI 101 with the same topic. Course may be repeated one time with a different topic. Irregular. Study Area IV

ESCI 101 Search in Earth Science with Laboratory 3

Examination of various topics, contemporary issues and problems in earth sciences. Two lectures and one, two-hour lab per week. Cannot be used to meet requirements for majors or minors in earth science. No credit given to students having taken ESCI 100 or ESCI 101 with the same topic. Course may be repeated one time with a different topic. Irregular. Study Area IV

ESCI 110 Introduction to the Earth 3

Prereq.: No more than 5 credits in Earth Science. Descriptive introduction to the astronomical, geological, and meteorological studies of the earth that allow an understanding of the earth as a physical environment. No credit given students with credit in ESCI 111. May not be applied to a major or minor in Earth Sciences. Study Area IV

ESCI 117 Introduction to the Solar System 3

Prereq.: MATH 099 or equivalent. An introductory course in descriptive astronomy focusing on the solar system, including coordinate systems, the Earth-Moon system, light and telescopes, and the structure of the solar system. No credit will be given to Physics or Earth Sciences majors or to students with credit for ESCI 178. Study Area IV

ESCI 118 Introduction to Stars and Galaxies 3

Prereq.: MATH 099 or equivalent. An introductory course in descriptive astronomy focusing on stars and galaxies, including stellar evolution, galaxies, and the origin and fate of the universe. No credit given to Physics or Earth Sciences majors or to students with credit for ESCI 179. Study Area IV

ESCI 121 Physical Geology 4

Investigation of the major features of the earth and its materials, and the interaction of the geologic processes active on the surface and in the interior of the earth. Topics include volcanoes, rivers, glaciers, earthquakes, desert and coastal processes. Three lectures and one, three-hour lab per week. One or more field trips. CSUS Common Course. Study Area IV

ESCI 122 Historical Geology 4

Prereq.: ESCI 121. Earth history, emphasizing earth's changing geographic pattern through time, history and development of life, climates of past as revealed by study of stratified rocks of earth's crust. Three lectures and one three-hour laboratory period per week. Spring. Study Area IV

ESCI 129 Introduction to Meteorology 4

Prereq.: MATH 099 or placement exam. Introductory course dealing with atmospheric composition, structure, and basic motions. The nature of high and low pressure systems, severe weather, how the National Weather Service works. Three lectures and one two-hour laboratory per week. Study Area IV

ESCI 178 Planetary Astronomy 4

Prereq.: MATH 101 or placement exam. Study of the members of the solar system, their motions, and compositions. Topics will include physical laws of motion and radiation, comparative planetology, the origin and structure of the solar system. Three lectures and one two-hour laboratory per week. No credit given to students with credit for ESCI 117. Fall. Study Area IV

ESCI 179 Stellar Astronomy 4

Prereq.: MATH 101 or placement exam. Study of stars as separate bodies and members of clusters and galaxies. Topics will include properties of stars, stellar evolution, galaxies, and cosmology. Emphasis will be placed on methods astronomers use to study stars. Three lectures and one two-hour laboratory per week. No credit given to students with credit for ESCI 118. Spring. Study Area IV

ESCI 221 Mineralogy 4

Prereq.: ESCI 121 and CHEM 161 and CHEM 162 Study of minerals, their formation, occurrence, properties, composition, and classification. Topics include crystal chemistry, internal crystal structures, optical and other physical properties, identification of crystal forms and mineral specimens, and an introduction to petrology. Three lectures and one three-hour laboratory per week. One or more one-day field trips. Fall. (O)

ESCI 223 Stratigraphy and Sedimentology 4

Prereq.: ESCI 122. Study of the processes and patterns of sedimentation as well as the spatial and temporal distribution of strata. Both ancient and modern depositional environments will be investigated. Three, one-hour lectures; one, three-hour lab; and one or more one-day field trips. Spring. (E)

ESCI 278 Observational Astronomy 4

Prereq.: ESCI 178 or 179 or permission of instructor. Theory and practice of observational astronomy. Topics include solar and lunar observation, naked eye observation, and coordinate systems, telescope usage and design. Two lectures and two two-hour labs per week. Fall. Study Area IV

ESCI 290 Field Methods in Geology 2

Prereq.: ESCI 122. Methods and equipment used in field geology, including use of a Brunton compass, outcrop description and sketching, basic mapping techniques, sampling methods, notebook maintenance, use of global positioning system (GPS) technology, geologic maps and cross sections, field safety, and report writing. One, three-hour lab per week. Lab sessions will typically involve outdoor activities. Two or more half-day field trips required. NOTE: Required of all sophomore majors in Earth Science Geology specialization. Fall.

ESCI 321 Structural Geology 4

Prereq.: ESCI 122 and ESCI 221. Study of the geometry and origin of rock structures that are products of earth deformation. These include folds and faults, as well as microstructures. Emphasis will be placed on recognition and interpretation of structures through field and laboratory studies. Three lectures and one three-hour laboratory per week. One or more one-day field trips are required. Fall. (O)

ESCI 322 Igneous and Metamorphic Petrology 4

Prereq.: ESCI 122 and ESCI 221. Study of igneous and metamorphic processes and environments of formation. Application of chemical principles to the origin of igneous and metamorphic rocks. Identification and petrographic analysis of rocks will be emphasized in the laboratory. One or more one-day field trips. Spring. (O)

ESCI 330 Astrophysics 3

Prereq.: MATH 221, and PHYS 122 or PHYS 126; or permission of instructor. Overview of astrophysical concepts, including electromagnetic radiation, stellar structure and evolution, binary systems, galactic rotation and evolution and cosmology. Spring. (E)

ESCI 335 Physical Oceanography 3

Prereq.: CHEM 161 and 162, and PHYS 121. Introduction to physical properties and chemical composition of seawater, ocean currents and ocean circulation, and the physical characteristics of the seafloor. Also covered is the interrelationship of the ocean with atmospheric circulation and world climate. Three lectures per week. Spring. (O) [GR]

ESCI 360 Research Methods in the Earth Sciences 1

Prereq.: Junior standing and Earth Science major. Investigation of the process of research, from the scientific method through writing a scientific proposal. Research results presented by written report, oral or poster presentation. Spring.

ESCI 378 Comparative Planetology 3

Prereq.: ESCI 121 or ESCI 178. Study of the different natures of planets and large satellites of the solar system with the goal of better understanding the origin and history of the earth. Spring. (E)

ESCI 424 Geomorphology 4

Prereq.: ESCI 121; for graduate students permission of department chair. Scientific study of landforms on the earth's surface. A systematic analysis of a wide variety of landforms, with an emphasis on the processes that form them. Tectonic and climate controls of geomorphic systems are considered as are the impacts of human activities. Three, one-hour lectures, and one three-hour laboratory per week. One or more one-day field trips. Fall. (O) [GR]

ESCI 425 Glacial and Quaternary Geology 3

Prereq.: ESCI 121. Examination of the role of glaciers in Earth's climate system with a focus on the Quaternary period; the mechanics of glaciers and their role in large-scale geomorphic change; and the characteristics of the Pleistocene glacial deposits of southern New England. One or more one-day field trips. Spring. (O)

ESCI 431 Introduction to Hydrogeology 4

Prereq.: ESCI 121, MATH 152 and CHEM 161 and 162; or permission of department chair. Overview of hydrologic and hydrological factors controlling the occurrences and dynamics of groundwater. Groundwater chemistry, quality, and contamination will also be covered. Three lectures and one three-hour laboratory per week. One or one-day field trips. Spring. (O) [GR]

ESCI 442 Weather Analysis and Forecasting 4

Prereq.: ESCI 462 and MATH 152 or permission of instructor. Basics of analysis and forecasting. National Weather Service (NWS) codes and interpretation, graphical analysis techniques, NWS facsimile products, applications of thickness and thermal wind equations, thermodynamic diagrams and their usefulness, cross-sectional analysis, tilt of pressure systems, quasi-geostrophic theory, performance characteristics of NWS prediction models. Three lecture hours and a three-hour laboratory per week. Fall. (O) [GR]

ESCI 450 Environmental Geology 3

Prereq.: ESCI 121 or permission of instructor. Geological factors that control or affect human habitat avoiding, or compensating for geological hazards. Applied geology from an environmental perspective that focuses on interactions between humans and Earth surface processes. Study of natural hazards such as river flooding, landslides and debris flows, earthquakes, volcanic eruptions, coastal hazards. Surface and groundwater use and pollution are also covered. Fall. (E) [GR]

ESCI 452 Independent Study in Earth Science 1 TO 4

Prereq.: Approved plan of study on arrangement with supervising instructor and approval of department chair. Special work in laboratory, theory, or research to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to 6 credits. [GR]

ESCI 460 Senior Project 1 TO 3

Prereq.: ESCI 360, senior standing as an earth science major, and written permission of both project advisor and department chair. Investigation of a topic of current research interest as determined by the student in consultation with the faculty. Research technique, critical data evaluation, specialized knowledge, independence and originality are cultivated as the project develops. Written report and presentation are required. The Senior Project may span only one semester earning one to three credits, or two separate semesters for a maximum of six credits. Fall, Spring.

ESCI 461 Physical Meteorology 3

Prereq.: ESCI 129, PHYS 121 or 125 (may be taken concurrently), or permission of instructor. Examination of the physical basis of the earth's atmosphere. Structure, composition, gas laws, atmospheric thermodynamics and hydrostatics, atmospheric stability, solar radiation, and the energy budget of the earth. Three lecture hours per week. Fall. (E) [GR]

ESCI 462 Dynamic Meteorology 3

Prereq.: ESCI 461, MATH 126 or 221 (may be taken concurrently). Continuation of ESCI 461, with emphasis on dynamic processes of the earth's atmosphere. Equations of motion, geostrophic and gradient winds, thickness and thermal wind, circulation and vorticity, mechanism and influences of pressure changes. Three lecture hours per week. Spring. (O) [GR]

ESCI 478 Planetary Image Analysis 3

Prereq.: PHYS 126. Theory and application of image analysis to determine the geologic history of solar system objects from spacecraft datasets. Spring. (O)

ESCI 480 Internship in Earth Sciences 1 TO 3

Prereq.: Senior standing and permission of the student's advisor. Students serving in the program will serve as interns, obtaining outside industrial and/or research experiences in an environment directly related to their specialization. Internship[s] may be in any area of astronomy, earth science, geology, meteorology, or planetary science. Projects will be supervised by one or more department members. Written report or poster presentation required. On demand.

ESCI 490 Topics in Earth Science 3-4

Selected studies in earth science which are not offered presently in the curriculum of the department. Course may be repeated with different topics. [GR]

Economics

ECON 200 Principles of Economics I 3

Macroeconomics. Introduction to the prevailing pattern of American economic institutions, the theory of income, employment and investment in the national economy, and public policies that affect them. CSUS Common Course. Study Area II

ECON 201 Principles of Economics II 3

Microeconomics. Presents economic principles related to consumer demand, and determination of prices of goods and factors of production under differing market structures. Applications to real world situations will be discussed. CSUS Common Course. Study Area II

ECON 250 Contemporary Economic Issues 3

Economic analysis of contemporary issues. Topics include federal deficits, regulation of business, income distribution, unemployment, military spending, consumer protection, technical change, and environmental degradation. Study Area II

ECON 300 Macroeconomics 3

Prereq.: ECON 200, 201. Theoretical analysis of determination of national income and economic growth. CSUS Common Course. Fall.

ECON 305 Microeconomics 3

Prereq.: ECON 200, 201. Determination of prices of goods and productive factors in a free market economy and the role of prices in the allocation of resources. CSUS Common Course. Spring.

ECON 310 Mathematical Economics I 3

Prereq.: ECON 200, 201, MATH 125 or MATH 152, or permission of instructor. Applications in economics of functions, differential calculus, maxima and minima, Lagrange multipliers, matrices, and determinants. Fall.

ECON 311 Mathematical Economics II 3

Prereq.: ECON 310. A continuation of ECON 310. Examination of economic problems in a dynamic framework. The use of integrals, differential equations, and difference equations will be discussed as applied to economics. A brief introduction to linear programming and game theory is included.

ECON 398 Topics in Economics 3

Prereq.: ECON 200 and 201, or permission of instructor. Examination of selected topics in economics which are not otherwise offered as part of the department's regular courses. Course may be repeated under different topics for up to 6 credits.

ECON 420 Urban Economics 3

Prereq.: ECON 200, 201. Economic analysis of metropolitan and regional entities with special focus on land use, location decision-making, the provision and role of public services, transportation, public finance, human resources, and social welfare. [GR]

ECON 430 International Economics 3

Prereq.: ECON 200, 201. Principles of international trade and finance and application to modern world, theory of comparative advantage, exchange rates, monetary standards, international financial institutions, tariffs, commercial policy, and aid to underdeveloped countries. [I] [GR]

ECON 435 Economic Development 3

Prereq.: ECON 200. Problems of accelerating development in developing countries and maintaining development in prosperous countries. From view points of theory, history, and policy, this course attempts to explain forces that lead to economic development. [I] [GR]

ECON 445 Labor Economics 3

Prereq.: ECON 200, 201. Economic analysis of human resources as a factor of production. Special attention is devoted to demographics, labor market structures, wage determination, career decision-making, training, and the roles of employee organizations. [GR]

ECON 450 Money, Credit, and Banking 3

Prereq.: ECON 200. Money and its functions, including structure of the American banking system, with emphasis on monetary theory and policy. [GR]

ECON 455 Public Finance 3

Prereq.: ECON 200, 201. Analysis of federal revenues and expenditures, including an examination of federal budget concepts, fiscal policy, cost-effectiveness analysis, tax efficiency and equity, and debt management problems. [GR]

ECON 460 Economic Forecasting 3

Prereq.: ECON 200, 201 and STAT 104 or equivalent. The theory and use of such forecasting techniques as simple and multiple regression, seasonal adjustment, economic indicators, input-output and macroeconomic models. Emphasis will be given to economic applications and the use of the computer. [GR]

ECON 462 Industrial Organization 3

Prereq.: ECON 201. Study of the structure, conduct, and performance of selected U.S. industries. The effects of concentration on prices, outputs, profits, and technological change will be analyzed. [GR]

ECON 465 Government and Business 3

Prereq.: ECON 201. Role of government in the mixed economy, with special emphasis on antitrust laws, regulation and deregulation, social legislation, and public enterprise. [GR]

ECON 470 Managerial Economics 3

Prereq.: ECON 201. Application of economic theory and quantitative methods to managerial decision-making problems. Topics include decision analysis, forecasting, demand analysis, production and cost analysis, linear programming, break-even analysis, and capital theory and budgeting. [GR]

ECON 475 History of Economic Thought 3

Prereq.: ECON 200, 201. Evolution of economic thought from Ancient Greece to current doctrines. [GR]

ECON 485 Econometrics 3

Prereq.: ECON 200, 201 and STAT 104 or equivalent. Application of statistical methods to economics. Emphasis is placed on statistical inference, regression analysis, and real-world applications using the computer. Spring. (O) [GR]

ECON 498 Advanced Topics in Economics 3

Prereq.: ECON 200 and 201, or permission of instructor. Examination of advanced topics in economics which are not otherwise offered as part of the department's regular courses. Course may be repeated under different topics for up to 6 credits. [GR]

ECON 499 Independent Study in Economics 3 OR 6

Prereq.: Permission of instructor. Students may specialize in projects of an advanced nature not covered by regular course offerings. Supervision is given through periodic conferences with each student and through several group meetings to discuss findings and common problems. [GR]

Education

See also Education-Elementary, Education-Secondary, Education-Teacher, Educational Foundations, Educational Technology, Reading, Special Education, Technology Education, and Vocational-Technical Education

ED 498 Individual Study Project 1 TO 6

Prereq.: Permission of Department Chair. Individual research open only to advanced students and experienced teachers. Systematic study of problems of special interest. Students in either elementary or secondary fields are guided in selection, analysis, gathering of data, and drawing conclusions. Not for credit in graduate degree programs.

Education—Elementary

EDEL 322 Effective Elementary Teaching 3

Prereq.: Admission to the Professional Program of Teacher Education, EDTE 315. Taken concurrently with EDTE 320. Emphasis on use of standards, development and alignment of objectives, daily and long-range plans, instructional strategies, assessment strategies and reflection on practice. Students develop and implement lessons.

EDEL 415 Elementary Social Studies Methods 1

Prereq.: Admission to the Professional Program of Teacher Education; EDEL 322 and EDTE 320. Taken concurrently with EDTE 420. Introduction to content and process of elementary social studies. Students examine curricular goals and materials, research and construct integrative, developmentally appropriate social studies lessons, and implement lesson in field setting. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDEL 430 Elementary Education Student Teaching 1 TO 9

Prereq.: Permission of the Director of the Office of Field Experiences. Student teachers in elementary schools work with teachers and children in professional activities. Placement culminates with student teachers assuming responsibility for planning and implementing units of instruction and developing classroom leadership. Full semester of field-based work required. Not for credit in graduate programs. Only the required concurrent courses may be taken during student teaching. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDEL 485 Creating Classroom Community (K-8) 3

Examination of the purposes, processes, and strategies of varied approaches to building community in elementary education and kindergarten through grade eight classrooms. Irregular. [GR]

Education—Secondary

Note: Student teaching courses (EDSC 412, 414, 415, 417, 419, 420, 421, 428, 429, 435) may not be repeated without the permission of the director of the Office of Field Experiences, as well as the chairs of the student's major department and of Teacher Education.

EDSC 412 Student Teaching, TESOL, All Levels 12

Prereq.: ENG 496; admission to the Professional Program and permission of the Director of the Office of Field Experiences. Full semester of student teaching in TESOL, K-12. One half of the semester is spent at the elementary school level, and one half at the secondary school level. On demand.

EDSC 414 Preliminary Student Teaching (Technology Education) 6

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public middle school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 415 Student Teaching (Technology Education) 6

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. In accordance with the public school schedule, Technology Education students spend approximately an eight-week period in the first semester of the senior year in a public senior high school. The Technology Education major demonstrates his or her ability to organize and conduct school learning activities and to work effectively with adolescent youth in a program of technology education. Emphasis on Connecticut teaching competencies in both classroom and laboratory situations. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 417 Student Teaching (Elementary P.E.) 6

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. An eight-week period of the senior year is spent in a physical education department of a public elementary school where the student demonstrates the ability to conduct activity classes and to work effectively with children. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 419 Student Teaching (Secondary School P.E.) 6

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. An eight-week period of the senior year is spent in a physical education department of a public secondary school where the student demonstrates his or her ability to conduct activity classes and to work effectively with youth. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 420 Student Teaching - Elementary Music Education 4.5

Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of the Office of Field Experiences. Eight-week period in the last semester spent in a music education department of a public elementary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with children. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 421 Student Teaching - Secondary Music Education 4.5

Prereq.: Admission to the Professional Program for Teacher Education and permission of the Director of the Office of Field Experiences. Eight-week period in the last semester spent in a music education department of a public secondary school where the student demonstrates the ability to conduct learning activities in music and to work effectively with youth. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 425 Principles of Secondary Education 3

Prereq.: EDTE 314, or EDTE 316 or EDTE 317; admission to the Professional Program in Teacher Education. General methods of instruction including curriculum planning, assessment, classroom management and the responsibilities of the teacher with a focus on the 7-12 classroom. Thirty hours of content area major field experience is required for teacher candidates. Sciences, English, Mathematics, Modern Languages, and Business Education. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 428 Student Teaching - Elementary Art 5

Prereq.: Admission to the Professional Program of Teacher Education and permission of Director of the Office of Field Experiences. Eight-week student teaching where student demonstrates ability to conduct learning activities and to work effectively with pupils and teachers in an elementary program of art education. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 429 Student Teaching - Secondary Art 5

Prereq.: Admission to the Professional Program of Teacher Education and permission of Director of the Office of Field Experiences. Eight-week student teaching where student demonstrates ability to conduct learning activities and to work effectively with pupils and teachers in a secondary program of art education. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDSC 435 Secondary Education Student Teaching 3 TO 9

Prereq.: Admission to the Professional Program in Teacher Education and permission of the Director of the Office of Field Experiences. Experiences in classrooms of public secondary schools where the student demonstrates the ability to conduct secondary school learning activities and to work effectively with adolescent youth. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

Education—Teacher

EDTE 210 Education & Teacher Leadership in Diverse Learning Communities 4

Exploration of teaching, diversity, and the roles teachers play as leaders in diverse educational learning communities. Inquiry-based approach includes participant-observation, case analysis, examination of beliefs and research on learning and teaching. Field experience required. Taken concurrently with EDT 210.

EDTE 314 Applied Learning Theories (K-12 Programs) 3

Prereq.: Acceptance to Pre-professional or Pre-Certification programs in music education, technology education, or art education. Coreq.: MUS 310, or ART 301, or PE 299 or TE 399. Examination of principles pertinent to teaching and learning. Emphasizes the use of educational theory and research related to K-12 classroom practices, learning communities, and learners' developmental needs with special emphasis on elementary level. 20 hours of field experience in assigned settings required. Fall.

EDTE 315 Principles of Learning: Elementary 4

Prereq.: Admission to the Professional Program. Examination of principles pertinent to teaching and learning. Emphasizes the use of educational theory and research findings applicable to classroom practices, learning communities, and learners' developmental levels. 30 hours of certification specific field experience required. In Elementary Education, taken concurrently with SPED 315 and RDG 315. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDTE 316 Principles of Learning (Sec/K-12) 4

Prereq.: Admission to the Profession Program in Secondary or K-12 Education. Examination of principles pertinent to teaching and learning. Emphasizes the use of educational theory and research findings applicable to classroom practices, learning communities, and learners' developmental level. 30 hours of certification/age-specific field experience in assigned setting(s) required. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDTE 320 Practicum in Elementary Education I 1

Prereq.: Admission to the Professional Program of Teacher Education, EDTE 315. Taken concurrently with EDEL 322 and RDG 316. Forty-five hours of on-site experience (two visits per week during regular school hours). Emphasizes classroom observation and teaching experience in an assigned public school setting appropriate to certification level. Includes related seminar. May be repeated for a maximum of two credits with permission of department chair. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDTE 420 Practicum in Elementary Education II 1 TO 2

Prereq.: Admission to the Professional Program of Teacher Education; EDTE 320. Taken concurrently with EDEL 415 and RDG 412 in elementary education. Forty-five to 60 hours of on-site experience (two visits per week during regular school hours). Emphasizes teaching experience in an assigned public school setting appropriate to certification level. Includes related seminar. May be repeated for a maximum of two credits with permission of department chair. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

EDTE 430 Topic Seminar in Leadership and Learning Communities 1

Prereq.: Admission to the Professional Program; concurrent with student teaching. Examination of current research and theory pertaining to teacher leadership and the development of learning communities in classrooms and schools. Topics include educational reform, professional ethics, diversity, collegiality and continuous professional development. May be repeated for a maximum of two credits. Not available for graduate credit.

EDTE 498 Individual Study Project 1 TO 3

Prereq.: Permission of department chair. Guided individual study of problems of special interest. May be repeated for up to 3 credits. Open only to advanced students. may not be substituted for professional education program requirements. On demand.

Educational Foundations

EDF 415 Educational Foundations 3

Prereq.: Admission to the Professional Program. Social and moral contexts of schooling, purposes of education in American society, contemporary educational policy, politics of the policy-making process and the role of teachers as leaders. Not for credit in graduate degree programs.

Educational Opportunity Program

EOP 101 E.O.P Student Success Seminar 1

Prereq.: Open to E.O.P Freshmen only. Helps students acclimate to the campus environment during their first year, first semester. Enhances students' personal, academic, and social development skills to cope with the demands of college life. Speakers discuss academic skills, coping skills, financial aid, and scholarship tips. Fall.

Educational Technology

EDT 210 Introduction to Educational Technology 1

Prepares potential educators to integrate technology into lesson planning through the design and development of an interactive, multimedia presentation. Multiple forms of technology are utilized to develop the lesson along with other supporting instructional and assessment materials.

EDT 315 Educational Technology in the Secondary School Classroom 1

Prepares educators to integrate technology into secondary lesson planning through the design and development of an interactive, instructional program that utilizes multimedia and Web 2.0 technologies.

EDT 415 Developing Instructional Materials 1

Prereq.: EDT 210. Design, utilization skills and production techniques are further developed as students design, implement and evaluate an instructional multimedia program within a Web 2.0 framework (web development, video, podcast).

Electro-Mechanical Technology

EMEC 114 Introduction to Energy Processing 3

Survey of energy conversion systems, including aspects of energy transmission and control employed by industry to increase its value and usefulness. Laboratory experiments include development and use of various energy systems. Open to all students. Three hours lecture and two hours laboratory, course meets five hours per week.

EMEC 303 Electro-Mechanical Converters 3

Prereq.: TC 213 or CET 223 or PHYS 122. Analysis of DC and AC single and three-phase motors and generators with focus on performance characteristics and their function in control systems. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

EMEC 323 Mechatronics 3

Prereq.: TE 213 or CET 223 or PHYS 122. Application of embedded microprocessor control systems in machines and mechanical devices. Topics include microprocessor and PLC software control program interface with electrical/electro-mechanical devices. Experiences with laboratory examples and applications. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

EMEC 324 Fluid Power Systems 3

A study of the design and fabrication, diagnosis, and repair of fluid power systems, including hydraulics, pneumatics, and fluids. Three hours lecture and two hours laboratory, course meets five hours per week.

EMEC 333 Data Acquisition & Control 3

Prereq.: TE 213 or CET 223 or PHYS 122. An examination of digital electronic and microprocessor-based techniques for data acquisition and control. Interfacing, signal processing, and computer communications are included. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

EMEC 334 Mechanisms for Automation 3

Prereq.: TE 213. A study of the design and fabrication, diagnosis, and repair of mechanical power systems, including mechanical transmission and control components. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

EMEC 463 Programmable Logic Controllers 3

A study of programmable sequence controllers and programmable logic controllers for motion and process control. The use of ladder logic is included. Three hours lecture and two hours laboratory, course meets five hours per week. Spring. [GR]

Engineering

ENGR 150 Introduction to Engineering 3

Introduction to engineering problem-solving techniques unique to areas of the technical world, including chemical, civil, construction, nuclear, manufacturing, mechanical, and electrical disciplines. Problem solving is presented in both English and International (SI) Units.

ENGR 240 Spreadsheet and Engineering Problem Solving Tools 3

Prereq.: ENGR 150 (C- or higher) and MATH 116 or 119 or higher; or permission of instructor. The application of spreadsheet and MATLAB tools for problem solving, graphing and analyzing engineering data, and programming of formulae, procedures and macros in Excel. Two hours lecture and two hours laboratory, course meets four hours per week.

ENGR 251 Engineering Mechanics I - Statics 3

Prereq.: ENGR 150 (C- or higher) and PHYS 125 (C- or higher) and MATH 221 (may be taken concurrently). Engineering vector mechanics of equilibrium (statics), covering force resolution and composition, force moments and couples, and equilibrium equations for analysis. Forces and moments acting on structures and machines, centroids, and moments of inertia are evaluated. Fall.

ENGR 252 Engineering Mechanics II - Dynamics 3

Prereq.: ENGR 251 (C- or higher); ENGR 240 or CS 151. Engineering vector mechanics of non-equilibrium conditions (dynamics), covering the kinematics of motion and kinetics of particles and rigid bodies. Spring.

ENGR 257 Mechanics of Materials 3

Prereq.: ENGR 251 (C- or higher). The analysis of simple and combined stress, torsion, flexure, and deflection of beams, continuous and restrained beams, combines axial and bending loads, and columns. Spring.

ENGR 290 Engineering Technical Writing and Presentation 3

Prereq.: ENG 110. Investigate and practice the values, structures, and audience that provide the context for engineering documents, such as technical reports, executive summaries, abstracts, instructions and procedures, proposals, electronic communications, and presentations. Two hours lecture and two hours laboratory, course meets four hours per week. Skill Area I

ENGR 291 Engineering Diversity 3

Prereq.: ENGR 150 (C- or higher) or permission of instructor. Analysis of engineering diversity including legal, ethical, and equity consequences in engineering as influenced by the expansion of the global economy. Cultural, racial, and gender issues are emphasized, as well as regional differences. Fall, Summer. Study Area III [D]

ENGR 490 Fundamentals of Engineering (FE) 3

Prereq.: ET or CE, or ME senior standing or permission of instructor. Further development of topics included in the Fundamentals of Engineering (FE) general exam. Currently, Connecticut Department of Consumer Protection application deadlines are December 1 and July 1, prior to the April and October FE Exam offerings. Spring.

Engineering Technology

ET 233 Electrical Circuit Analysis 3

Prereq.: PHYS122, MATH 152 or 125. Analysis of electrical circuit components incorporating passive and active elements. Topics include laws and theorems applied to DC, AC, three-phase, diodes, and operational amplifier circuits; transient and steady state response; phasors, frequency response, and resonance. Spring.

ET 241 Applied Statics and Strength of Materials 3

Prereq.: PHYS 111 or PHYS 112, and MATH 115 or MATH 119 or MATH 121 or MATH 125. Introduction to applied statics and strength of materials with a non-calculus-based analytical and practical approach. Comprehensive explanation of theory and application to architectural, construction, industrial, mechanical and structural problems. May not be used to meet the requirements for a major or minor in Civil, Computer, Manufacturing, or Mechanical Engineering Technology. Fall. Study Area IV

ET 251 Applied Mechanics I - Statics 3

Prereq.: ENGR 150; and PHYS 121 and MATH 136 (may be taken concurrently) or PHYS 125 and MATH 152. Fundamentals of statics, including the resolution and composition of forces and the equilibrium of force systems. Analysis of forces acting on structures and machines, centroids, moments of inertia. Vector methods are used.

ET 252 Applied Mechanics II - Dynamics 3

Prereq.: ET 251. Introduction to kinematics of motion and kinetics of particles and rigid bodies.

ET 300 Ergonomics 3

A study of the man/machine relationship necessary to achieve maximum productivity and job satisfaction. Emphasis will be placed on the physical work environment with considerations given to health and safety criteria.

ET 354 Applied Fluid Mechanics 3

Prereq.: ET 251. Application of fluid mechanics principles to systems. Study of fluid statics and dynamics including Bernoulli equation, momentum, energy, laminar and turbulent flow, pipe and open channel flow, pumping systems, and dimensional similarity. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

ET 357 Strength of Materials 3

Prereq.: ET 251 and PHYS 121 and MATH 136 or MATH 152. The study of simple and combined stress, torsion, flexure, and deflection of beams, continuous and restrained beams, combined axial and bending loads, and columns. Computer applications. Not intended for engineering students.

ET 361 Engineering Technology Instrumentation 3

Prereq.: STAT 104, ET 357. Basic concepts of experimental techniques, fundamentals of measurement systems, and signal analysis. Strain, pressure, velocity, flow, and temperature measurements. Data acquisition, A/D and D/A conversion, data and error analysis. Preparation of professional reports. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

ET 399 Engineering Economy 3

Prereq.: MATH 125 or MATH 135 or MATH 152. Economic analysis of financing technical or engineering projects and determining costs and justification of improvements as related to the construction and industrial infrastructure facilities. Fall, Spring, Summer. Study Area II

ET 495 Topics in Engineering Technology 3

3/10/2014

Central Connecticut State University (CCSU): Engineering Technology

Prereq.: ENGR 150 and permission of instructor. Provides an opportunity to present topics of interest not currently covered in the engineering technology curricula.

Engineering Technology—Civil

ETC 122 Introduction to CAD for AEC I 3

Concepts of computer-aided drafting and design applied to engineering drawings and schematics for the architectural, civil, construction, electrical, and mechanical disciplines. Laboratory course utilizing AutoCAD application software. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

ETC 353 Introduction to Engineering Surveying 3

Prereq.: MATH 115 or 119. Application of survey instruments to perform measurements for design and construction. Use of survey instruments to measure elevations, distances, and angles; and application of survey mathematics to calculate locations, areas, earthwork, and roadway curves. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

ETC 397 Structural Analysis 3

Prereq.: ETC 357. Analysis of statically determined structures; influence lines, deflection analysis of trusses, beams and frames; introduction to indeterminate structural analysis using consistent deformation principles and moment distribution; computer applications.

ETC 405 Applied Structural Systems 3

Prereq.: ETC 241 or ETC 251, and CM 356; or permission of instructor. Introduction to strength of materials, structural analysis and the structural design process for the construction manager or architect. Includes review of current structural steel and reinforced concrete design specifications and building code requirements. Cannot be used for credit in ET programs. Spring. [GR]

ETC 451 Soil Mechanics & Foundations 3

Prereq.: ETC 357. Fundamentals of soil behavior and its use as a construction material. Principles of effective strength, permeability, shear strength, and consolidation. Application to construction problems in shallow and deep foundations, slope stability, retaining structures and excavation drainage. Lecture/lab required. Fall. [GR]

ETC 454 Introduction to Transportation Engineering 3

Prereq.: ETC 353. Study of the planning, design, environmental concerns addressing, construction and maintenance of transportation projects using new and rehabilitated highway and bridge projects as focus points for lecture and laboratory work. Lecture/lab required. Fall. [GR]

ETC 457 Advanced Surveying 3

Prereq.: ETC 353 and MATH 125. Advanced topics in surveying including horizontal and vertical curve layout, traversing earthwork, and laser leveling. Computer applications and effective total station usage is stressed. Three hours lecture and two hours laboratory, course meets five hours per week.

ETC 458 GPS Mapping for GIS 3

Prereq.: ETC 353 or GEOG 378 or permission of instructor. Use of the Global Positioning System (GPS) to collect information for use in a Geographic Information System (GIS). Includes integration of vector and raster data sets with GPS data. Hands-on use of equipment is emphasized. [GR]

ETC 470 Structural Steel Design 3

Prereq.: ETC 356 and ETC 397. An introduction to the analysis of steel structures using classical and computer methods. Application of design, fabrication, and construction in structural steel using standard specifications. Topics on beams, columns, trusses, and frames. Fall. [GR]

ETC 471 Reinforced Concrete Structures 3

Prereq.: ET 357 and ETC 397. Applications of design and construction in reinforced concrete and timber structures. Topics on beams, columns, slabs, footings, retaining walls, formwork, and pre-stressed concrete fundamentals. Spring. [GR]

ETC 472 Timber Structures 3

Prereq.: ETC 397. A study of the physical properties of wood used in structures and architecture. Influence on strength of moisture content, species, and preservation treatments are emphasized. Design and construction applications in bridges and buildings. Spring. [GR]

ETC 475 Hydrology & Storm Drainage 3

Prereq.: ETC 122 and ET 252 and 354; or permission of instructor. Engineering topics pertaining to the hydrological cycle. Computational techniques and the use of application software for analysis of rainfall and runoff. Design skills for stormwater mitigation will be applied to course project. Lecture/lab required. Spring. [GR]

ETC 476 Environmental Technology 3

Prereq.: CHEM 111 or CHEM 161 and 162 or CHEM 121 and MATH 115 or 119. Environmental effects on air, water, and land from construction activities. Case studies with discussion of corrective action. Fall. [GR]

ETC 497 Civil Technical Practice and Senior Project Research 2

Prereq.: ETC 353 or CM 353; ETC 397. First of a two-course sequence. Students work in teams in an environment appropriate to a professional Civil ET setting. Teams propose and develop a capstone design project. Class presentations include communication, engineering project management, the design function, ethics, professional liability and qualifications based selection. Oral and written communication skills are emphasized. Fall.

ETC 498 Civil ET Senior Project (Capstone) 2

Prereq.: ETC 497. Second of two-course capstone sequence completing senior team project in engineering technology. Project teamwork, engineering methodology, and oral and written communication skills emphasized. Oral and written presentations required. Projects may originate from student, instructor, and/or industrial partner. Students must register to take the fall or spring NCEES FE exam. Spring.

Engineering Technology—Mechanical/Manufacturing

ETM 256 Materials Science 3

Prereq.: MATH 115 or 119 or 121 and CHEM 111 or CHEM 161 and 162 or CHEM 121. Analysis of the structure of and engineering properties of ceramic, metallic, polymeric, elastomeric, and composite materials with relation to design and processing. Fall.

ETM 260 Computer Aided Design and Integrated Manufacturing CAD/CAM/CIM 3

Introduction to solid modeling for design, drawing, assembly, mass property analysis and manufacturing operations on a CAD/CAM/CIM system. Emphasis is on computer hardware utilization for designing products. Two hours lecture and two hours laboratory, course meets four hours per week. Fall, Spring, Summer.

ETM 340 Geometric Dimensioning & Tolerancing 3

Prereq.: MFG 121 or MFG 216 or permission of instructor. Interpretation, application, and verification of GDT aspects of engineering designs per the latest ANSI Y4.5. Calculations with toleranced dimensions. Concepts of datums, material condition modifiers, functional gaging, fits, true position, combined tolerances, and runout. []

ETM 351 Mechanical Systems in Buildings 3

Prereq.: MATH 115 and MATH 125; or MATH 119; or MATH 121; or permission of instructor. Overview of principles and applications of all basic mechanical systems in buildings such as HVAC, fire protection, and other auxiliary systems. Emphasis placed on the understanding of systems and governing codes and standards. Irregular.

ETM 356 Materials Analysis 0 TO 3

Prereq.: CHEM 161, 162; ENGR 251 or ET 251 (either may be taken concurrently). Study of composition, properties, and characteristics of metallic and non-metallic materials. Structure of materials, phase diagrams, and effects of environment on materials. Laboratory includes use of standard apparatus for materials testing. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

ETM 358 Applied Thermodynamics 3

Prereq.: CHEM 161 and 162; MATH 136 or 152; and PHYS 121 or 125. Application of heat transfer, thermodynamics, and fluid mechanics principles to thermal system design based on engineering fundamentals of conduction, convection, and radiation heat transfer properties.

ETM 360 Computer Aided Planning (CAP) 3

Prereq.: STAT 104; ET 240 or CS 213. Analysis of production problems using computers. Optimization of resources utilization, forecasting, scheduling and sequencing of activities, experience-based planning, inventory and maintenance planning for JIT environment, automated production, and project planning and analysis.

ETM 367 Machine Design 3

Prereq.: ET 252 and ET 357. Study of kinematics of gear trains and three-dimensional stress analysis of power transmission elements. Topics include fasteners, bearings, springs, permanent connection, stress concentrations, notch sensitivity, and failure prevention. Fall.

ETM 422 Computer Systems and Integration 3

Prereq.: CET 113 or permission of instructor. Laboratory-based program solving course on the installation, configuration, and diagnostics of computer hardware and software, including operating systems, networks, hardware components, and integration. Emphasis on installing and troubleshooting computer systems. Irregular.

ETM 423 Applied Feedback Control Systems 3

Prereq.: MATH 136 or MATH 221 and CET 236. Applied study of dynamic mechatronic feedback control systems. Topics include modeling of dynamic systems, dynamic response, feedback mechanisms, digital control, and design methods. Spring.

ETM 454 Applied Heat Transfer 3

Prereq.: ET 354 and ETM 358 or permission of instructor. The principles of conduction, convection, and thermal radiation energy transfer. Conduction through walls, pipes. Forced and free convection, heat exchanges, thermal radiation of energy between surfaces, and the overall transfer of heat. Irregular. [GR]

ETM 460 Computer Aided Design and Manufacturing (CAD/CAM) 3

Prereq.: ETM 260 or permission of instructor. Applied parametric solid modeling for design, drawing, assembly, mass property analysis, and manufacturing tool path simulation utilizing integrated CAD/CAM software. Emphasis on the design and manufacture of products. Two hours lecture and two hours laboratory, course meets four hours per week. Irregular.

ETM 461 Composites and Plastics Manufacturing Processes 3

Prereq.: ETM 256 or ETM 356, CHEM 111 or CHEM 161 and CHEM 162 or CHEM 121. Analytical study of thermoplastic, thermoset, and polymer matrix composite materials, and the manufacturing processes utilized in the plastics and composites molding and fabrication industry. Two hours lecture and two hours laboratory, course meets four hours per week. Spring. [GR]

ETM 462 Manufacturing Process Planning and Estimating 3

Prereq.: MFG 121 and MFG 216 and ETM 340 or permission of instructor. Design and planning of production processes and operation sequence for discrete parts. Group Technology and Cellular Manufacturing. Tolerance analysis of parts and processes. Development of process plans, routings, operation sheets, and cost estimates for manufacturing operations. [GR]

ETM 463 Plastics and Composite Tool Design 3

Prereq.: ETM 260 and ETM 461 or permission of instructor. Principles for design of molds and tooling for the production of plastic and composite products. Irregular.

ETM 464 CAD Solid Modeling and Design 3

Prereq.: ETM 260 and ETM 340; or permission of instructor. Computer-aided design and analysis of solid, surface, and sheet metal models emphasizing product design. Uses computer software for design, detailing, mass property analysis, dimensional standards, and family tables. Two hours lecture and two hours laboratory, course meets four hours per week. Spring. [GR]

ETM 466 Design for Manufacture 3

Prereq.: ETM 260 and ETM 340 or permission of instructor. Design principles and contemporary industrial practices for product realization. DFX and evaluation of designs. Integration of product functions with design and manufacturing process. Mistake proofing, design for manual, automated, and robotic assembly. Product liability issues. [GR]

ETM 467 CAE Applied Finite Element Analysis 3

Prereq.: ENGR 257 (C- or higher) or ET 357 (C- or higher) or permission of instructor. Application of the finite element method to structural engineering problems. Study of plane stress, plane strain, shell and continuum finite elements, mesh generation, proper element density and element interfacing, and composite modeling problems. Fall. [GR]

ETM 468 Composite Design & Analysis 3

Prereq.: ET 357; and ETM 256 or ETM 356; or permission of instructor. Study of the design and analysis of composite structures using classical composite theory coupled with the finite element method. New methods of structural redesign using composite materials. Irregular.

ETM 497 Engineering Technology Senior Project Research 2

Prereq.: ET 361 (may be taken concurrently). First of two-course capstone sequence involving team effort to research and plan a project as engineering technologists. Project may originate from student, instructor, and/or industrial partner. Teamwork, project management,

contemporary issues, and oral and written communication skills emphasized. Fall.

ETM 498 Engineering Technology Senior Project (Capstone) 2

Prereq.: For Manufacturing Engineering Technology: ETM 497, ETM 462; ETM 466 (may be taken concurrently). For Mechanical Engineering Technology: ETM 497, ETM 367; ETM 467 (may be taken concurrently). Second of two-course capstone sequence completing senior team project in engineering technology. Requires oral presentations and final written reports to be submitted for archiving. Project teamwork, engineering methodology, and oral and written communication skills emphasized. Spring.

English

Note: **General Prerequisite:** ENG 110 or an equivalent is a prerequisite for all other English courses, except ENG 099, ESL 108, ESL 109. Students majoring in English or Journalism or minoring in English, Journalism, Cinema Studies, Writing, or Creative Writing must earn a grade of C- or better in ENG 110 before taking additional ENG, CINE, or JRN courses.

ENG 099 Remedial English 3

Focus on improvement of basic writing skills in order to meet entrance requirements for ENG 110. After review of grammar and punctuation, the course emphasizes sentence and paragraph formation and the development of the coherent essay. Students who are required to take ENG 099 must pass the course with a C- or better before successful completion of 30 hours of coursework. NOTE: Letter grade will affect GPA as if ENG 099 were a three credit course, but these credits will not count toward the number of credits required for graduation. Fall, Spring, Summer.

ENG 110 Freshman Composition 3

Introductory course in expository writing designed to develop the student's ability to write clearly, logically and effectively. Emphasis on the composing process, organization, coherence, sentence and paragraph structure, and usage. An acceptable Central Connecticut equivalent is required for ENG 110. See skills testing and remediation policy in the general catalog. Students who have not completed their ENG 110 requirement prior to achieving 61 credits are required to take both ENG 110 and 202. Skill Area I

ENG 202 Intermediate Composition 3

Prereq.: ENG 110 or permission of department chair. Intermediate course in expository writing designed to expand the student's writing skills. Emphasis on academic and career-oriented writing in the student's major field or area of interest, including research skills and papers, professional reports, and resumes. Skill Area I

ENG 203 Survey of World Literature: Ancient to Early Modern 3

Survey of great works of world literature from its origins to 1650, with emphasis on literatures other than British and American. Not a prerequisite for ENG 204. CSUS Common Course. Study Area I [I] [L]

ENG 204 Survey of World Literature: 17th Century to the Present 3

Survey of great works of world literature from 1650 to the present, with emphasis on literatures other than British and American. ENG 203 is not a prerequisite. Study Area I [I] [L]

ENG 205 Survey in British Literature: Middle Ages to the 18th Century 3

Major British writers from the beginnings through the 18th century. Not a prerequisite for ENG 206. CSUS Common Course. Study Area I [L]

ENG 206 Survey of British Literature: Romanticism to the Present 3

Major British writers from the late 18th century to the present. ENG 205 is not a prerequisite. CSUS Common Course. Study Area I [L]

ENG 210 Survey of American Literature: Pre-Civil War 3

American literature from the Colonial Period to the Civil War. Not a prerequisite for ENG 211. CSUS Common Course. Study Area I [L]

ENG 211 Survey of American Literature: Civil War to the Present 3

American literature from the Civil War to the present. ENG 210 is not a prerequisite. CSUS Common Course. Study Area I [L]

ENG 212 African-American Literature 3

Survey of African-American writers from the eighteenth through twentieth centuries. Does not count toward the English major. Cross listed with AFAM 212. No credit given to students with credit for AFAM 212. Study Area I [L]

ENG 213 Studies in American Literature 3

An exploration of select subjects, techniques, and themes in American literature. Topics to be announced each semester. Students may not take this course under the same topic more than once. Does not count toward the English major. May be repeated under different topics for a maximum of 6 credits. Study Area I [L]

ENG 214 Studies in International Literature 3

An exploration of select subjects, techniques, and themes in British and world literature. Topics to be announced each semester. Students may not take this course under the same topic more than once. Does not count toward the English major. May be repeated under different topics for a maximum of 6 credits. Study Area I [L]

ENG 215 Introduction to Women Writers 3

Introduction to women writers of the world, primarily in the eighteenth, nineteenth, and twentieth centuries. Does not count toward the English major. Cross listed with WGSS 215. No credit given to students with credit for WGSS 215 or WS 215. Study Area I [L]

ENG 220 Shakespeare 3

Selected tragedies, comedies, and history plays. Study Area I [L]

ENG 250 Contemporary Literature 3

Modern fiction, plays, and poetry in relation to modern life. Does not count toward the English major. Study Area I [L]

ENG 260 Introduction to Poetry 3

A close analysis of poetry: prosody, diction, figurative language, structure, tone, and theme. Selections read from entire range of English and American poetry. Does not count toward the English major. CSUS Common Course. Study Area I [L]

ENG 261 Introduction to Fiction 3

A close analysis of the elements, structure, and technique of short stories and novels. Does not count toward the English major. CSUS Common Course. Study Area I [L]

ENG 262 Introduction to Drama 3

A close analysis of plays, representing major and minor genres of drama (tragedy, comedy, tragi-comedy, melodrama, farce, etc.), relationship of genre, structure, and statement. Does not count toward the English major. CSUS Common Course. Study Area I [L]

ENG 270 Dramatic Enactment 3

Prereq.: ENG 110 or equivalent; restricted to English Elementary Education or pre-Elementary Education majors, except by permission of instructor. Introduction to the theory and applications of creative drama as an interpretive tool and a response to literature. (E)

ENG 274 Storytelling 3

Prereq.: ENG 110 or equivalent; restricted to English Elementary Education or pre-Elementary Education majors, except by permission of instructor. Study of the history, art, and technique of storytelling. Discussion of the skills involved in order to develop the student's competency in this oral tradition. Designed to enable the student to build a personal repertoire of stories for performance. (O)

ENG 298 Introduction to Literary Studies 3

Prereq.: ENG 110 (C- or higher) or equivalent. Restricted to English BA and BS majors and English minors, except by permission of instructor. Introduction to the basic formal and methodological elements of the study of literature. English majors and minors only.

ENG 332 Medieval English Literature 3

Old English and Middle English literature, exclusive of Chaucer, from the eighth through the 14th centuries. Most material read in translation.

ENG 333 The English Renaissance 3

Emphasis on British poetry and prose of the 16th and early 17th centuries, including such writers as More, Erasmus, Sidney, Spenser, Marlowe, Shakespeare, and Jonson.

ENG 334 Seventeenth-Century Poetry & Prose 3

British poetry and prose of the earlier 17th century, including Donne, Herbert, Marvell, Bacon, Burton, and Browne.

ENG 335 Restoration & Eighteenth-Century Literature 3

British poetry, prose and drama from 1660 to 1798, including such writers as Dryden, Congreve, Addison, Swift, Pope, Fielding, Gay, Johnson, Goldsmith, and Sheridan.

ENG 336 The Romantic Age 3

British Literature from Blake to 1832, including Wordsworth, Coleridge, Byron, Shelley, and Keats.

ENG 337 The Victorian Age 3

Poetry and non-fiction prose from 1832 to 1900, including poetry of Tennyson, Browning and Arnold and prose of Carlyle, Mill, Newman, and Ruskin.

ENG 339 Modern British Literature 3

Prose and poetry from 1900 to the present, including such writers as Hopkins, Sitwell, Eliot, Yeats, Joyce, Woolf, Forster, Auden, MacNiece, Spender, Graves, Thomas, and Orwell.

ENG 340 Early American Literature 3

Early writers of the country through approximately the first third of the 19th century, with emphasis on the ideological and social influences which shaped their art.

ENG 341 The American Renaissance 3

Prose and poetry of American romantic authors in the 19th century. Special emphasis on Poe, Hawthorne, Melville, Thoreau, Emerson, Whitman; contemporary ideologies. Cross listed with AMS 341. No credit given to students with credit for AMS 341.

ENG 342 American Realism & Naturalism 3

Study of the period after the Civil War to about 1915, including such writers as Dickinson, Twain, James, Wharton, Crane, and Dreiser.

ENG 343 Modern American Literature 3

Major American writers in the period between World War I and World War II; the ideological and social influences which shaped their art.

ENG 344 Contemporary American Literature 3

Study of major American writers from WWII to the present, focusing on historical, cultural, and aesthetic movements of the time. Irregular.

ENG 345 Modern African-American Literature 3

Study of selected writers, beginning with the Harlem Renaissance. Cross listed with AFAM 345 and AMS 345. No credit given to students with

credit for AFAM 345 or AMS 345.

ENG 347 Latino/a Literature 3

Important U.S. Latino/a literary works in prose, poetry, drama, and essay. Cross-listed with LTN 347. No credit may be received by students who have received credit for LTN 347. Spring. Study Area I [I] [L]

ENG 360 The Bible as Literature: Old Testament 3

Major books of Old Testament important to literature, their literary qualities, and their historical and cultural backgrounds. (E)

ENG 361 The Bible as Literature: The New Testament 3

Major books of New Testament important to literature, their literary qualities and their historical and cultural backgrounds. Part of Apocrypha. (E)

ENG 362 Greek and Roman Literature 3

Such major Greek and Roman writers as Homer, the Greek dramatists, Plato, Thucydides, Lucretius, and Virgil. No credit given to students who have taken ENG 363 or 364.

ENG 363 Greek Literature 3

Prereq.: ENG 110 or equivalent, junior standing recommended. Greek poetry and prose from the late 8th Century BCE through the Alexandrian period, focusing on representative works and authors of epic, lyric, drama, history, oratory, and/or philosophy. No credit given to students who have taken ENG 362. [I]

ENG 364 Latin Literature 3

Prereq.: ENG 110 or equivalent, junior standing recommended. Latin poetry and prose from the late 1st Century BCE into the medieval period, including representative works and authors of epic, lyric, drama, satire, history, oratory, and/or philosophy. No credit given to students who have taken ENG 362. [I]

ENG 365 The Modern European Novel 3

Representative works by such writers as Flaubert, Tolstoy, Dostoyevsky, Proust, Kafka, and Camus. [I]

ENG 367 Global Novel 3

Explores the globalization of the novel genre since World War II, with emphasis on adaptations of the novel form in non-Anglo-European traditions. Irregular. [I]

ENG 370 Creative Nonfiction I 3

Prereq.: ENG 110. Introduction to various creative nonfiction writing techniques, including how to develop a literary voice, conduct creative research, play with conventional structures, and match a writing style to a specific form, such as personal essay.

ENG 371 Creative Writing: Fiction I 3

Introduction to the art and craft of literary fiction with emphasis on developing fiction writing ability and critical reading skills. Students will actively participate in workshop sessions.

ENG 372 Creative Writing: Fiction II 3

Prereq: ENG 371 or permission of instructor. Presupposes proficiency in vocabulary, basic techniques, and workshop method of short fiction writing. Students are expected to have already written a considerable body of work and to be prepared to submit stories at the semester's start.

ENG 373 Creative Writing: Poetry I 3

Introduction to the art and craft of writing poetry, emphasizing both poetry writing ability and critical reading. Students are expected to participate fully in the workshop method of critique and revision in class.

ENG 374 Creative Writing: Poetry II 3

Prereq.: ENG 373 or permission of instructor. Presupposes proficiency in vocabulary, poetry writing techniques, workshop methods. Students must already have a considerable body of work, and generate new work. Irregular.

ENG 375 Creative Nonfiction II 3

Prereq.: ENG 370. Presupposes an understanding of the basic techniques used in short nonfiction. Students will experiment with various creative nonfiction forms, with special emphasis on shorter articles, including personal essay, humor writing, and literary travel pieces. Irregular.

ENG 376 Creative Writing: Essay 3

Write the familiar and formal personal essay. Primarily a writing course, but also an overview of the form. Readings may begin with Montaigne and Thoreau, but quickly move to more contemporary authors. Spring.

ENG 377 Creative Writing: Playwriting 3

Introduction to the art and craft of playwriting, emphasizing writing ability and critical reading skills. Students are expected to participate actively in workshop sessions. Irregular.

ENG 378 Creative Writing: Special Topics 3

Prereq.: One 300 level creative writing course or permission of instructor. Specific creative writing genres taught on a rotating basis. May be repeated with different topics for a maximum of 6 credits.

ENG 382 Travel Writing 3

Prereq.: ENG 235 or 236 or permission of instructor. Introduction to the art and craft of travel writing beginning with an overview of the genre and exploration of contemporary works. Students will write essays and articles.

ENG 386 The Language of Film 3

Development of visual terminology analogous to literary terminology in order to understand better the intentions of the author of the film. The qualities of picture, movement, and editing are discussed in an effort to develop critical interpretation and judgment. Attendance at film screenings required.

ENG 401 Advanced Composition 3

Advanced course in expository writing designed for competent writers who wish to refine their skills. Emphasis on vividness, precision, and impact, with attention to audience and style. Not applicable to M.A. in English program. [GR]

ENG 402 Advanced Composition & Technology in the English Classroom 3

Prereq.: ENG 110 and acceptance in the Professional Program of Teacher Education; or permission of instructor. Advanced writing for the refinement of writing skills. Explores ways to teach writing. Addresses the use of technology in secondary English classrooms in regard to instruction, data management, and classroom management. Not applicable to M.A. in English program.

ENG 403 Technical Writing 3

A course designed to assist students in planning, researching, structuring, writing, revising, and editing technical materials. Emphasis on various types of writing drawn from an industrial/professional context: reports, correspondence, directories, manuals, technical articles. Not applicable to M.A. in English program. [GR]

ENG 404 Fiction for Teachers 3

Secondary English Education majors only. Students are treated as practicing writers who are training to become teachers of literature and writing. Students engage in writing workshops and closely study the elements of fiction, en route to understanding the pedagogy of the teaching of writing. Spring, Summer.

ENG 405 Poetry for Teachers 3

Secondary English Education majors only. Students are treated as practicing poets who will read and discuss traditional and contemporary poetry en route to understanding the pedagogy of teaching poetry in the secondary schools. Summer, Fall.

ENG 406 Teaching the Mechanics of Writing 3

Secondary English Education majors only. Students take an in-depth look at the mechanics of selected literary works to provide a pedagogical foundation for the teaching of mechanics in the secondary classroom. Spring, Summer.

ENG 420 Teaching English in Secondary Schools 4

Prereq.: ENG 402 and acceptance into the Professional Program of Teacher Education. Methods and materials for teaching English language and literature. Includes 30 hours of guided observations in middle and high school classrooms. Not applicable to M.A. in English program. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

ENG 435 Student Teaching Seminar 1

Prereq.: ENG 420, EDSC 435 (taken concurrently). Discussion of issues that arise in the student teaching placements. Emphasis on improving individual classroom practices.

ENG 445 American Drama 3

Development of American drama and its contribution to literature. Irregular. [GR]

ENG 448 Studies in American Literature 3

Selected topics in American literature. Students may take this course under different topics for a maximum of 6 credits. Cross listed with AMS 448. [GR]

ENG 449 Major American Authors 3

Intensive study of the writings, life, influence, and historical milieu of a major American author. Authors will vary each year. May be repeated under different author subjects for a maximum of 6 credits. [GR] [D]

ENG 450 Chaucer 3

Readings in Chaucer, with special emphasis on *The Canterbury Tales* and *Troilus and Criseyde*. Irregular. [GR]

ENG 451 Milton 3

Readings in Milton's prose and poetry, with emphasis upon *Paradise Lost* and *Samson Agonistes*. Irregular. [GR]

ENG 458 Studies in British Literature 3

Selected topics in British literature. Students may take this course under different topics for a maximum of 6 credits. [GR]

ENG 460 Shakespeare and Film 3

Explores what film can teach us about Shakespeare and his role in our culture; what Shakespeare can teach us about the nature and history of film; and what the intersection of the two can teach us about the politics of literary forms and entertainment media and about the many forms

and media of politics in contemporary society. We will read 3-4 plays and view 2-3 films based each play. May require outside screenings. Cross-listed with CINE 460. No credit may be received by students who have received credit for CINE 460. Spring. (O)

ENG 461 Shakespeare: Major Comedies 3

Close analysis of major comedies and pertinent critical problems. Fall. [GR]

ENG 462 Shakespeare: Major Tragedies 3

Close analysis of major tragedies and pertinent critical problems. Spring. [GR]

ENG 463 Elizabethan & Jacobean Drama 3

Major dramatists from Kyd to Ford, excluding Shakespeare. Irregular. [GR]

ENG 464 Restoration and 18th-Century Drama 3

English drama from 1660 to 1800, primarily comedy. Readings from the works of such dramatists as Wycherly, Etherege, Dryden, Congreve, Vanbrugh, Farquhar, Steele, Gay, Fielding, and Sheridan. Irregular. [GR]

ENG 465 Global Cinema 3

Surveys international cinema after World War II with an emphasis on the fiction feature films of Africa, Asia, and Latin America; also considers major film movements such as the European New Wave and Italian Neo-realism. Cross-listed with CINE 465. No credit may be received by students who have received credit for CINE 465. Irregular. [I]

ENG 466 American Cinema in the 60s and 70s 3

Examines the extraordinary changes in film culture in the United States during the time of the civil right movement, the countercultures of the 60s, and the war in Vietnam. Students are required to attend a weekly screening in addition to regular class meetings. Cross-listed with CINE 466. No credit may be received by students who have received credit for CINE 466. Spring. (O)

ENG 470 The Victorian Novel 3

Representative Victorian novelists with special emphasis on Trollope, Eliot, Dickens, Thackeray, and Hardy. Irregular. [GR]

ENG 474 Contemporary American Novel 3

American novels which have come to prominence since World War II and the changing cultural environment which they reflect. Irregular. [GR]

ENG 475 The British Novel to 1832 3

Form and content of the novel with readings selected from Behn, DeFoe, Richardson, Fielding, Sterne, Smollett, Johnson, Burney, Walpole, Austen, and Scott. Irregular. [GR]

ENG 476 The Modern British Novel 3

Form and content of the novel with readings selected from Joyce, Woolf, Ford, Conrad, Lawrence, Huxley, Forster, Greene, Waugh, and others. Irregular. [GR]

ENG 477 Modern British Poetry 3

Major works of Hardy, Hopkins, Yeats, D.H. Lawrence, Owen, Sassoon, Auden, Dylan Thomas, Larkin, Hughes, and others. Irregular. [GR]

ENG 478 Modern American Poetry 3

The study of important American poets from Dickinson to the present. Irregular. [GR]

ENG 480 Modern Irish Literature 3

Study of the major themes and traditions in Irish writers of the 20th century. Included will be works by Yeats, Joyce, Synge, O'Casey, O'Connor, and others. Irregular. [GR]

ENG 481 Digital Literary Studies 3

Prereq.: ENG 110 and ENG 298. Survey of theoretical and applied approaches to digital work in literary and cultural studies. Irregular.

ENG 483 Advanced Creative Nonfiction 3

Prereq.: ENG 375. Presupposes some experience writing creative nonfiction. Students will explore various techniques required to write longer articles, such as features, extended profiles, and longer personal essays. Students will be expected to produce at least one lengthy paper and workshop all of their work in class. Fall.

ENG 484 Advanced Fiction Workshop 3

Prereq.: ENG 372 or permission of instructor. Presupposes mastery of the vocabulary and basic techniques of writing literary fiction and the workshop method. Students are expected to have a considerable body of work, and generate new work. Addresses creative process, preparation of manuscripts, publishing, and academic and career options. Irregular.

ENG 485 Advanced Poetry Workshop 3

Prereq.: ENG 374 or permission of instructor. Presupposes mastery of the vocabulary and basic techniques of writing poetry, and the workshop method. Students are expected to have a considerable body of work, and generate new work. Addresses creative process, preparing poetry manuscripts, publishing, and academic and career options in creative writing. Irregular.

ENG 486 World Literature and Film 3

Examines the historical, political, and aesthetic relationships of literature and film produced outside the U.S. and Great Britain. Discussion of texts will be frequently structured around arguments from cosmopolitan theory and film theory. This course is not applicable to the M.A. in English, but may count as an elective in other graduate programs. Spring. [GR]

ENG 487 20th-Century British Drama 3

Study of major British playwrights of the twentieth century. Selections may be from the works of Shaw, Coward, Maugham, O'Casey, Eliot, Beckett, Osborne, Pinter, Shaffer, Ayckbourn, Churchill, Gray, Hare, Stoppard, and others. Irregular. [GR]

ENG 488 Studies in World Literature 3

Selected topics in world literature. Students may take this course under different topics for a maximum of 6 credits. [] [GR]

ENG 489 Studies in Film Adaptation 3

Examines how literary works such as novels, short stories, plays, and poems have been adapted to the screen. What can literary works do that films cannot, and conversely, what can films do that literature cannot? Includes regular film screenings, literary readings, and critical and theoretical readings on the topic of adaptation. May be taken under different topics for a maximum of 6 credits. Cross listed with CINE 489. Irregular.

ENG 490 Individual Guided Reading 1 TO 3

Prereq.: Permission of chair. A conference course for English majors in their senior year who have a GPA of at least 3.00 or better and wish to follow a planned program of guided reading.

ENG 491 Children's Literature 3

Prereq.: ENG 110 or equivalent; junior or senior standing required; restricted to English Elementary Education or pre-Elementary Education majors, except by permission of instructor. Balanced selection of the best literature available to children. Traditional forms of fables, legends, myths, epics, fairy tales, and folk tales of the world; examination of how these represent the universal needs and aspirations of all cultures.

Major authors and illustrators included. Not applicable to B.A. or M.A. in English programs or English minors. [GR]

ENG 492 Literature for Young Adults 3

Prereq.: ENG 110 or equivalent; junior or senior standing required; restricted to English (Elementary and Secondary) Education majors, except by permission of instructor. Through extensive reading this course examines trends and issues, forms and content, and authors and topics of contemporary books read by and written expressly for adolescents. Not applicable to B.A. or M.A. in English programs or English minors. [GR]

ENG 494 Creative Writing: Independent Study 3

Prereq.: Permission of department chair. A senior conference course for students wishing to follow a planned program of writing/study. Typically, this course is for students wishing to prepare a publishing manuscript or a portfolio of their work for application to graduate programs in creative writing. Irregular.

ENG 495 Internship 1 TO 6

Prereq.: Permission of faculty advisor and department chair. Intern projects under the guidance of an English faculty advisor or the department chair. This course can help fulfill requirements for minors in writing, journalism, TESOL, and descriptive linguistics. It cannot be used to help fulfill requirements for an English major or minor.

English as a Second Language

ESL 108 English as a Second Language: Writing I 3

Intermediate to advanced writing in English for students whose native language is not English. Transition to academic writing. Grammar review. Skill Area I

ESL 109 English as a Second Language: Writing II 3

Advanced writing in English for students whose native language is not English. Academic writing. Skill Area I

ESL 201 Advanced Study in English as a Second Language 3

Prereq.: ENG 110 or permission of instructor. Selected aspects of advanced English for learners of English as second language. May be repeated with different topics for a maximum of 6 credits. Irregular. Skill Area I

Entrepreneurship

Note: Enrollment in 300- and 400-level entrepreneurship courses requires admission to the upper-division of the Business School (including meeting specific GPA requirements and completion of eight Business School pre-major courses with grades of at least C- in all eight courses). Certain courses (ENT 301, ENT 305, and ENT 320) may be taken as part of a pre-approved minor in business with a management concentration.

ENT 301 Entrepreneurship and New Venture Creation 3

Prereq.: MKT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Focuses on how businesses are started. Includes recognizing opportunities and risks, gathering resources to convert opportunities into businesses. Develops the skills to evaluate and formulate a business plan.

ENT 305 Financing Entrepreneurial Ventures 3

Prereq.: ENT 301 with a grade of at least C-; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Combines the analysis and evaluation of methods used to fund entrepreneurial ventures with the creation of a business plan for a new enterprise. Fall.

ENT 320 Managing a Growing Business 3

Prereq.: ENT 301 with grade of at least C-; MGT 295 with a grade of at least C-; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Focuses on management decisions in resource allocation, human resource management, marketing policies and control mechanisms that contribute to growth and value creation in business. Case studies and exercises concentrate on opportunities and problems unique to growing firms. Spring.

ENT 499 Field Study in Entrepreneurship 3

Prereq.: ENT 301 with grade of at least C-; ENT 305 with grade of at least C-; grades of at least C- in the eight pre-major courses; and meeting upper-division Business School GPA requirements. Provides students with a practical knowledge of entrepreneurial ventures and small businesses by working closely with individual entrepreneurs to develop a business plan or complete a significant, applied business study, or by developing a business plan for a venture of the student's own choosing. Spring.

Exercise Science

EXS 110 Concepts in Health and Fitness 3

Emphasis on health-related fitness and general health issues that affect individuals and communities. Students will learn skills necessary for health-related fitness evaluation, fitness prescription, and health promotion initiatives. Open to exercise science and athletic training majors only.

EXS 112 Introduction to Athletic Training 2

Acquaints student with the academic and clinical requirements by CAAATE accreditation BOC certification as an entry-level athletic trainer and state licensure. Introduces risk management, injury prevention, medical conditions and disabilities, principles of athletic related injuries. Fall.

EXS 113 Introduction to Exercise Science 3

Examines exercise science, its associated subdisciplines, and societal influences. Reviews contributions of both historical and current leaders and future trends. Emphasizes career options, professional organizations, certifications, legal and ethical issues. Open to exercise science majors only. Fall.

EXS 207 Anatomy and Physiology in Exercise Science I 4

Prereq.: BIO 111 or BIO 121 or BMS 102 or BMS 111 (any with C- or higher). Open to exercise science, athletic training, and pre-nursing majors only. Explores human structure and function of the musculoskeletal, integumentary, articular, nervous, and immune systems related to exercise. Three hours of lecture and one three-hour laboratory per week.

EXS 208 Anatomy and Physiology in Exercise Science II 4

Prereq.: BIO 111 or BIO 121 or BMS 102 or BMS 111; CHEM 111, or CHEM 150, or CHEM 161 and 162 (any with C- or higher). Open to exercise science, athletic training, and nursing majors only. Explores human structure and function of the cardiovascular, respiratory, digestive, urinary, reproductive, and endocrine systems related to exercise. Three hours of lecture and one, three-hour laboratory per week.

EXS 210 Personal and Community Health 2

Individual health problems of college students as well as optimum health patterns for the school, community, and home. Open to physical education majors only.

EXS 213 Anatomy and Physiology in Human Performance I 3

Prereq.: BIO 111 or BIO 121 or BMS 111 (any with C- or higher). Systemic approach to human body. Emphasis on structure, function and histology of skeletal, integumentary, articular, muscular, and nervous systems. Laboratory topics: movement analysis, growth and development, simulated dissections and applications. Open to physical education majors only.

EXS 214 Anatomy and Physiology in Human Performance II 3

Prereq.: EXS 213, and CHEM 111 or CHEM 150, or CHEM 161 and 162 (any with a grade of C- or higher). Systemic approach to human body. Emphasis on structure and function of cardiovascular, respiratory, digestive, urinary, reproductive, and endocrine systems. Laboratory topics: disease, exercise considerations and applied data analysis. Open to physical education majors only.

EXS 215 Physiological Aspects of the Human Performance of the Aging 3

Prereq.: EXS 208. Stresses physiological responses of exercise and the psychological rationale for lifelong physical activities for the aged. Fall.

EXS 216 Kinesiology 3

Prereq.: PHYS 111; EXS 214, or EXS 207 and 208 (any with C- or higher). Analysis and application of principles of mechanics as they relate to

motor skills in physical activity. Two hours of lecture and one two-hour laboratory per week.

EXS 217 Care and Treatment of Athletic Injuries 3

Prereq.: EXS 207 or EXS 213 (any with C- or higher) and EXS 112 or EXS 113 (any with C- or higher). Covers risk management, injury prevention, medical conditions and disabilities, acute care of injuries and illnesses. Students perform prevention/protective strapping, fitting protective equipment and devising special padding. Includes 50 hours observation for athletic training majors. Open to exercise science and athletic training majors only.

EXS 218 Scientific Basis for Athletic Training 4

Prereq.: EXS 217 (C- or higher). Focus on concepts, theories, and techniques necessary for orthopedic clinical examination, diagnosis of athletic injuries, orthopedic screening and posture assessment. Basic understanding of mechanism and pathology of injury will be emphasized. Includes one one-hour laboratory.

EXS 240 Therapeutic Modalities in Athletic Training 4

Prereq.: EXS 217 (C- or higher). Physiological effects of therapeutic modalities on orthopedic injuries. Topics include pain, pain control, modality principles, indications, and contradictions. Emphasis on safe operation and application, manual therapy, and foot biomechanics. Includes one one-hour laboratory. Spring.

EXS 275 Training for Sport Performance 3

Prereq.: EXS 207 (C- or higher). Develop knowledge and skills required to organize and instruct activities that enhance fitness and sport performance. Topics include, but are not limited to, strength, plyometric, speed, and agility training. Skill course. Open to exercise science and athletic training majors only.

EXS 280 Leadership in Exercise & Wellness 3

Prereq.: EXS 110 (C- or higher). Educates students about instructing others in group fitness setting. Provides content knowledge and practical experience in teaching group fitness classes. Covers the most current methods of group fitness. Skill course. Open to exercise science majors only.

EXS 307 Human Nutrition 3

Prereq.: CHEM 111 or CHEM 150, or CHEM 161 and 162 (any with grade of C- or higher). Principles and concepts of normal human nutrition applied to various stages in life and activities especially as they relate to health promotion and weight control. Motivational skills for fitness, adherence to healthy nutrition, and strategies for evaluating health and fitness claims will be discussed. Open to physical education, exercise science, and athletic training majors only.

EXS 311 Stress Management 3

Prereq.: PSY 112. Examines the physical and mental phenomena that constitute stress and the effects of negative stress on the body. Presents strategies for managing and coping with stress, increasing self-control, and adaptive behavior.

EXS 315 Practicum in Athletic Training I 2

Prereq.: EXS 217, admission to the Professional Program in Athletic Training, and current EMT-B Certification (State of CT or National Registry). First aid, evaluation, taping, wrapping, design and application of protective equipment, preparing teams for competition. Minimum five, 3-week CCSU sport or training facility rotations required. Includes weekends, unusual hours, holidays, and off-campus observations.

EXS 316 Practicum in Athletic Training II 2

Prereq.: EXS 218; EXS 315; admission to the Professional Program in Athletic Training, and current EMT-B Certification (State of CT or National Registry). Includes evaluating athletic injuries, establishing treatments, rehabilitation plans, maintaining medical records. Minimum five, 3-week CCSU sport or training facility rotations required. Includes weekends, unusual hours, holidays, and off-campus observation.

EXS 317 Therapeutics in Athletic Training 4

Prereq.: EXS 217 (C- or higher). Introduction to the theories and techniques of manual muscle testing, muscle length testing, goniometry, and isokinetic testing. Emphasizing planning, implementing, documenting progress of therapeutic exercise programs for the rehabilitation and reconditioning of injuries and illnesses. Included one one-hour laboratory. Fall.

EXS 319 Practicum in Athletic Training III 2

Prereq.: EXS 316 and EXS 317 and admission to the Professional Program in Athletic Training, and current EMT-B Certification (State of CT or National Registry). Preseason screening, physicals, medical conditions, neurological evaluations, advanced rehabilitation skills. Minimum five, 3-week CCSU sport or training facility rotations required. Includes weekends, unusual hours, holidays, and off-campus observation.

EXS 331 Measurement and Evaluation in Exercise Science 3

Prereq.: STAT 104. Methods of measurement and evaluation in exercise science. Emphasis on research methodology including choosing tests, calibrating equipment, testing administration, calculating statistics and evaluating results. Spring.

EXS 332 Psychological Aspects of Sport 3

Psychological aspects of sport participation are reviewed with emphasis on coach and player issues. Topics will include burn out, stress management, arousal, and motivation. Course aims to broaden student background in these topics and the interpersonal relationships between coaches and players at the adolescent and youth sport levels. Spring.

EXS 376 Theories of Strength Training and Conditioning 2

Prereq.: EXS 207, 208, and 275. Theoretical and practical knowledge for the development of conditioning programs. Includes training variation, program design, and organization and administration of facilities. Prepares students for the NSCA CSCS certification exam. Open to exercise science majors only or by permission of instructor. Spring.

EXS 408 Physiology of Sport and Exercise 3

Prereq.: EXS 207, 208, 307 (all with grades of C- or higher); admission to the Professional Program in either Athletic Training or Exercise Science. Study of how the body responds to acute and chronic bouts of exercise and further application of these responses to training the athlete. Two hours of lecture and one two-hour laboratory per week. Open to exercise science and athletic training majors only.

EXS 409 Clinical Exercise Physiology 3

Prereq.: EXS 408 (C- or higher) and acceptance into the Professional Program in Exercise Science. Designed to modify exercise programs and to provide all individuals the opportunity to participate in physical activity programs. Emphasis is on obesity, cardiac conditions, diabetes, physical disabilities, asthma and pregnant women. Fall.

EXS 410 Exercise Physiology 3

Prereq.: EXS 214 (C- or higher) and acceptance into the Professional Program in Physical Education or acceptance to M.S., Physical Education. Physiological factors which affect human performance in physical education and athletics. Acute and chronic effects of exercise on the respiratory, circulatory and muscular systems. Required laboratory class taken in conjunction with lecture to give students the opportunity to gain knowledge of basic scientific and field tests in exercise physiology. Two hours of lecture and one two-hour laboratory per week. Open to physical education majors only. [GR]

EXS 413 Organization and Administration of Athletic Training 3

Prereq.: CS 115 and admission to the Professional Program in Athletic Training. Theories and skills to develop, administer, and manage facilities/venues that provide health care to athletic populations. Emphasizes organizing pre-participation physicals, drug testing, medical documentation, human resources, facility design, budgeting, legal, and public relations issues. Spring (O).

EXS 415 Fitness Assessment and Exercise Prescription 3

Prereq.: EXS 307 and EXS 408 and admission to the Professional Program in either Athletic Training or Exercise Science or acceptance to M.S., Physical Education. Use of laboratory and field tests for assessing physical fitness components and of test results for developing individualized exercise prescriptions to improve cardiorespiratory fitness, muscular fitness, body composition, and flexibility. [GR]

EXS 416 Graded Exercise Testing 3

Prereq.: EXS 408; admission to the Professional Program in Exercise Science. Safely monitoring, properly administering, and accurately interpreting the results of graded exercise tests including electrocardiography, understanding the pathophysiological responses of the body to clinical exercise testing. Spring.

EXS 421 Pharmacology in Sports Medicine 3

Prereq.: EXS 307 and admission to the Professional Program in Athletic Training or Exercise Science. Basic principles of pharmacology, pharmacokinetics, commonly prescribed therapeutic medications in the physically active population, and legal issues. Common prescription and non-prescription medications, routes of administration, indication and contraindications, precautions, and adverse reactions. Spring.

EXS 425 Implementation and Evaluation of Health Promotion Programs 3

Prereq.: EXS 307, EXS 408; admission to the Professional Program in Exercise Science or acceptance to M.S., Physical Education. Comprehensive planning framework for health promotion programs in the U.S., which includes identification of health needs of the population, determining how to change health behaviors, marketing programs, and evaluating health benefits to the individual and organizations. Fall. [GR]

EXS 445 Internship in Athletic Training 6

Prereq.: EXS 319 and EXS 440, and admission to the Professional Program in Athletic Training and current EMT-B Certification (State of CT or National Registry). Minimum 320 hours of off-site clinical experience directly supervised by an Athletic Clinical Instructor. May occur in a sports medicine or corporate wellness clinic, secondary school, or university setting. Includes weekends, unusual hours, holidays.

EXS 450 Practicum in Exercise Science 3

Prereq.: EXS 415; admission to the Professional Program in Exercise Science or to the M.S. in Physical Education. Provides an opportunity for students to gain 150 clock hours of field experience in an exercise setting, conducting prescribed exercise programs. Current CPR and first aid certification required. Fall, Spring, Summer. [GR]

EXS 470 Internship in Exercise and Health Promotion 6

Prereq.: EXS 450; admission to the Professional Program in Exercise Science or to the M.S. in Physical Education. Off-campus practical experience. Includes wellness/health promotion, corporate fitness, YMCA, strength and conditioning, sports medicine, and cardiac rehabilitation. Offers opportunities to apply fundamental concepts. Current CPR and first aid certification required. Fall, spring, summer. [GR]

Finance

Note: Enrollment in 300- and 400-level finance courses requires admission to the School of Business or permission of the department chair.

FIN 295 Managerial Finance 3

Prereq.: AC 211; one of the following: MATH 123, 124, 125, 135, 152, or 221; and one of the following: STAT 200, 104, 215, 314, or 315; all with grades of C- or higher. Basic course in business finance. Topics include the financial environment, analysis of financial statement, valuation of corporate stocks and bonds, and capital investment decisions.

FIN 301 Intermediate Managerial Finance 3

Prereq.: FIN 295 (C- or higher). Designed to develop a fundamental understanding of the following major topics in finance: the capital investment decision, capital structure and dividend policy, fund sources, working capital management, and corporate restructuring.

FIN 310 Principles of Investments 3

Prereq.: FIN 295 (C- or higher). A study of investment, types of securities, sources of investment information, the securities markets, and valuation of different assets. Attention is directed to the investment of funds by individual and institutional investors.

FIN 320 Financial Markets and Institutions 3

Prereq.: FIN 295 (C- or higher). The role, functions, and operations of capital markets, banks, and other financial intermediaries in modern, global economies.

FIN 321 Insurance 3

Prereq.: FIN 295 with grade of C- or higher. Nature and organization of insurers, analysis of insurance contracts, types of insurance products, introduction to actuarial and underwriting processes, insurer portfolio management, and insurer profitability.

FIN 330 International Finance 3

Prereq.: FIN 295 (C- or higher). A study of the principles and practices of finance in an international setting. Explores the primary elements of international monetary economics with emphasis on exchange rate analysis. Major topics of study include exchange risks and the international financial markets. [I]

FIN 400 Advanced Managerial Finance 3

Prereq.: FIN 301, 310 and 320 (with grades of C- or higher). An advanced course in financial management of the business firm. Utilizes a case study approach to stress the application of financial management theories. Topics include asset management, investment decisions, and financial structure of the firm. [GR]

FIN 410 Securities Analysis 3

Prereq.: FIN 301, 310 and 320 with grades of C- or higher. An advanced course in investments with emphasis on security analysis and portfolio management practices. Topics include financial statement analysis, use of derivatives, and special techniques employed in forecasting, timing, and the development of investment strategies. [GR]

FIN 411 Financial Statement Analysis 3

Prereq.: FIN 301 and 310 and 320 (with grades of C- or higher). Examines how financial reports can be used by investors and financial analysts to make better economic decisions. Topics include: financial ratios, reported earnings, corporate performance, cash flow analysis to evaluate financial health of a company.

FIN 420 Bank Management 3

Prereq.: FIN 301, 310 and 320 with grades of C- or higher. An in-depth examination of bank management issues including deposit account funding costs and stability, creditworthiness determination, loan pricing, loan portfolio management, interest rate risk management, liquidity management, foreign exchange management, and strategic planning.

FIN 422 Risk Management 3

Prereq.: FIN 301, FIN 310, FIN 320, and FIN 321 (all with grades of C- or higher); or permission of instructor. Examines applications and theory of strategic and financial market choices in the management of firm risk. Students develop competency in assessing and measuring the risk of a firm as well as the use of risk management tools.

FIN 425 Financial Derivatives 3

Prereq.: FIN 301, 310 and 320 with grades of C- or higher; for graduate students, permission of department chair. Valuation of financial derivatives, including options and futures, applications to portfolio, and corporate risk management. Fall. [GR]

FIN 490 Independent Study in Finance 1 TO 3

Prereq.: FIN 301, 310 and 320 with grades of C- or higher. Individualized readings and/or research by individual under the direction of a Finance faculty member. Topics will vary. May be repeated up to a total of 3 credits. [GR]

FIN 496 Practicum in Finance 1 TO 6

Prereq.: Permission of instructor. Students work on a real world project under the direct supervision of a faculty adviser. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. [GR]

FIN 498 Finance Seminar 3

Prereq.: Permission of instructor. Course content varies. [GR]

FIN 499 CFA Seminar 3

Prereq.: FIN 310, 410 with grades of C- or higher; or permission of instructor. Focuses on the advanced investment concepts which are the foundation of Chartered Financial Analyst (CFA) professional designation. Topics include ethical and professional standards, quantitative methods, global markets and instruments, analysis of stock and bond investments, and portfolio management. Spring. [GR]

Fine Arts

FA 412 Fine Arts Across the Curriculum 3

Prereq.: Admission to the Professional Program in Teacher Education. Introduction to concepts and skills in music, creative dramatics, dance/movement, physical education, and visual arts. Discussion of the basic strategies to integrate these disciplines into the school curriculum including the development of integrated lesson plans. Field experience required. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

FA 490 Integrating the Fine Arts for the Young Learner 3

Prereq.: Permission of department chair in Art, Music, or Theatre. Study of the aesthetic experience, its importance for children, and its interrelationship with empirical knowledge. Music, the visual arts, and movement will be investigated, with an emphasis on discovering resources and developing techniques for integrating each. Summer. [GR]

First Year Experience

FYE 101 First Year Experience 1

Prereq.: First-year, first-time status. Students will discuss issues and learn about campus resources relevant to first-year students as they make the transition from high school to college learning environments. Sections of this course will be complementary of specific sections of designated first-year experience courses for which the student must register concurrently.

FYE 301 Peer Leadership Seminar 2

Prereq.: Permission of First Year Experience Faculty Director. Required for all peer leaders working with First Year Experience classes. Provides peer leaders with skills required to help new students become proficient in using academic, support and other resources of the university. Includes meetings and other experiences outside of scheduled class time. May be repeated for up to six credits. Fall.

First Year Seminar

FYS 101 First Year Seminar - Arts and Humanities 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Arts and Humanities for incoming first-year students. Topics will vary by semester according to interests of faculty teaching each semester. Fall. Study Area I

FYS 102 First Year Seminar - Social Sciences 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Social Sciences for incoming first-year students. Topics will vary by semester according to interests of faculty teaching each semester. Fall. Study Area II

FYS 103 First Year Seminar - Behavioral Sciences 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Behavioral Sciences for incoming first-year students. Topics will vary by semester according to interests of faculty teaching each semester. Fall. Study Area III

FYS 104 First Year Seminar - Natural Sciences 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Natural Sciences for incoming first-year students. Topics will vary by semester according to interests of faculty teaching each semester. Fall. Study Area IV

FYS 105 First Year Seminar - Communication Skills 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Communication Skills for incoming first-year students. Topics will vary by semester according to the interest of faculty teaching each semester. Fall. Skill Area I

FYS 106 First Year Seminar - Mathematics and Computer Science 2 TO 4

Prereq.: First-year, first-time status. Series of topical seminars in Mathematics and Computer Science for incoming first-year students. Topics will vary by semester according to interests of faculty teaching each semester. Fall. Skill Area II

French

FR 111 Elementary French I 3

Open only to students with one year or less of high school study. Foundations of the French sound system and structure are established through an aural-oral approach. CSUS Common Course. Skill Area III

FR 112 Elementary French II 3

Prereq.: FR 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in French except by permission of the department chair. Continuing the presentation of the elements of French language structure. Dictation and aural comprehension are stressed as well as conversation. CSUS Common Course. Skill Area III

FR 125 Intermediate French I 3

Prereq.: Three years of high school French or one year of college French or equivalent. Taught in French. French language structure is reviewed. Short stories and plays. Conversation and composition based on topics of general interest. No credit will be given to students with previous credit for more advanced course work in French except by permission of the department chair. CSUS Common Course. Skill Area I [I]

FR 126 Intermediate French II 3

Prereq.: FR 125 or equivalent. Continuation of FR 125. Taught in French. No credit will be given to students with previous credit for more advanced course work in French except by permission of the department chair. CSUS Common Course. Skill Area I [I]

FR 225 Intermediate French III 3

Prereq.: FR 125 or 126 or French placement exam. Taught in French. Extensive use of technology and French language films, with emphasis on development of listening, speaking and writing skills. Fall. Skill Area I [I]

FR 226 Intermediate French IV 3

Prereq.: FR 126 or FR 225 or French placement exam. Taught in French. Improvement of the reading and writing of French through the use of contemporary texts, narratives, plays, and poems. Spring. Skill Area I [I]

FR 304 Introduction to French Literature 3

Prereq.: FR 225 or FR 226 (either may be taken concurrently) or permission of instructor. Taught in French. Introduction to selected literary works and discussion of literary genres and important aspects of French literary history. Fall. Study Area I [I] [L]

FR 305 Introduction to Francophone Literature 3

Prereq.: FR 225 or 226 (either may be taken concurrently) or permission of instructor. Introduction to literature written in French from Francophone countries other than France. Spring. Study Area I [I] [L]

FR 315 Aspects of French History & Culture 3

Prereq.: FR 225 or 226 or permission of instructor. Taught in English; majors/minors read and write in French. Topics include the most important features of French history, with emphasis on major artistic achievements and physical and political geography. Fall. (E) Study Area II [I]

FR 316 Contemporary France 3

Prereq.: FR 225 or FR 226 or FR 315. Taught in French. Politics, social structures, and cultural life of France today. France in relation to Western Europe and in a broader international framework. Spring. (O) Study Area II [I]

FR 335 French for Oral Expression 3

Prereq.: FR 225 or FR 226. Taught in French. Development of grammar and idiom for oral proficiency through discussion of readings, films, and other documents. Fall. (E)

FR 336 French Composition & Translation 3

Prereq.: FR 226. Taught in French. Advanced training in the use of French based on readings, translation, and composition. Spring. (O)

FR 441 Advanced Oral Practice 3

Prereq.: Permission of instructor. Open only to non-native speakers of French. Taught in French. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. Irregular. (O) [I] [GR]

Geography

GEOG 100 Search in Geography 3

Introduction to processes and value systems in geography. Theme and title may vary from section to section. Course may be repeated one time with a different topic. Spring. Study Area II

GEOG 110 Introduction to Geography 3

Basic patterns of physical environment and relationship of human patterns to them are explained. CSUS Common Course. Study Area II

GEOG 120 World Regional Geography 3

Survey of the lands, people, and places in the world's major culture regions. Reliance on case studies, investigations of development problems, or other approaches to develop concepts. CSUS Common Course. Study Area II []

GEOG 130 Introduction to Geography Information Science 3

Introduction to basic within the fields of cartography, geodesy, spatial statistics, remote sensing, and geographic information systems. Study Area II

GEOG 220 Human Geography 3

Survey of the world's people and their culture. Topics studied may include population, religion, language, settlement, architecture, land tenure, ideologies, social problems, behavior, resource utilization, and environmental change. Study Area II []

GEOG 223 Geography of the Popular Music Industry 3

Examines the growth of the popular music industry and its impact on the spatial/locational nature of society. Basic human geographic concepts such as migration, diffusion regional identity, and place are discussed. Spring. Study Area II

GEOG 241 Introduction to Planning 3

Introduction to the principles and practice of planning at various spatial scales-regional, metropolitan, urban, and neighborhood. Cross listed with AMS 241. No credit given to students with credit for AMS 241. Study Area II

GEOG 244 Economic Geography 3

Spatial and ecological aspects of the economic development of world regions, resource and population balance, international trade issues, and geopolitics of the post-Cold War era. Spring. Study Area II []

GEOG 256 Maps & Map Reading 3

Conferences and practical exercises in the use and interpretation of a variety of map types. Emphasis on the topographic map. Map sources will be discussed.

GEOG 266 Air Photo Interpretation 3

Conferences and practical exercises in uses and interpretation of aerial photographs. Fall.

GEOG 270 Geography of Hazards 3

Prereq.: ESCI 110 or GEOG 110. Examines human and environmental generation of risks and hazards. Discussion will focus on both the social and physical aspects of causality, risk perception and mitigation. Spring. Study Area II

GEOG 272 Physical Geography 3

Prereq.: GEOG 110 or permission of instructor. Analysis of the landforms at the earth's surface, their distribution, genesis, and relationships to the other natural phenomena. Spring. Study Area IV

GEOG 275 Soils and Vegetation 3

Analysis of major soil groups and vegetation zones and their relationship to other geographic factors, including land use and rural or urban planning. Field experiences are part of this course. Study Area IV

GEOG 276 Elementary Cartography 3

Instruction and practice in the fundamentals of map construction, design, symbolization, and reproduction; emphasis on the use of cartographic drafting instruments, mediums, and materials.

GEOG 290 Geography of Tourism 3

Physical and cultural factors affecting the locations and relative importance of recreational areas and tourist attractions, both foreign and domestic. Spatial analysis of tourist flows, modes of transportation, effects on regional economies, and impacts on environments. Study Area II [I]

GEOG 291 National Parks and World Heritage Sites 3

Examination of sustainability issues for tourism development in preserved areas. Comparative analysis of national park systems globally. Case studies of individual national parks and UNESCO World Heritage sites included. Spring. Study Area II [I]

GEOG 330 United States and Canada 3

The environmental, cultural, and economic patterns that give character to the different parts of the United States and Canada. Analysis of the internal structure and functions of cities such as New York and Los Angeles and regional planning in problem areas such as Appalachia, Alaska, and Southern California. Fall.

GEOG 333 Political Geography 3

Geographical bases of political organization, conflict and international relations. Emphasis will be on power and conflict in the regional framework. Irregular. Study Area II

GEOG 374 Climatology 3

Prereq.: GEOG 110 or ESCI 110, or permission of instructor. Earth's climate with an emphasis on the physical processes and dynamics of the atmosphere. Topics include regional, urban and historical climatologies, atmospheric pollution, and climate change. Some class time will be devoted to practical exercises. Spring.

GEOG 378 Geographic Information Systems 3

Prereq.: GEOG 130 or GEOG 256 or 276, or permission of instructor. Introduction to raster and vector geographic information systems, with a focus on application areas in natural resource management, urban and regional planning, and business.

GEOG 414 Teaching Methods in Geography 3

Prereq.: Admission to the Professional Program. Concepts, methods, and materials for teaching geography. Middle-level certification students selecting the Complementary Subject Matter Area in geography will enroll for two credits; all others will enroll for three credits. Fall.

GEOG 420 Internship in Planning 3

Prereq.: Permission of the department chair. Restricted to students who are pursuing a specialization in planning. Participants will serve as interns in a municipal, regional, state, or private planning agency under the supervision of a geography faculty member. On demand.

GEOG 430 Internship in Geography 3

Prereq.: Permission of the department chair. Students will work in an environment directly related to the track or planned program they are following, under the supervision of a geography faculty member. Written reports are required. No credit given to students with credit for GEOG 420. On demand.

GEOG 433 Issues in Environmental Protection 3

Issues in the environmental protection planning process. Topics include air quality, noise, solid waste, hazardous materials, wilderness areas, endangered species, wetlands, and land use issues. A single field trip may be required. [GR]

GEOG 434 Mexico, Central America, and the Caribbean 3

Study of our nearest neighbors south of the border, concentrating on people, the land on which they live, and related problems, primarily from a regional point of view. Cross listed with LAS 434. No credit given to students with credit for LAS 434. Fall. [I] [GR]

GEOG 435 Japan and Korea 3

Study of the physical framework, resources, economic activities, and characteristic landscapes of Japan and Korea. Activities of the people of Japan and Korea in relation to their environment and resources, and the differing problems of development facing both nations. Fall. (O) [I] [GR]

GEOG 436 South America 3

A survey of the countries of South America with emphasis on people, places, and problems. Cross listed with IS 436 and LAS 436. No credit given to students with credit for IS 436 or LAS 436. Spring. [I] [GR]

GEOG 437 China 3

Physical, economic, political, and historical geography of China. Special consideration of her population, resources, agricultural growth, and industrial expansion. Discussion of the geographic bases and the expansion of the Chinese State and the contemporary foundation of Chinese national power. Fall. (E) [I] [GR]

GEOG 439 Urban Geography 3

Form, function, and evolution of urban settlements with reference to attributes of place. Emphasis is also placed on internal structure and regional relationships of cities. Provides a methodological basis for thought involving the planning process, including preservation planning and systems analysis. Personal on-site study of a current urban problem within the state is expected. Spring. [GR]

GEOG 440 Rural Land Planning 3

Land use patterns and the planning process in agriculture, transportation, recreation, industry, population, and settlement in rural areas. Case studies and field work emphasizing the impact of urbanization on rural Connecticut. Fall. (O) [GR]

GEOG 441 Community & Regional Planning 3

Prereq.: GEOG 241 or permission of instructor. Philosophies, theories, and principles involved in planning of regions and urban areas. Fall. (E)

GEOG 442 Field Methods in Geography 3

Prereq.: 3 credits in Geography or permission of instructor. Design and execution of field research in physical and human geography. Techniques include field notes, sketching, area sampling, planetable mapping, questionnaire design and administration, design of coding forms, soil and vegetation surveying. Both team and individual field research projects.

GEOG 445 Environmental Planning 3

Prereq.: GEOG 110 or permission of instructor. Examines the environmental impacts of land development and natural constraints on planning and public policy decision-making. Case studies and field work will emphasize aspects of environmental planning in the Greater Hartford region. Spring.

GEOG 446 Sub-Saharan Africa 3

Relationships between physical environment and human development in Africa south of the Sahara. Spring. (E) [I] [GR]

GEOG 448 Russia and Neighboring Regions 3

Environmental, cultural, and economic patterns that give character to the various regions of Russia and the N.I.S. Its contemporary political economy viewed in a spatial and historical context. Examination of Russia's relationship with Central Asia, East Asia, Eastern Europe and the EC. Fall. (E) [I] [GR]

GEOG 450 Tourism Planning 3

Prereq.: GEOG 290, 291 or permission of chair. Integrated and sustainable development approach to tourism planning explored through lectures, seminars and case studies at the national, regional, and community levels. Focus on public and private initiatives in tourism planning. Fall.

GEOG 451 Tourism Development in Southern New England 3

Prereq.: GEOG 290 or 291 or permission of instructor or department chair. Study of the tourism industry, including perspectives on supply, demand, and socio-economic impacts. Focus on issues, problems, and opportunities in tourism, including functions of state and regional tourism agencies in southern New England. Spring. (E) [GR]

GEOG 452 European Union 3

Environmental, cultural, and economic patterns that give character to the different countries, regions, and cities of the European union. Analysis of spatial changes associated with European integration. Spring. [I] [GR]

GEOG 453 Recreation and Resort Planning 3

Prereq.: GEOG 450 or permission of instructor or department chair. Study of the supply, location, distribution, use, planning, management, and impact of recreation facilities in both urban and rural situations. Spring. [GR]

GEOG 454 Geography of Tourism Marketing 3

Prereq.: GEOG 290 and MKT 295 or permission of instructor. Examination of geographic elements and issues within the tourism industry, with a focus on how these may influence the spatial aspects of tourist behavior and industry development strategies. Fall. [GR]

GEOG 455 New Directions in Tourism 3

Prereq.: GEOG 450 or permission of instructor or department chair. Study of contemporary forms of tourism including ecotourism, heritage tourism, and educational travel, which have their own impacts, management, and planning needs, and which differ notably from the traditions of mass tourism. Spring. [GR]

GEOG 459 Field Studies in Regional Geography 3 TO 6

Prereq.: Permission of instructor. On-site group studies in regional geography. This course normally involves travel outside the United States. Only 3 credits may be applied to General Education requirements. May be repeated for a maximum of twelve credits but only six of these credits may be used toward the Geography major. Winter, Summer. [I]

GEOG 466 Remote Sensing 3

Prereq.: GEOG 266 or GEOG 378. Computer analysis and interpretation of satellite remote sensing data for inventorying, mapping, and monitoring earth's resources. Spring. (O)

GEOG 469 Readings in Geography 1 TO 3

Prereq.: Permission of instructor. Directed independent studies in geography. May be taken more than once for credit. On demand.

GEOG 470 Geography of Health & Disease 3

Prereq.: GEOG 220 or permission of instructor. Investigation of health-related topics using geographical frameworks and methodological techniques. Themes include disease distribution, health care access, and HIV/AIDS in a global context. Spring. (O)

GEOG 471 Topics in Human Geography 3

Prereq.: GEOG 220 or permission of instructor. Selected topics in human geography. May be repeated with different topics for a maximum of 6 credits. Cross listed with MKT 471. No credit given to students with credit for MKT 471. On demand.

GEOG 472 Topics in Physical Geography 3

Prereq.: GEOG 272 or 275 or 374 or permission of instructor. Selected topics in physical geography including urban climates, microclimatology, global change, coastal environments, and the impact of glacial and periglacial processes on landforms. May be repeated with different topics for a maximum of 6 credits. Fall.

GEOG 473 Geography of Natural Resources 3

Prereq.: GEOG 110 or permission of instructor. Examines the definition, location, and evaluation of management. Focus on management strategies and cost benefit analyses of environmental degradation associated with resource use. Examples illustrated with GIS and remote sensing techniques. Spring. (O) [GR]

GEOG 475 Energy Resources and Climate Change 3

Prereq.: GEOG 272 or GEOG 374 or ESCI 129 or permission of instructor. Seminar on geographical bases of energy resources and global climate change. Emphasis on the geographical, physical, environmental, economic, and social impacts of energy resource development and use and their effects on global climate regions and sustainability. Spring.

GEOG 476 Advanced Cartography 3

Prereq.: GEOG 256 or 276 or permission of instructor. Advanced design and production of maps using cartographic/GIS and graphic software. Use of statistical packages to process data for cartographic purposes. No knowledge of computer programming required. Spring.

GEOG 478 GIS Design and Implementation 3

Prereq.: GEOG 378 or permission of instructor. Advanced study of geographic information systems and applications. Students will prepare a proposal to develop GIS for a municipality or non-profit organization. Portions of the database will be implemented. Concentration on vector software. Fall.

GEOG 479 Geographic Information Systems Applications 3

Prereq.: GEOG 378. Advanced study of applications in geographic information systems. Applications will vary but will include urban/ regional planning, natural resources management, and public safety. May be taken twice for credit under different content. Spring. (E)

GEOG 481 Topics in Regional Geography 3

Selected topics in regional geography. May be repeated with different topics for a maximum of 6 credits. Irregular.

GEOG 483 Topics in Planning 3

Prereq.: GEOG 241 or permission of instructor. Selected topics in planning. May be repeated with different topics for a maximum of 6 credits. On demand.

German

GER 111 Elementary German I 3

Open only to students with one year or less of high school study. Functional approach to grammar. Facility in understanding spoken German and in reading is developed. CSUS Common Course. Skill Area III

GER 112 Elementary German II 3

Prereq.: GER 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in German except by permission of the department chair. Presentation of elements of German grammar is completed. Further practice in conversation; writing and speaking based on collateral reading. CSUS Common Course. Skill Area III

GER 125 Intermediate German I 3

Prereq.: One year of college German or equivalent. Grammar, including subjunctive and passive, composition and conversation. No credit will be given to students with previous credit for more advanced course work in German except by permission of the department chair. Fall. Skill Area I [I]

GER 126 Intermediate German II 3

Prereq.: GER 125 or equivalent. Intensive practice in oral and written German expression, as well as grammar review and reading. No credit will be given to students with credit for more advanced course work in German except by permission of department chair. Spring. Skill Area I [I]

GER 225 Intermediate German III 3

Prereq.: GER 125 or 126 or permission of instructor. Designed to help students improve speaking skills through the discussion of contemporary texts. Further study of grammar. Fall. Skill Area I [I]

GER 226 Intermediate German IV 3

Prereq.: GER 125 or 126 or permission of instructor. Designed to help students improve writing skills by means of frequent composition in German. Further study of grammar. Spring. Skill Area I [I]

GER 304 Introduction to German Literature I 3

Prereq.: GER 225 or 226 (either may be taken concurrently). Introduction to major works in German literature from its beginning to 1800. Fall. Study Area I [I] [L]

GER 305 Introduction to German Literature II 3

Prereq.: GER 225 or GER 226 (either may be taken concurrently). Introduction to major works of German literature since 1800. Spring. Study Area I [I] [L]

GER 315 German Civilization to 1800 3

Prereq.: GER 225 or GER 226 (either may be taken concurrently). Taught in German. Cultural development of Germany from its beginnings to 1800. Fall. Study Area II [I]

GER 316 German Civilization from 1800 to Present 3

Prereq.: GER 225 or GER 226 (either may be taken concurrently). Taught in German. Cultural development of Germany from 1800 to the present. Spring. Study Area II [I]

GER 335 Advanced German for Oral Expression 3

Prereq.: GER 225. Additional practice for student development of oral proficiency in German through discussion of readings, films and other authentic materials. On demand. []

GER 336 Advanced German Composition 3

Prereq.: GER 226. Additional practice in idiomatic usage and verbal fluency. Spring. []

GER 441 Advanced Oral Practice 3

Prereq.: Permission of instructor. Taught in German. Further developmetn of oral proficiency for the advanced student. On demand. []

Graphics Technology

GRT 112 Digital Imaging for Graphics Technology 3

Techniques of drawing and digital imaging for graphics technology. Emphasis on computer operations and the use of image editing software programs (Lab). Three hours lecture and two hours laboratory, course meets five hours per week. Fall. Skill Area IV

GRT 212 Graphic Arts Processes 3

A course designed to provide the student with a basic working knowledge of the printing industry. Printing, duplicating, and copying processes are included. (Lab). Three hours lecture and two hours laboratory, course meets five hours per week. Skill Area IV

GRT 222 2D Animation for Graphics Technology 3

Prereq.: GRT 112 or permission of department chair. The integration of graphic technology applications and the study of electronic visual images. Emphasis will be on 2D animation. Three hours lecture and two hours laboratory, course meets five hours per week. Irregular.

GRT 232 Introduction to 3D Animation Technology 3

Prereq.: ETM and GRT 112 or MFG 121 or ETC 122. Wire frame modeling applications will be introduced. Topics include the creation of basic geometric shapes; editing the model structure; animating and rendering the animation. Three hours lecture and two hours laboratory, course meets five hours per week. Fall. (E)

GRT 242 Introduction to Graphic Design & Color 3

Prereq.: GRT112 or 212 or permission of instructor. Introduction to the use of graphics elements and color. Topics include production design for brochures, packaging, and web; includes theory and practice of process color printing. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

GRT 332 Advanced 3D Modeling & Animation Technology 3

Prereq.: GRT 232. 2D and 3D animation methods: project planning, scripting, storyboards, advanced modeling, lighting, materials mapping, and motion. Three hours lecture and two hours laboratory, course meets five hours per week. Spring. (O)

GRT 342 Screen Printing & Post-Press Operation 3

Fundamental operations and related information in post-press printing operation. Copy preparation, screen and stencil systems, printing techniques, ink and substrate compatibility, and finishing processes. Includes the study of layout and hand binding. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

GRT 352 Graphic Typography 3

Prereq.: GRT 212 or permission of the instructor. The study of type and its relationship to paper. Emphasis will be on the relationship of type choice and content, purpose, space, audience, and method of printing. Desktop publishing will be examined. Three hours lecture and two hours laboratory, course meets five hours per week. Spring. (E)

GRT 362 Estimating & Scheduling for Graphics Technology 3

Prereq.: GRT 212 or permission of department chair. Emphasis placed on the many factors which must be considered when estimating a printing job. Actual estimates will be prepared, using a variety of fixed and variable costs, through manual techniques and computer estimating software. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

GRT 402 Topics in Graphics Technology 1 TO 3

Prereq.: Permission of department chair. An individualized inquiry of comprehensive study into a selected technical area. The student may elect

to examine processes, products or developmental aspects of graphics technology. May be used as an elective on a graduate student's planned program of study with the permission of the program advisor. Course may be repeated for a maximum of 6 credits for different topics. On demand. [GR]

GRT 405 Applied Topics in Graphics Technology 3

Prereq.: Permission of department chair. A laboratory oriented course providing comprehensive study of a selected technological topic. May be used as an elective on a graduate student's planned program of study with the permission of the program advisor. Course may be repeated for a maximum of 6 credits for different topics. Three hours lecture and two hours laboratory, course meets five hours per week. On demand. [GR]

GRT 411 Instructional Methods in Animation Graphics 3

Prereq.: CET 113 or MFG 121 or ETC 122 or permission of chair; for graduate students, admission to the M.S. Technology Education program. Using animation software, digitizing equipment, and paint/draw programs to produce two- and three-dimensional presentations, slide shows, and videotapes. Three hours lecture and two hours laboratory, course meets five hours per week. Irregular.

GRT 432 Customization & Development in Animation Technology 3

Prereq.: GRT 332. Advanced imaging, development, and documentation of 3D animation models. Three hours lecture and two hours laboratory, course meets five hours per week. Fall. (O)

GRT 442 Print Production 3

Prereq.: GRT 212. Applied study of pre-production, production, and post-production in the printing industry. Three hours lecture and two hours laboratory, course meets five hours per week. [GR]

GRT 462 Advanced Graphic Arts Techniques 3

Prereq.: GRT 442. Integrated experience of advanced instruction in both flexo, offset and digital printing. Experiences will include advanced color work and direct to press operations. Cultural and historical aspects of graphic arts and industrial visitations. Three hours lecture and two hours laboratory, course meets five hours per week. [GR]

GRT 472 Digital & Film Photography 3

Principles of conventional and digital camera techniques. Includes camera handling, exposure, composition, developing, printing, and editing. Darkroom plans and equipment listings will be evaluated. Field trips to selected photography studios. Three hours lecture and two hours laboratory, course meets five hours per week. Open to all students. Fall. [GR]

History

HIST 100 Search in History 3

Introduction to intellectual processes and value systems in history. Titles and themes may vary from section to section. Study Area II

HIST 121 World Civilization I 3

World civilization to the 17th century. Study Area II []

HIST 122 World Civilization II 3

World civilization from the 17th century. Study Area II []

HIST 161 American History to 1877 3

Political, economic, social, and cultural development to 1877. No credit given to students who have credit for HIST 261. CSUS Common Course. Study Area II

HIST 162 American History from 1877 to present 3

Political, economic, social, and cultural development since 1877. No credit given to students who have credit for HIST 262. CSUS Common Course. Study Area II

HIST 231 Ancient Mediterranean World 3

Cultures of ancient Near East and Mediterranean. Study Area II []

HIST 232 Medieval Europe 3

European history and institutions from the fall of Rome to 1300. Study Area II []

HIST 233 Renaissance and Enlightenment Europe 3

European history from the fifteenth to eighteenth centuries. Topics include the Renaissance, the Reformation, European Expansion, the Scientific Revolution, and the Enlightenment. Study Area II []

HIST 234 Modern Europe 3

European history from the 18th century to the present. Study Area II []

HIST 251 East Asia to 1800 3

Political, cultural, economic, and social history of East Asian countries. Note: No credit will be given to students who have credit for HIST 351. Fall. (O) Study Area II []

HIST 252 East Asia since 1800 3

Continuation of HIST 251, with additional emphasis on contemporary, foreign, and colonial politics related to East Asia. NOTE: No credit given to students who have credit for HIST 352. Spring. (O) Study Area II []

HIST 253 History of the South Pacific 3

Begins with the history of the Tahitians, Hawaiians, and Maori, and Australian aborigines before contact with Europe, examining their oral

traditions. Also examines exploration and cultural contact between the peoples of Polynesia and Australia and Anglo-Europeans. Fall. (O) Study Area II

HIST 271 Introduction to African History and Culture 3

Focuses on some of the enduring aspects of African material culture and technologies. Also examines social and political issues related to African civilization over time. Irregular. Study Area II

HIST 277 History of Christianity I 3

Christianity from its origins to 1450 A.D. Jewish origins, literature, central doctrines, and institutional development. Consideration of its influence on secular life and institutions. NOTE: No credit given to student who have credit for HIST 377. Fall. (O) Study Area II []

HIST 278 History of Christianity II 3

Christianity from 1450 A.D. to present. Continuation of Christianity I. NOTE: No credit given to students who have credit for HIST 378. Spring. (O) Study Area II []

HIST 281 History of Latin America to 1823 3

Social, economic, political, and cultural development of Latin American countries to 1823. NOTE: No credit given to students with credit for HIST 381. Cross listed with LAS 281 and 381. No credit given to with credit for LAS 281 or 381. Fall. (O) Study Area II []

HIST 282 History of Latin America since 1823 3

Social, economic, political, and cultural development of Latin American countries since 1823. No credit given to students with credit for HIST 382. Cross listed with LAS 282. No credit given to students with credit for LAS 282 or 382. Spring. (O) Study Area II []

HIST 291 Modern Middle East 3

Historical developments in the 20th century with a special emphasis on political, social, and economic conflicts. NOTE: No credit will be given to students with credit for HIST 472. Fall. Study Area II []

HIST 292 History of Judaism 3

Analysis of major themes in the historical development of Judaism from ancient times to the present. NOTE: No credit will be given to students with credit for HIST 473. Spring. Study Area II []

HIST 301 The Historical Imagination 3

NOTE: History minors must request a major override from the department chair prior to registration. Prereq.: A minimum of 6 credit hours in History. Students will practice history rather than simply study it in a passive sense. By honing research, analytical and writing skills students will be better prepared for upper level classes and work outside the university. History majors and minors only.

HIST 302 Introduction to Public History 3

Studies issues in, and teaches professional skills for, the practice of Public History. Explores career opportunities in museums, historic societies, and other institutions. Spring.

HIST 305 Connecticut and the Nation 3

Connecticut history from pre-colonial period to the present day within the national context. Irregular.

HIST 316 History of the American West to 1890 3

Surveys the history of the American West and its people to 1890. Provides a general structure of the American West and its political, economic, and social history with emphasis on the interaction of diverse cultures including Native Americans, Hispanics and Asians as America expanded its borders. The course will compare popular conceptions of the historical American West to the region's realities, diversity, and complexity. Cross-listed with LTN 316. No credit may be received by students who have received credit for LTN 316. Fall.

HIST 317 History of the American West, 1890 to Present 3

Surveys the history of the American West and its people from 1890 to the 21st century. Provides a general structure of the American West and its political, economic, and social history with emphasis on the interaction of diverse cultures including Native Americans, Hispanics, and Asians in areas known today as the Plains, Southwest, and Northwest. Material will also examine the West and its myths as central to American culture and popular culture. Cross-listed with LTN 317. No credit may be received by students who have received credit for LTN 317. Spring.

HIST 319 Race, Ethnicity and Migration in the U.S. 3

A social and cultural history of the U.S. that explores race, ethnicity, and migration in the formation of American identities. From colonial period to the present. Cross-listed with LTN 319. No credit may be received by students who have received credit for LTN 319. Fall.

HIST 321 Political History of the United States, 1776-1876 3

Focuses on the development of political parties in the United States. Examines the contrasting economic, social, and foreign policy views of the parties, with special attention to the intersection of ideology and partisanship. Fall.

HIST 322 Political History of the United States, 1877 to Present 3

Focuses on the growth of political parties in the United States. Examines the contrasting economic, social, and foreign policy views of the parties, with special attention devoted to the intersection of ideology and partisanship. Spring.

HIST 323 Native Americans of the Eastern Woodlands, 1520-Present 3

Examines North America's indigenous peoples living east of the Mississippi River at the time of European contact, including the Five Civilized Tribes, the Iroquois Confederacy, and the First Nations of New England. Fall. (O)

HIST 324 Native Americans of the West, 1500-Present 3

Examines North America's indigenous peoples living west of the Mississippi River at the time of the European contact, from the Central American region to the Northwest. Explores the history of Aztec civilizations, Southwestern tribes, Plains Indians and Northwest tribes. Spring. (O)

HIST 325 Anglo-American Legal and Constitutional History, 1550-1789 3

Legal ideas, statutes and cases that revolutionized England and its colonies from the Tudor period to the United States Constitution. Fall. (E)

HIST 326 Anglo-American Legal and Constitutional History, 1789-Present 3

Analyzes the change from formalism to substantive due process, landmark legal cases, and the emergence of new legal theories in England, North America, and Australia. Allows the United States' legal system to be viewed in a comparative context. Spring. (E)

HIST 327 History of American Consumer Culture 3

Examines the development of consumer society in the United States and its relationship to economics, politics, and culture. Paying attention to the dynamics of race, class, and gender, this course explores the experiences of ordinary Americans as they have embraced, shaped, and resisted materialism in their lives. Possible topics include the rise of department and chain stores, advertising, mass-production, the leisure industry, suburbanization, consumer boycotts, and globalization. Spring.

HIST 328 History of American Foreign Relations 3

Study of the United States in the world from 1776 to the present through examination of domestic, international, diplomatic, and military influences. Fall.

HIST 329 History of Working America 3

Origins and development of the American working class from the colonial period to the present. Spring.

HIST 330 History of Women in the United States, 1607-1865 3

Survey of women in the United States from the colonial period through the Civil War, with special emphasis on how race, class, and ethnicity shaped women's experiences. Cross listed with WGSS 330. Fall.

HIST 331 History of Women in the United States, 1865-Present 3

Survey of women in the United States from Reconstruction to the present with special emphasis on how race, class, and ethnicity shaped women's experiences. Cross listed with WGSS 331. Spring.

HIST 332 History of Schooling in America 3

History of schooling in the United States, with emphasis upon the 19th and 20th centuries. Irregular.

HIST 334 Women of Medieval Europe 3

Surveys social, political, and economic opportunities for medieval European women and the various ways in which women were represented in contemporary texts. Also considers changing ideologies of the function of marriage, the role of family, and the construction of gender roles in medieval culture from c. 400-1400. Cross listed with WGSS 334. No credit given to students with credit for WGSS 334. Fall. []

HIST 335 Women, Marriage, and Family in Early Modern Europe 3

Impact of social, economic, and ideological change on gender roles and family structure in European society during the Renaissance, Reformation, and post-Reformation periods, 1400-1700. Cross listed with WGSS 335. Spring.

HIST 341 English History to 1715 3

Forces contributing to the growth of English civilization and development of Great Britain. Fall. []

HIST 342 English History since 1715 3

Continuation of HIST 341. Spring. []

HIST 343 Modern Ireland: 1690-Present 3

Introduction to political, social, and economic history of modern Ireland, with special focus on nationalism, the impact of the Great Famine, the achievement of independence, and the ongoing conflict in the north. Spring. []

HIST 344 History of Modern Germany 3

German history from 1871 to the present. Fall. (O) []

HIST 347 History of Russia I 3

History of Russia from the ninth century to 1861. Fall. []

HIST 348 History of Russia II 3

History of Russia from 1861 to the present. []

HIST 353 History of Modern China 3

China during the late Ch'ing, Republican and Communist periods. No credit given to students with credit for HIST 453. Spring. (E) []

HIST 354 History of Modern Japan 3

Japan during the 19th and 20th centuries. NOTE: No credit given to students who have credit for HIST 454. Fall. (E) []

HIST 356 History of East Central Europe since 1919 3

Social and political institutions of the Successor states in the Danubian area from 1919. Spring. (O) [I]

HIST 369 African-American History 3

Survey of African-American life from the slave trade through the 1970s. Fall. (E)

HIST 373 The African Diaspora in the Caribbean since 1500 3

The plantation system, capitalism and slavery, the decolonization process in general, gender relations, structural adjustment and debt, outstanding leaders and role models in Afro-Caribbean communities and cultural norms and values. Irregular. [I]

HIST 375 History of Africa to 1800 3

Examination of economic, social, and political developments in Africa to the end of the 18th century. Spring. Study Area II [I]

HIST 376 History of Africa since 1800 3

Examination of economic, social, and political developments in Africa from the end of the 18th century to the present. Spring. Study Area II [I]

HIST 379 History of Poland: from the Piasts to Partition, 966-1795 3

The medieval Kingdom, the Polish Lithuanian Commonwealth, and the Partitions. Fall. (O) [I]

HIST 380 Modern Poland 3

Examination of the course of modern Polish history, including the restoration of independence in 1918, World War II, communist rule, Solidarity, and the recovery of sovereignty in 1989. Fall. (E) [I]

HIST 383 History of Brazil 3

Surveys the history of Latin America's largest country from its pre-Columbian roots to the present. Topics include: Indigenous Peoples, African enslavement, European immigration, and economic development. Irregular.

HIST 384 Portugal in Brazil 3

History of Portugal as it relates to the Portuguese Seaborne empire and Brazil. Topics include the medieval period, the colonization of Brazil and conquest of indigenous populations by the Portuguese; the introduction of sugar and African slavery to Brazil; the Portuguese colonial government, and Brazilian independence. Fall.

HIST 395 Topics in History 3

An intermediate course exploring specific areas of historical inquiry and research. Topics vary. May be repeated with different topics for a maximum of 6 credits. Irregular.

HIST 403 Public History Project 3

Theoretical and practical issues confronting public historians explored by involving students in public history projects. Projects vary. May be repeated with different projects for a maximum of 6 credits. Irregular.

HIST 404 American Material Culture 3

Prereq.: HIST 301 or permission of instructor. Studies material culture of artifacts such as, household utensils, furniture, buildings, and landscapes, throughout American history. Linked to HIST 504. Fall.

HIST 405 Local History and Community Development 3

Prereq.: HIST 301 or permission of instructor. Research techniques and methodologies of local and community history. Explores the relationship

between local and national developments. Students conduct research projects in New Britain and other area communities. Linked with HIST 505. Irregular.

HIST 411 Atlantic World, 1500-1880 3

Prereq.: HIST 301 or permission of instructor. Explores the history of the Atlantic World from 1500-1880. Topics can focus on North America, Latin America, Europe and Africa as they interacted in such activities as trade, slavery, the exchange of ideas, revolution, and colonialism. Fall.

HIST 412 The Transformation of Crime and Punishment 3

Prereq.: HIST 301 or permission of instructor. Explores major changes over time in the legal history of crime and punishment in England, Australasia, and Europe between 1600 and 1975. Spring. (O)

HIST 413 Myth, Law, and History 3

Prereq.: HIST 301 or permission of instructor. Introduces students to a variety of readings in the mythological and historical beginnings of law and allows students to analyze how law and history have intersected in both the legal and historical worlds. Topics can include the Mosaic law, Anglo-American law, and the history of legal literature from cases to novels. Spring. (E)

HIST 414 The Progressive Watershed 3

Prereq.: HIST 301 or permission of instructor. Focuses upon significant American political, economic and social developments in the late nineteenth and early twentieth centuries. The Progressive era will receive major attention. Irregular.

HIST 415 The Cold War in the United States and Europe 3

Prereq.: HIST 301 or permission of instructor. Examines the origins, conduct, and consequences of the Cold War from American and European international perspectives. Topics include diplomatic, military, social, and cultural developments. Irregular.

HIST 416 The Vietnam Wars, Home and Abroad 3

Prereq.: HIST 301 or permission of instructor. Examines the Vietnam War from a variety of perspectives. Topics will include the process of American involvement, military campaigns, Vietnamese strategy, anti-war movements, national memories of Vietnam, and how the war has shaped American culture and politics since 1975. Irregular.

HIST 420 Imperialism 3

Prereq.: HIST 301 or permission of instructor. Explores the nature and experience of imperialism in a variety of countries and a number of time periods. Irregular.

HIST 421 Britain at the Turn of the 20th Century 3

Prereq.: HIST 301 or permission of instructor. Cultural, intellectual, social, and political history of Britain from 1880 to 1914. Irregular. [I]

HIST 431 Ancient Northeast Africa 3

Prereq.: HIST 301 or permission of instructor. Aspects of the history and legacies of ancient northeast Africa with focus upon Nubia, Egypt, and Aksum. Irregular. [GR]

HIST 432 History of South Africa 3

Ancient South Africa; the creation of settler communities in the 17th century; the impact of minerals in the 19th century; apartheid and its demise; and ongoing democratization processes. Fall. (O)

HIST 433 History of Ancient Greece 3

Prereq.: HIST 301 or permission of instructor. Greek institutions from the Mycenaean period to the accession of Constantine. Fall. [GR]

HIST 434 History of Ancient Rome 3

Prereq.: HIST 301 permission of instructor. Roman institutions from the regal period to the reign of Constantine. Spring. [GR]

HIST 435 History of Early Medieval Europe 3

Prereq.: HIST 301 or permission of instructor. The Late Roman empire to the 11th century. Spring. (E) [GR]

HIST 436 History of Later Medieval Europe 3

Prereq.: HIST 301 or permission of instructor. The Crusades to the Great Schism. Spring. (O)

HIST 441 Renaissance & Reformation 3

Prereq.: HIST 301 or permission of instructor. History of Europe during the Age of Transition and the Era of the Religious Wars, 1300-1648. Fall. (E) [GR]

HIST 442 Absolutism and Enlightenment in Europe 3

Prereq.: HIST 301 or permission of instructor. Social, economic, political, and cultural forces of the period in relation to formation of modern society and government. Spring. (E) [GR]

HIST 443 Revolution and Reformation in Europe 3

Prereq.: HIST 301 or permission of instructor. Political, economic, and social institutions in relation to rise of liberalism, nationalism, socialism, and imperialism. Fall. [GR]

HIST 444 Mass Politics and Total War in Europe 3

Prereq.: HIST 301 or permission of instructor. National and international problems of European states. Spring. [GR]

HIST 445 European Ideas & Culture, 1750-1918 3

Prereq.: HIST 301 or permission of instructor. Main currents of European thought and culture from 1750 to 1918. Irregular. [GR]

HIST 446 Ideas and Culture in Europe, 1918-Present 3

Prereq.: HIST 301 or permission of instructor. Main currents of European thought and culture from 1918 to the present. Irregular. [GR]

HIST 447 History of the Soviet Union 3

Prereq.: HIST 301 or permission of instructor. Study of the rise and fall of Soviet Communism, 1917-1991. Irregular. [GR]

HIST 448 Stalin and Stalinism 3

Prereq.: HIST 301 or permission of instructor. Historical study of Stalin and Stalinism stressing multidisciplinary perspectives, considered in the light of the collapse of the Soviet Union. Irregular. [GR]

HIST 451 World War I in Europe and the United States 3

Prereq.: HIST 301 or permission of instructor. Explores the First World War with an emphasis on Europe and the United States. Irregular.

HIST 452 World War II in Europe 3

Prereq.: HIST 301 or permission of instructor. Explores the Second World War in Europe. Irregular. [I]

HIST 455 Historical Representation in Latin America 3

Prereq.: HIST 301 or permission of instructor. Throughout the twentieth century, intellectuals and artists have addressed historical and political

issues in their work. This course studies that phenomena through historical documents, historical monographs, literary and artistic works using the methodology of the social history of ideas. Irregular.

HIST 458 United States Sectionalism: The Clash of Cultures 3

Prereq.: HIST 301 or permission of instructor. Clash of Northern and Southern culture over the issues of slavery from 1787 to 1861. Emphasis on the attempt to quell sectional disputes through political compromise, the rise of abolitionism, and the creation of a Slave Power. Spring. [GR]

HIST 460 African Enslavement in the Americas 3

Prereq.: HIST 301 or permission of instructor. Comparative history of slavery in Latin America, the Caribbean, and the United States from 1492-1888. Fall. (O) [GR]

HIST 465 Economic History of the United States 3

Prereq.: HIST 301 or permission of instructor. American economy from its agricultural beginnings through stages of its commercial, industrial, and financial growth. [GR]

HIST 469 African Americans in the 20th Century 3

Prereq.: HIST 301 or permission of instructor. Political, economic, social, and cultural developments in Black America since 1900. Cross listed with AFAM 469. No credit given to students with credit for AFAM 469. Fall. (O) [GR]

HIST 470 Topics in Middle-Eastern History 3

Prereq.: HIST 301 or permission of instructor. Focuses upon one specific topic of modern Middle-Eastern history. The topic chosen will vary but will be within the time period of the twentieth and twenty-first centuries. Possible topics (among others) are: U.S. policy (or the lack of it) in the Middle East, Israel and Palestine, oil and the Gulf, the post-Saddam Hussein era in Iraq, religious extremism in the Middle East and the Gulf states. Irregular.

HIST 474 History of the Arab-Israeli Conflict 3

Prereq.: HIST 301 or permission of instructor. History of the Arab-Israeli conflict from the time of Israel's creation as a modern nation-state until the present. Spring. [GR]

HIST 476 African History through Film 3

Prereq.: HIST 301 or permission of instructor. Africa's past and present are viewed through a series of movies and intensive scholarly discussion of selected topics and themes. Readings are derived from current scholarly research on the various issues discussed. Irregular. [GR]

HIST 481 The Jews of Poland 3

Prereq.: HIST 301 or permission of instructor. Topics include immigration and settlement, community development and rights and privileges before 1795, modernization, nationalism, anti-Semitism, independence, Polish-Jewish relations during the holocaust, exodus and marginalization in communist Poland, and the new Polish Jews. Fall. (E) [GR]

HIST 482 The Polish-American Immigrant and Ethnic Community 3

Prereq.: SOC 110 or SOC 212 or HIST 301 or permission of instructor. Explores the processes of migration and resettlement of Polish immigrants and their descendants in America with a focus on economic, political, and social factors. Cross-listed with SOC 480; no credit given to students with credit for SOC 480. Irregular. [GR]

HIST 490 Senior Seminar 3

Prereq.: 24 credits in history including HIST 301 and 6 credits at the 400 level. Senior seminar. Undergraduate history majors only.

HIST 492 Public History Intern Experience 3 OR 4

Prereq.: Permission of instructor. Gives students practical experience in museums, historical societies, and other public history institutions. Students will gain work experience while participating in the practice of public history making. Accepted students are assigned to work in a public history institution for 110-140 hours and will also participate in a classroom seminar. Not available for graduate credit. Spring.

HIST 493 Directed Readings in History 3

Prereq.: HIST 301 and 6 credits in 400-level history courses; or permission of Department Chair. Individual program of studies for students with special interests and abilities. Topics to vary from semester to semester. Not more than 3 credits to be taken in one semester. May be repeated once. On demand.

HIST 494 Directed Readings in Non-Western History 3

Prereq.: HIST 301 and 6 credits of 400-level history courses; or permission of instructor. Individual program of study for students with special interests in non-Western history, including the study of Asia, Africa, and Latin America. Topics to be developed in consultation with individual faculty member. Not more than 3 credits to be taken in one semester. May be repeated once. On demand.

HIST 497 Topics in History 3

Prereq.: HIST 301 or permission of instructor. Historical focus on a facet of history in order to help clarify current domestic and/or world developments. May be repeated with different topics for up to 6 credits. [GR]

HIST 498 Historical Field Studies Abroad 3

Prereq.: Permission of instructor. Classroom and study abroad exploring special historical topics taken from any world region. Normally involves travel outside the United States. Part of course taught abroad; can be taken two times with different topics. Irregular.

HIST 499 Historical Field Studies in the US 3

Prereq.: Permission of instructor. Classroom and historical field study of themes in US history. Normally involves travel outside of Connecticut. May be taken two times with different topics. Irregular.

Honors

HON 110 Western Culture I 4

Prereq.: Honors Program participant. Introduction to western culture including its foundation in the ancient world. Spring. Study Area I

HON 120 Science & Society I 4

Prereq.: Honors Program participant. Satisfies non-laboratory requirement of Study Area IV. Selected topics from the natural sciences and their relation to society. Spring. Study Area IV

HON 130 World Cultures I 4

Prereq.: Honors Program participant. Introduction to the study of world cultures. Fall. Study Area II [I]

HON 140 Writing & Research I 4

Prereq.: Honors Program participant. Principles of critical thinking and persuasive writing, with applications to written and oral presentations. Fall. Skill Area I

HON 210 Western Culture II: Topics in Western Culture 4

Prereq.: Honors Program participant. Selected topics in western culture including discussion of historical contexts. Fall. Study Area I

HON 220 Science and Society II: Social Sciences and Society 4

Prereq.: Honors Program participant. Selected topics from the social sciences and their relation to society. Spring. Study Area III

HON 230 World Cultures II: Topics in World Cultures 4

Prereq.: Honors Program participant. Selected topics from world cultures. Fall. Study Area II [I]

HON 250 Western/World Culture III: Comparative Topics 4

Prereq.: Honors Program participant. Selected topics in comparative cultures from western and world perspectives. Spring. Study Area III [I]

HON 440 Writing & Research II 1

Prereq.: Honors Program participant or permission of Program Director. Methodology of thesis writing and presentation of thesis proposal. Fall. Study Area I

HON 441 Writing & Research III: Honors Thesis 2

Prereq.: Honors Program participant or permission of Program Director. Independent research developed from previous Honors Program courses. Spring. Skill Area I

HON 442 Writing & Research IV: Thesis Workshop 1

Prereq.: Member of Honors Program or permission of program director, and HON 441 (taken concurrently). Problems and solutions in thesis writing. Spring. Study Area II

HON 450 Special Project 1 TO 3

Prereq.: HON 441 or permission of program director. Follow up research on topics related to student's undergraduate thesis and/or policy

implications of undergraduate thesis; including involvement in community outreach activities and/or presentations to scholarly conferences.

Humanities

HUM 100 Search in the Humanities 3

Introduction to the intellectual processes and value systems in the humanities. Titles and themes may vary from section to section. Study Area I

HUM 250 Topics in European Literature 3

Prereq.: ENG 110. A literary figure, movement or theme in European Literature studied in translation. Topic may vary from semester to semester. On demand. Study Area I [I] [L]

HUM 290 Studies in Modern Civilization 3 OR 6

Insights into the culture of other lands as reflected in the arts, national traditions, institutions and values. Area or topic may vary from semester to semester. On demand. [I]

HUM 490 The Culture and Civilization of Other Lands 3

An approach to better understanding of other peoples' life and culture as reflected in their language, music, literature, art, and folklore. The area covered may vary from section to section. Offered in English. May be repeated with different topics. Irregular. [I] [GR]

HUM 494 Foreign Study Through Travel 3 OR 6

Course will acquaint students with the civilizations of other countries through supervised travel abroad. Attention to the special needs and interests of participants. On demand. [I] [GR]

Intensive English Language Program

IELP 101 Pre-EAP (English for Academic Purposes) Listening and Speaking 0

Prereq.: IELP placement test. Sixteen-week/160 hour pre-academic introduction to listening, speaking, and grammar skills for non-native speakers of English. In this course, which will be divided into two, eight-week sessions, students will develop the basic communication and survival skills necessary to begin studying English for academic purposes.

IELP 102 Pre-EAP (English for Academic Purposes) Reading and Writing 0

Prereq.: IELP placement test. Sixteen-week/160 hour pre-academic introduction to reading, writing, and grammar skills for non-native speakers of English. In this course, which is divided into two, eight-week sessions, students will develop the basic communication and survival skills necessary to begin studying English for academic purposes.

IELP 110 IELP - English Conversation I 0

Conversation in English for IELP.

IELP 111 IELP-English Conversation II 0

Level II English conversation for IELP.

IELP 150 University Prep Program 0

Prereq.: IELP placement test. Advanced academic English for non-native speakers. Classes emphasize university-level essays, extensive reading, and formal speaking.

IELP 199 Transition 3

Prereq.: Acceptable IELP placement test results or permission of instructor. Ten hour per week integrated language skills course for advanced ESL students. Emphasis on expository and argument writing, academic reading skills, focused discussion, formal debate, and familiarization with methods of research documentation.

IELP 201 Intensive English Lang & American Culture II: Listening and Speaking 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level II English language listening and speaking. Student activities and several field trips are also included.

IELP 202 Intensive English Language & American Culture II: Reading and Writing 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level II English language reading and writing. Student activities and several field trips are also included.

IELP 205 English for Specific Purposes 1 TO 3

Special purpose course designed to meet the needs of selected groups of non-native English speakers. Focuses on developing communicative competence in a specific field or workplace environment. May be repeated.

IELP 301 Intensive English Language & American Culture III: Listening and Speaking 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level III English language listening and speaking. Student activities and several field trips are also included.

IELP 302 Intensive English Language & American Culture III: Reading and Writing 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level III English language reading and writing. Student activities and several field trips are also included.

IELP 401 Intensive English Language & American Culture IV: Listening and Speaking 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level IV English language listening and speaking. Student activities and several field trips are also included.

IELP 402 Intensive English Language & American Culture IV: Reading and Writing 0

Eight-week highly interactive program which includes 20 hours of classroom instruction per week of Level IV English language reading and writing. Student activities and several field trips are also included.

IELP 451 Intensive English Language & American Culture V: Listening and Speaking 0

Prereq.: IELP 401 or permission of instructor. Eight-week highly interactive class which includes 10 hours of classroom instruction per week of Level V English language listening and speaking. Student activities and several field trips are also included.

IELP 452 Intensive English Language & American Culture V: Reading and Writing 0

Prereq.: IELP 402 or permission of instructor. Eight-week highly interactive class which includes 10 hours of classroom instruction per week of Level V English language reading and writing. Student activities and several field trips are also included.

IELP 460 TOEFL Preparation 0

TOEFL skills and strategies. Practice TOEFL exams are administered regularly.

Interdisciplinary

ID 102 Master Student 1

Prereq.: Freshman standing or permission of instructor. Techniques for taking notes, reading, preparing for and taking tests, using a university library, task management, awareness and application of learning styles; developing group supports and positive self concepts; the nature of relationships, communications, selected social issues. Graded on pass/fail basis. Fall.

Interdisciplinary Sciences

ISCI 104 Science Connections 3

Interdisciplinary emphasis on science in the context of everyday experience. Promotes general scientific literacy and skills relevant to scientific inquiry. For non-science majors. Two lectures and one two-hour laboratory per week. Fall. Study Area IV

ISCI 118 Women's Contributions to Science 3

Prereq.: MATH 099 or permission of instructor. Exploration of discoveries made by women scientists, including their methodology, consequences, and the social constraints placed upon them. Two lectures and one, two-hour laboratory period per week. Study Area IV

International Studies

IS 225 The World as a Total System 3

Examination of global interdependence in its historic, ecological, economic, cultural, and political dimensions. Analysis of selected contemporary global issues. Consideration of impact of global interdependence on our own local communities. Spring. Study Area II [I]

IS 226 Intercultural Sensitivity 3

Exploration of customs of the world's major societies, with an emphasis on those customs pertinent to cross-cultural understanding and the conduct of international relationships. Fall. Study Area III [I]

IS 230 Topics in International Studies 3

Interdisciplinary examination of selected topics in international studies not otherwise offered by departments or International Studies. May be repeated with different topics for up to 6 credits. Irregular.

IS 240 Caribbean Cultural Patterns 3

Prereq.: Permission of instructor or program coordinator when course is offered in Spanish. Multi-disciplinary study of the people who inhabit the islands and margins of the Caribbean Sea, with a focus upon their problems and accomplishments. This course may be taught in Spanish. Irregular. Study Area II [I]

IS 245 Puerto Rico 3

Prereq.: Permission of instructor or program coordinator when course is offered in Spanish. Multi-disciplinary study of the island of Puerto Rico and its people. Topics to be studied may include cultural development, international relations, problems, and prospects. This course may be taught in Spanish. Irregular. Study Area II [I]

IS 436 Geography of South America 3

Cross listed with GEOG 436 and LAS 436. See GEOG 436 for detailed description. No credit given to students with credit for GEOG 436 or LAS 436. Spring.

IS 450 Internship in International Studies 3

Students will work under faculty supervision in an international environment related to their academic track or planned program. Written reports are required. On demand. [GR]

IS 470 Topics in International Studies 3

Prereq.: Permission of instructor. Topics in International Studies.

IS 475 International Studies Senior Project 3

Prereq.: Senior standing and declared IS major. Independent project developed by the student in consultation with International Studies advisor. The semester's work will integrate the geographic area and academic focus of the student's previous course work. On demand.

IS 490 Field Studies Abroad 3 OR 6

Course taught abroad. May be repeated for a maximum of 6 credits. [I]

IS 497 Seminar in International Studies 3

Interdisciplinary seminar on one of the world's regions or countries. Aspects of its anthropology, economics, geography, history, government,

politics, and sociology will be considered in a synthetic approach. [1]

Italian

ITAL 111 Elementary Italian I 3

Open only to students with one year or less of high school study. No credit for students who have received credits for ITAL 118. Fundamentals of Italian pronunciation and grammar taught from the beginning by the direct method. Students participate in conversation. CSUS Common Course. Skill Area III

ITAL 112 Elementary Italian II 3

Prereq.: ITAL 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in Italian or who have received credit for ITAL 118. Study of spoken and written Italian is continued. Further practice in conversation, pronunciation and analysis of Italian language structure. CSUS Common Course. Skill Area III

ITAL 118 Intensive Elementary Italian 6

Open only to students with one year or less of Italian at the high school level. Only three credits may be applied toward the International requirement. No credit to students who have received credit for ITAL 111 and/or ITAL 112. Intensive Italian language course designed to bring students to intermediate skills in one semester. Six classroom hours per week. Skill Area III

ITAL 123 Basic Italian Review 3

Prereq.: Three years of Italian in high school or equivalent preparation. Refresher course designed to reinforce basic listening, reading, speaking, and writing abilities in Italian. No credit will be given to students with more than three years of Italian in high school, except by permission of department chair. Irregular. Skill Area III

ITAL 125 Intermediate Italian I 3

Prereq.: One year of college Italian or equivalent. Principles of Italian language structure are reviewed. Short stories and plays are read and discussed. Conversation and composition on topics of general interest are practiced to improve oral and written expression. No credit will be given to students with previous credit for more advanced course work in Italian except by permission of the department chair. Fall. Skill Area I [I]

ITAL 126 Intermediate Italian II 3

Prereq.: ITAL 125 or equivalent. Continuation of ITAL 125. No credit will be given to students with previous credit for more advanced course work in Italian except by permission of the department chair. Spring. Skill Area I [I]

ITAL 225 Intermediate Italian III 3

Prereq.: ITAL 125 or ITAL 126 or permission of instructor. Designed to help students improve speaking skills and develop correct idiomatic usage and fluency of expression through discussion of contemporary texts. Further study of grammar. Fall. Skill Area I [I]

ITAL 226 Italian Structure and Idiom 3

Prereq.: ITAL 125 or 126 or permission of instructor. Designed to help students improve writing skills by means of frequent composition in Italian. Further study of grammar. Spring. Skill Area I [I]

ITAL 304 Introduction to Italian Literature I 3

Prereq.: ITAL 225 or ITAL 226 (either may be taken concurrently) or permission of instructor. Taught in Italian. Introduction to major works in Italian literature from the Middle Ages to 1700. Fall. (O) Study Area I [I] [L]

ITAL 305 Introduction to Italian Literature II 3

Prereq.: ITAL 225 or ITAL 226 (either may be taken concurrently) or permission of instructor. Taught in Italian. Introduction to major works in

Italian literature since 1700. Spring. Study Area I [L]

ITAL 315 Italian Civilization to 1861 3

Prereq.: ITAL 225 or ITAL 226 (either may be taken concurrently) or permission of instructor. The cultural development of Italy from its beginnings to unification. Fall. Study Area II [L]

ITAL 316 Italian Civilization from 1861 to the Present 3

Prereq.: ITAL 225 or ITAL 226 (either may be taken concurrently) or permission of instructor. Cultural development of Italy from 1861 to the present. Spring. Study Area II [L]

ITAL 335 Advanced Composition and Diction 3

Prereq.: ITAL 226. Additional practice for student development of oral proficiency in Italian through discussion of readings, films and other authentic materials. On demand. [L]

ITAL 336 Advanced Structure and Idiom 3

Prereq.: ITAL 226. Additional practice for student development of oral proficiency in Italian through discussion of readings, films, and other authentic materials. On demand. [L]

ITAL 441 Advanced Oral Practice 3

Prereq.: Permission of instructor. Taught in Italian. Development of fluency in oral self-expression. Speech analysis to improve pronunciation and intonation. On demand. [L]

ITAL 470 14th-Century Italian Literature 3

Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Study of the period with special emphasis on Dante, Petrarch, Boccaccio. On demand. [L]

ITAL 476 16th-Century Italian Literature 3

Prereq.: ITAL 304 or permission of instructor. Taught in Italian. Major works of Italian renaissance. On demand. [L]

ITAL 488 Italian Life and Culture 3

Prereq.: Permission of instructor. Discussion of contemporary Italian society, traditions and values. On demand. [L]

Japanese

JAPN 111 Elementary Japanese I 3

Open only to students with one year or less of high school study. Basic sounds and structure patterns of Japanese are established through a direct audio lingual approach. CSUS Common Course. Skill Area III

JAPN 112 Elementary Japanese II 3

Prereq.: JAPN 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in Japanese except by permission of the department chair. A continuation of JAPN 111. CSUS Common Course. Spring. Skill Area III

JAPN 125 Intermediate Japanese I 3

Prereq.: One year of college Japanese or equivalent. Continuation and review of grammar and structure. Development of reading skills. Fall. Skill Area I [I]

JAPN 126 Intermediate Japanese II 3

Prereq.: JAPN 125 or equivalent. Further study of grammar and structure. Readings in literary and cultural areas. Spring. Skill Area I [I]

JAPN 225 Intermediate Japanese III 3

Prereq.: JAPN 126 or permission of instructor. Designed to improve speaking skills through discussion of contemporary texts. Further study of grammar. Fall. Skill Area I [I]

JAPN 226 Intermediate Japanese IV 3

Prereq.: JAPN 126 or permission of instructor. Designed to develop current idiomatic usage and fluency of expressions. Further study of grammar. Spring. Skill Area I [I]

JAPN 335 Japanese for Oral Expression I 3

Prereq.: JAPN 226 or equivalent. Taught in Japanese. Designed to further develop oral proficiency through the discussion of contemporary texts. Fall. [I]

JAPN 336 Japanese for Oral Expression II 3

Prereq.: JAPN 335 or permission of instructor. Taught in Japanese. Designed to continue developing oral proficiency through further study of grammar and discussion of contemporary texts. Spring. [I]

Journalism

JRN 200 Introduction to Journalism 3

Prereq.: ENG 110. Introduction to the principles of journalism. Instruction in writing the basic news story; overview of issues such as journalistic ethics, the First Amendment, and the role of journalists in a democratic society. This is a prerequisite for all journalism courses. Skill Area I

JRN 235 News Writing and Reporting I 3

Intensive introduction to fundamentals of reporting and writing news and feature stories. Covers interviewing, reporting methods, ethics, news judgement, and newsroom practices. Skill Area I

JRN 237 Introduction to the Profession 1

Prereq.: JRN 200 (preferably taken with JRN 235 or 236). Overview of career opportunities in print, broadcast and online journalism.

JRN 336 News Writing and Reporting II 3

Prereq.: JRN 235 or permission of instructor. Builds on JRN 235. Emphasizes news-gathering procedures and the challenges of writing on government, the law, and other areas of journalistic specialization. Formerly ENG 236; no credit given to students with credit for ENG 236 or JRN 236.

JRN 340 Introduction to Broadcast News 3

Prereq.: JRN 200 and 235 (COMM 330 recommended), or permission of instructor. Introduction to the writing, production, and performance requirements of TV news.

JRN 370 Today's News in Context 3

Prereq.: JRN 235 or JRN 236. Examination of current news and the historical figures, forces, and events underlying it. Students study the intersection of past and present on issues such as government reform, war and peace, foreign policy, social justice, the electoral process, health care, the economy, religion and the environment. Fall. (O)

JRN 371 Reporting Cultural Diversity 3

Prereq.: JRN 235 or JRN 236. Students explore scholarly research and journalistic commentary on the challenges of reporting about race, gender, ethnicity, religious differences, and other aspects of cultural diversity; read exemplary work; and apply what they learn by reporting and writing journalistic articles. Irregular.

JRN 380 Feature Writing 3

Prereq.: JRN 235 or permission of instructor. Writing and analysis of human interest articles; exploration of the newspaper and magazine markets. No Credit given to students with credit for ENG 380. (E)

JRN 381 Opinion Writing 3

Prereq.: JRN 235 or JRN 236. Study, evaluation, and writing of opinion pieces for newspapers, magazines, and online publications. Focus is mainly on public affairs issues. Fall. (O)

JRN 383 Responsibilities of Journalism 3

Prereq.: JRN 235 or 236 or permission of instructor. Examination of the principles and practices of journalists with reference to various ethical systems and the law. Topics will include fairness, courage, conflict of interest, libel and privacy. Irregular.

JRN 384 Journalism History 3

Prereq.: JRN 235 or 236 or permission of instructor. Examination of the history of American journalism from colonial times to the late 20th century. Irregular.

JRN 385 Web Journalism 3

Prereq.: JRN 235 or 236 or permission of instructor. Introduction to writing and reporting for the web. Students will create multimedia content and examine the Internet's impact on journalism. Irregular.

JRN 400 Journalism Theory 3

Prereq.: JRN 235 and JRN 236 and JRN 383 or JRN 384; or permission of instructor. Survey of major theories on the production and consumption of journalism, and implications for democracy. Covers established theories on the role of the press as well as more recent perspectives on the nature of news; and civic journalism. Irregular.

JRN 410 Public Opinion 3

Prereq.: Junior or senior standing. Dissects the social-psychological phenomenon of public opinion to understand its nature as well as to explore its social function. Goes in depth into the most important public opinion research methodologies. Cross-listed with COMM 410. No credit given to students who have received credit for COMM 410. Irregular.

JRN 412 Editing 3

Prereq.: JRN 235 or permission of instructor. Emphasis on copy editing, headline writing, news judgment, photo handling, newspaper layout, and electronic desktop publishing. No credit given to students with credit for ENG 412. Irregular.

JRN 416 Magazine Writing 3

Prereq.: JRN 235 and JRN 236 or permission of the instructor. Introduction to the magazine industry. Students get experience researching and writing various types of magazine articles. No credit given to students with credit for ENG 416. Irregular.

JRN 418 Studies in Journalism 3

Prereq.: JRN 235 or permission of instructor. Selected topics in journalism. Students may take this course under different topics for a maximum of 6 credits. No credit will be given to students who previously have earned 6 credits for ENG 418. Irregular.

JRN 420 Political Economy and Media 3

Prereq.: Junior or senior standing or permission of instructor. Examines structures that shape media organizations and content, with some focus on the link between political economy and news. Irregular.

JRN 440 TV News Practicum 3

Prereq.: JRN 200, 235, 340, and COMM 330 (or related video/television production experience), Direct experience in the production of TV news. May be repeated for up to 6 credits.

JRN 490 Individual Guided Projects 1 TO 3

Prereq.: Senior standing, G.P.A. of at least 3.0 and permission of instructor. Conference course for students who want to pursue an individually designed project. May be repeated for a maximum of 6 credits. On demand.

JRN 491 Campus Newspaper Critique 1

Prereq.: Permission of instructor. Open to editors and regular staff on the Recorder only. Weekly session at which participants critique the most recent issue of the student newspaper. Students address current organization problems and plan future issues. May be repeated for a maximum of 3 credits.

JRN 495 Internship in Journalism 3

Prereq.: JRN 235 and 236. Students work in a professional news or media organization and meet regularly with a faculty advisor. On demand.

Latin

LAT 111 Elementary Latin I 3

Open only to students with one year or less of high school study. Study of the elements of Latin grammar. CSUS Common Course. Fall. Skill Area III

LAT 112 Elementary Latin II 3

Prereq.: LAT 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in Latin except by permission of the department chair. Continuation of LAT 111; development of reading skills. CSUS Common Course. Spring. Skill Area III

Latin American Studies

LAS 235 International Relations 3

Introduction to the study of international relations, including international politics, international law and morality, international organization, international conflict and cooperation, and the foreign policies of the major powers. Cross listed with PS 235. No credit given to students with credit for PS 235. Study Area II [I]

LAS 281 Latin American History to 1823 3

Cross listed with HIST 281 See HIST 281 for detailed description. No credit given to students with credit for HIST 281 or 381 or LAS 381.

LAS 282 Latin American History Since 1823 3

Social, economic, political, and cultural development of Latin American countries since 1823. Cross listed with HIST 282. Spring. (O) Study Area II [I]

LAS 316 Latin American Civilization 3

Prereq.: SPAN 226 or 291 (may be taken concurrently). Taught in Spanish. Cultural evolution of Latin America with emphasis on modern period. Cross listed with SPAN 316. No credit given to students with credit for SPAN 316. Spring. Study Area II [I]

LAS 375 Spanish American Literature I 3

Prereq.: SPAN 300 or permission of instructor. Cross listed with SPAN 375; see SPAN 375 for detailed course description. No credit given to students with credit for SPAN 375. Fall. Study Area I [I] [L]

LAS 376 Spanish-American Literature II 3

Prereq.: SPAN 300 or permission of instructor. Cross listed with SPAN 376. See SPAN 376 for detailed description. No credit given to students with credit for SPAN 376. Spring. Study Area I

LAS 428 Cultures of Latin America 3

Prereq.: ANTH 140 or ANTH 170 or SOC 110. Introduction to modern and pre-Columbian societies in Latin America. Objectives include tracing the historical roots of social and economic relations in Latin America today, and the diverse responses Latin Americans have made and are making to rapid social change. Cross listed with ANTH 428. No credit given to students with credit for ANTH 428. Fall. [I]

LAS 434 Mexico, Central America and the Caribbean 3

Cross listed with GEOG 434. See GEOG 434 for detailed description. No credit given to students with credit for GEOG 434.

LAS 436 Spanish American Literature I 3

A survey of the countries of South America with emphasis on people, places, and problems. Cross listed with GEOG 436 and IS 436. No credit given to students with credit for GEOG 436 or IS 436. Spring. [I]

Latino Studies

LTN 110 Introduction to Latino Studies 3

Introduction to the interdisciplinary study of the experience and condition of United States Latinos and Latinas, with focus on U.S. populations of Puerto Rican, Cuban, Central American, and Mexican Descent. Uses primarily social science models and scholarship in history, sociology, anthropology, economics, and political science but also considers arts, media, and humanities. Fall. Study Area II

LTN 316 History of the American West to 1890 3

Surveys the history of the American West and its people to 1890. Provides a general structure of the American West and its political, economic, and social history with emphasis on the interaction of diverse cultures including Native Americans, Hispanics and Asians as America expanded its borders. The course will compare popular conceptions of the historical American West to the region's realities, diversity, and complexity. Cross-listed with HIST 316. No credit may be received by students who have received credit for HIST 316. Fall.

LTN 317 History of the American West from 1890 3

Surveys the history of the American West and its people from 1890 to the 21st century. Provides a general structure of the American West and its political, economic, and social history with emphasis on the interaction of diverse cultures including Native Americans, Hispanics, and Asians in areas known today as the Plains, Southwest, and Northwest. Material will also examine the West and its myths as central to American culture and popular culture. Cross-listed with HIST 317. No credit may be received by students who have received credit for HIST 317. Spring.

LTN 319 Race, Ethnicity, and Migration in the U.S. 3

A social and cultural history of the U.S. that explores race, ethnicity, and migration in the formation of American identities from the colonial period to the present. Cross-listed with HIST 319. No credit may be received by students who have received credit for HIST 319. Fall.

LTN 322 Race and Ethnic Relations 3

Prereq.: SOC 110, 212. Examines selected racial and ethnic groups, their history, social and ethnic patterns, and position in the social structure in the United States. Cross-listed with SOC 322. No credit may be received by students who have received credit for SOC 322. Irregular.

LTN 347 Latino/a Literature 3

Prereq.: ENG 110. Important U.S. Latino/a literary works in prose, poetry, drama, and essay. Cross-listed with ENG 347. No credit may be received by students who have received credit for ENG 347. Spring. Study Area I [L] [I]

LTN 410 Individual Study Project in Latino Studies 3

Prereq.: LTN 110; enrollment in Latino Studies Minor program. Upper-level undergraduate course focused on specific issue in Latino Studies using either disciplinary or interdisciplinary approaches. Special topics may be cross-listed with participating departments or developed specifically for Latino Studies. May be repeated with different topics. Irregular.

LTN 422 Sociology of Immigration 3

Prereq.: SOC 110. Explores the sociological dynamics of coming to the U.S. and changing it. Includes such issues as undocumented immigration, the impact of immigration on the economy, and questions of assimilation. Cross-listed with SOC 422. No credit may be received by students who have received credit for SOC 422. Irregular.

LTN 470 Topics in Latino Studies 3

Prereq.: LTN 110; enrollment in Latino Studies minor program. Upper-level undergraduate course focused on specific issue in Latino Studies using either disciplinary or interdisciplinary approaches. Special topics may be cross-listed with participating departments or developed specifically for Latino Studies. May be repeated with different topics. Irregular.

Law

Note: See also the Pre-Law Program on page 000, as well as EXS 412, PHIL 349, PS 235, PS 241, PS 331, PS 332, PS 338, and PS 339.

LAW 250 Legal Environment of Business 3

Prereq.: 30 credits completed before beginning course work. Introduction to the legal environment of organizations, including principles that affect management, marketing, accounting, finance and technology. Included is a review of social responsibility of business, international legal environment, administrative law, torts, contracts, agency, business organizations, and intellectual property.

LAW 390 Topics in International Business Law 3

Prereq.: LAW 250. Selected topics in international legal studies. May include specific business topics. Course content may vary from semester to semester. Irregular. [I]

LAW 400 Advanced Business Law 3

Prereq.: LAW 250 (C- or higher). Advanced legal principles pertaining to commercial transactions and business organizations. Topics include contracts, sales, negotiable instruments, partnerships and corporations, accountant's legal liability, and bankruptcy. [GR]

Library Science

LSC 150 Library Resources and Skills 1

Prereq.: Open to all CCSU students. Introduction to the use of information resources available electronically and in print that facilitate undergraduate research. Emphasis is placed on searching the library catalog and subject databases to find books, articles and other information. Additional topics include the correct citation of sources, evaluating information and searching the World Wide Web. Skill Area IV

Linguistics

LING 200 Introduction to Linguistics 3

The structure and system of language with English as the subject of analysis: history, phonology, morphology, syntax, semantics, usage. Study Area III

LING 230 The Study of Language 3

General concepts of language as it evolved in thought, society, literature, and scientific analysis, with emphasis on universal characteristics and relevance to contemporary English. Study Area III [I]

LING 300 Language Acquisition 3

Prereq.: LING 200. Study of how we acquire our first language; child language, regional and social dialect, register, style, and idiolect.

LING 312 Introduction to Syntax 3

Prereq.: LING 200. Introduction to basic principles of syntactic theory within contemporary grammatical frameworks and how they generate grammatical sentences. Construction of sound syntactic arguments in linguistic theory. Emphasis on English syntax. Irregular.

LING 313 Introduction to Phonetics & Phonology 3

Prereq.: LING 200. Articulation, acoustics, and perception of speech sounds in human language. Patterning and representation of sounds in phonological systems. Phonological processes. Use of the computerized Speech Laboratory. Irregular.

LING 400 Linguistic Analysis 3

Intensive analysis (syntactic, morphological, phonological) of selected data from English and other languages. Particular emphasis on developing analytical skills. Irregular. [GR]

LING 430 Studies in Linguistics & the English Language 3

Selected topics in linguistics. Students may take this course under different topics for a maximum of 6 credits. Irregular. [GR]

LING 431 The History of the English Language 3

History, growth, and structure of the English language. Spring. [GR]

LING 433 Introduction to Computational Linguistics 3

Prereq.: LING 312 and 313. Investigation of computational models of natural language processing for both parsing and production of lexical, phonological, and syntactic units, including text to speech. The relationship between linguistic theories and the algorithms that can implement them. Irregular.

LING 434 Speech & Natural Languages Processing 3

Prereq.: LING 312 and 313. Exploration of techniques and methods of human-computer dialogues with primary focus on how computers recognize, parse, and produce syntactic, semantic, pragmatic, and other discourse-theoretic aspects of human languages such as English. Irregular.

LING 496 TESOL Methods 3

Principles, methods, and materials for teaching English to non-English speaking students at all levels. Acquisition and practice of basic language teaching skills. Intercultural communication in the TESOL classroom. [GR]

LING 497 Second Language Acquisition 3

Major theories of language acquisition and their potential application to language learning. The theoretical bases of second language instruction. Spring. [GR]

Management

Note: Enrollment in 300- and 400-level management courses requires admission to the upper-division of the Business School (including meeting specific GPA requirements and completion of eight Business School pre-major courses with grades of at least C- in all eight courses). Certain courses (MGT 305, MGT 321, MGT 326, MGT 345, MGT 390, MGT 403, MGT 425, MGT 431, MGT 460, MGT 462, and MGT 481) may be taken as part of a pre-approved minor in business with a management concentration.

MGT 295 Fundamentals of Management and Organizational Behavior 3

Prereq.: ENG 110 with a grade of C- or higher and sophomore standing. Introduction to the principles of management and their application to business. Emphasis on the development of a philosophy of management and interpersonal behavior within organizations.

MGT 305 Human Resource Management 3

Prereq.: MGT 295 (C- or higher); junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Study of the management of human resources. Topics include equal employment opportunity, job analysis, human resource planning, recruitment, selection, training, performance appraisal, compensation, labor/management relations, and related topics.

MGT 321 International Management 3

Prereq.: MGT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. An introductory course in the field of international management that focuses on the diverse environmental forces and factors that affect the operations and performance of multinational corporations. A comparative approach is used to develop some comprehension of the wide range of business conditions that exist in various regions of the world. [I]

MGT 326 Business Organizational Behavior 3

Prereq.: MGT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. A study of human behavior in organizations. Covers topics such as communication, decision making, team development, leadership, motivation, and productivity. Attention is given to behavioral science methods, research, and findings as applied to organizational management.

MGT 345 Organizational Theory 3

Prereq.: MGT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Provides a systematic understanding of complex business organizations in modern society. The unit of analysis will be the organization and its major subunits. Explores how organizations shape and influence behaviors and develops a conceptual framework for analyzing the design and operation of business corporations and other complex organizations.

MGT 348 Management Systems 3

Prereq.: Grades of at least C- in MGT 295 and the eight pre-major courses, junior standing, and meeting upper-division Business School GPA requirements. Provides an understanding of the complex sociotechnical systems in organizations. Examines the relationship between technology and social systems by applying general systems theory. Emphasizes the relationship of machines, work processes, and methods to organization structure and human relationships. Alternative strategies for managing change and innovation will be explored.

MGT 390 Management Topics 3

Prereq.: MGT 295 with a grade of at least C-; junior standing; (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor; and permission of the department chair. Selected topics in management, organization theory, and human resource management. Course content will vary from semester to semester. May be repeated with different topics for a maximum of 6 credits. Irregular.

MGT 395 Field Studies in International Business 3

Prereq.: (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Designed to enrich the student's understanding of the world as a marketplace by visiting foreign countries. Students will be able to observe and discuss international business problems with leading business people. On-site seminars will be included. [I]

MGT 403 Ethical and Social Issues for the Manager 3

Prereq.: MGT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Defines contemporary ethical issues of managerial and corporate social responsibility and explores the impact of these issues on managerial decision-making behaviors. Emphasizes issues that emerge in the internal as well as external environments of a business organization. Defines societal expectations of organizations regarding corporate social responsibility. [GR]

MGT 425 Labor/Management Relations 3

Prereq.: MGT 295 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Study of issues related to labor-management relations. Topics include collective bargaining, labor-management contracts, contract negotiation and administration, grievance handling, employee discipline, and related topics. Methods for measuring staffing-related criteria are included. [GR]

MGT 431 Compensation and Benefits 3

Prereq.: MGT 305 and STAT 201 with grades of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Study of compensation theory and practice. Topics include types of compensation and benefits, job analysis, job evaluation, pay structures, wage surveys, pay-for-performance, and methods for administering compensation and benefits. Fall. [GR]

MGT 448 Managing Strategy and Operations 3

Prereq.: Grades of at least C- in FIN 295, MGT 295, MGT 348, MIS 201, and the eight pre-major courses; senior standing; and meeting upper-division Business School GPA requirements. Examines ways of managing the interface between an organization's strategy and its operations. Operations are activities aimed at creating and delivering products and services of great value and high quality. Involves aligning operational capabilities with strategic direction and integrating resources to meet requirements using contemporary business tools, techniques, and methods.

MGT 460 Staffing 3

Prereq.: MGT 305 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Study of issues related to the staffing of organizations. Topics include job analysis, human resource planning, recruitment, selection, equal employment opportunity, and related topics. Methods of measuring staffing-related criteria are included. Spring. [GR]

MGT 462 International Human Resource Management 3

Prereq.: MGT 305 with a grade of C- or higher; junior standing; and (1) grades of at least C- in the eight pre-major courses and meeting upper-division Business School GPA requirements or (2) pre-approved minor. Study of human resource issues for multinational organizations. Topics include recruitment, selection, performance, training, career planning, compensation, labor relations, and related topics for expatriates and multicultural workforces. Fall. [I] [GR]

MGT 470 Organizing and Managing for Quality 3

Prereq.: Grades of at least C- in MGT 295 and the eight pre-major classes, junior standing, and meeting upper-division Business School GPA requirements. Examines leading organizational architecture that employs quality management in all activities of the enterprise. Explores how competitive strength is built by enabling the work force to innovate, so that products and service meet global customer standards. Irregular. [GR]

MGT 471 Managing Knowledge for Business Performance 3

Prereq.: Grades of at least C- in MGT 295 and the eight pre-major courses, junior standing, and meeting upper-division Business School GPA requirements. For graduate students, permission of department chair and additional work are required. Explores how people in organizations

manage processes for creating, sharing, and evaluating know ledge used to improve and innovate business performance. Covers nature of know ledge, communities of practice, intellectual capital, know ledge life cycles, and executing know ledge projects. Irregular. [GR]

MGT 473 Organizing and Managing for Innovation 3

Prereq.: Grades of at least C- in MGT 345 and the eight pre-major courses, junior standing, and meeting upper-division Business School GPA requirements. Explores contemporary approaches for releasing employee, supplier and customer creativity to constantly innovate what and how an organization produces its products and services. Irregular. [GR]

MGT 480 Strategic Management 3

Prereq.: Grades of at least C- in FIN 295, LAW 250, MC 207, MIS 201, MGT 295, MKT 295, and the eight pre-major courses; acceptance into upper-division of School of Business; meeting upper-division Business School GPA requirements; and senior standing. Examines the role of a company's executive team in defining its long-term competitive direction. Focuses on the strategic management process of formulating and implementing the organization's mission, goals, strategies, and plans. Must be taken at CCSU for credit to be counted in any CCSU business program of study.

MGT 495 Seminar in International Business 3

Prereq.: Senior standing or permission of instructor. Advanced study of current trends in the global business environment. Emphasis will be on competitive advantage and a critical analysis of contemporary international business issues. May be taken under different topics for up to 6 credits. Spring. [I]

MGT 497 Internship/Independent Study in Management and Organization 1 TO 3

Prereq.: Grades of at least C- in MGT 295 and the eight pre-major courses, junior standing, meeting upper-division Business School GPA requirements; and approved Special Project Request Form. Students with approved proposals identify and investigate managerial problem areas as well as organizational growth and development phenomena. Progress and performance are monitored and evaluated by the faculty advisor who has approved the study project. Activity may be either research oriented or an internship. May be repeated for a maximum of 6 credits.

Management Information Systems

Note: Enrollment in 300- and 400-level management information systems courses requires admission to the School of Business or permission of the department chair.

MIS 200 Business Problem Solving using Software 1 TO 3

Using designated software package(s) to solve problems and facilitate business decision making. Winter and Summer Sessions.

MIS 201 Introduction to Management Information Systems 3

The course provides the background necessary for understanding the role of information systems in organizations and for using computer tools and technology in solving business problems. Topics include organizational foundations of information systems, technical foundations of information systems, building information systems, and the management of information. Not open to CS majors.

MIS 210 Application Program Development I 3

Prereq.: MIS 201 (C- or higher). An introduction to computer programming in a business environment. Emphasis on the fundamentals of structured program design, development, testing, implementation, and documentation of common business-oriented applications using COBOL. Discussion and application of top-down design strategies and structured programming techniques for designing and developing problem solutions.

MIS 220 Contemporary Business Applications Development I 3

Prereq.: MIS 201 (C- or higher). Introduction to contemporary approaches to application development in a business environment. Emphasis on program design, development, testing, implementation, and documentation of business applications.

MIS 251 International Studies in Information Systems 3

The goal of this course is to expose students to various information systems topics and to allow them to develop comparative understanding of information systems between different countries. This course does not count toward the MIS major. Irregular.

MIS 305 E-Business 3

Prereq.: MIS 201 (C- or higher) or permission of department chair. Focuses on conducting e-business activities, including e-commerce, e-business models, and processes in organizations. Technology infrastructure, global, social, ethical, privacy, security as well as planning, designing, developing, and maintaining a web site.

MIS 312 Contemporary Business Applications Development II 3

Prereq.: MIS 220 (C- or higher). Emphasizes program design, development, testing implementation, and documentation of business applications. Window and web applications, data access, security, and exchange will be covered.

MIS 315 Database Management Systems 3

Prereq.: MIS 201 (C- or higher) or permission of department chair. Emphasizes the importance of data management in business. Design, develop and implement database systems for organizational needs. Sample topics include: relational databases, data modeling, SQL, and database administration. Design and implementation of a major database project.

MIS 361 Systems Analysis and Design for Business 3

Prereq.: MIS 315 (can be taken concurrently; C- or higher) or permission of department chair. Development of business application systems using structured and object-oriented analysis and design. Use of modeling techniques and CASE tools. Evaluation of system choices via business analysis methods. Includes information systems architecture, enterprise modeling, and ethical issues.

MIS 400 Business Decision Analysis Using Knowledge Bases 3

Prereq.: MIS 315 (C- or higher) or permission of department chair. Investigation of management information systems for knowledge-based work with emphasis on decision-making using a variety of knowledge management and decision support systems and techniques.

MIS 410 Business-Driven Network Design 3

Prereq.: MIS 361 (C- or higher) or permission of department chair. Introduce networking concepts. Integrates technical and business needs analysis with network component selection and Internet technologies. Design and price a large enterprise network. Uses a business case approach with Network Analysis and Design methods.

MIS 450 Enterprise Strategies and Transformations 3

Prereq.: MIS 361 (C- or higher) or permission of department chair. Organizational transformations are critical for continued market success in an increasingly complex and dynamic global environment. Emphasizes integrative strategies spanning all business functions which are needed by evolving and established enterprises.

MIS 460 Emerging Technologies for Business 3

Prereq.: Senior standing. Analysis of current topics and developments in emerging technologies. Application of these technologies to support decision-making in enterprises. Design of alternate information systems and strategies. May be repeated under a different topic to a maximum of 6 credits. Irregular.

MIS 462 Systems Implementation & Project Management 3

Prereq.: MIS 315 and MIS 361 (both with minimum grade of C-). Factors necessary for successful project management and system implementation. Group project related to implementation of a full-fledged information system through experience of best management practices.

MIS 494 Independent Study in Management Information Systems 3 TO 6

Prereq.: MIS 315 and MIS 361 (B or higher) and senior standing. Special study or research projects. Progress and performance are monitored and evaluated by a qualified MIS faculty advisor. May be repeated with different topics for a maximum of 6 credits. On demand.

MIS 496 Practicum in Management Information Systems 3

Prereq.: MIS 315 and MIS 361 (both with grades of B or higher) and senior standing; or permission of department chair. Students work on a real-world project under the direct supervision of a faculty advisor. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Special Project Request Form. May be repeated for a maximum of 6 credits. On demand.

MIS 498 Information and Decision Sciences Seminar 3

Prereq.: MIS 315 and MIS 361 (both with grades of C- or higher) and senior standing. An examination of the current trends in the theory and business practices of information and decision sciences. On demand.

Managerial Communication

MC 207 Managerial Communications 3

Prereq.: ENG 110 and sophomore standing. The study and development of effective business correspondence, reports, and communications systems. Selected assignments include written and oral reports used in business.

MC 200 Polishing Workplace Communication Skills 1 TO 3

Polished communication in the workplace is critical to career success. This course targets business-communications proficiency by building on extant knowledge, skill, and ability. Winter and Summer Sessions.

Manufacturing Technology

MFG 118 Introduction to Materials 3

Technical principles and concepts of material structure, properties, and testing methods for the major material families (metals, polymers, ceramics and composites) as it relates to material selection and processing decisions. Three hours lecture and two hours laboratory, course meets five hours per week.

MFG 121 Technical Drafting & CAD 3

Introduction to geometric construction, 3D modeling, orthographic projection, sectional and auxiliary views, dimensioning/tolerancing, and pictorials. Emphasis on the use of CAD. Technical drafting equipment and sketching are used to reinforce drawing techniques. Three hours lecture and two hours laboratory, course meets five hours per week.

MFG 216 Manufacturing Processes 3

Prereq.: MFG 118 or ET 150, or permission of instructor. Manufacturing principles for material removal, forming, joining, and casting. Applications of machine tool setup and operation, feeds and speeds, principles of cutting tools, welding, and foundry. Three hours lecture and two hours laboratory, course meets five hours per week.

MFG 226 Principles of Computer Numerical Control 3

Prereq.: MFG 121 or ETM 260 or permission of instructor. Principles essential for computer numerical control part programming and machine tool operation. Laboratory experiences include word address programming, computer-aided programming, and CNC machine tool setup and operation. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

MFG 236 Tool Design 3

Prereq.: MFG 121 or permission of instructor. Introductory study of and experiences in the design and construction of custom tooling for manufacturing. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

MFG 321 Computer-Aided Drafting 3

Prereq.: GRT 112 or MFG 121 or permission of instructor. Laboratory-based instruction to the utilization of the computers in preparing architectural, civil, mechanical, electrical, piping, and pictorial drawings. Three hours lecture and two hours laboratory, course meets five hours per week.

MFG 366 Manufacturing Supply Chain Strategy 3

Prereq.: MGT 295. Overview of emerging trends in managing the manufacturing supply and value chains. Strategies, tools and techniques for production, purchasing, inventory control, customer service and distribution. Fall.

MFG 496 Lean Manufacturing 3

Principles of lean manufacturing methodologies. Topics include production flow analysis, value stream mapping, pull systems, cellular manufacturing waste elimination, visual factory, error proofing, quick changeover, change management. Fall.

Marketing

Note: Enrollment in 300- and 400-level marketing courses requires admission to the School of Business or permission of the department chair.

MKT 295 Fundamentals of Marketing 3

Overview of marketing emphasizing customer satisfaction and value. Product, price, promotion, place, people and physical evidence of quality; consumer behavior; marketing research; segmentation-targeting-positioning; ethical, global, and social issues are highlighted. CSUS Common Course.

MKT 305 Consumer Behavior 3

Prereq.: MKT 295 (C- or higher). Examines the influence of psychological, sociological and cultural factors on buying behavior of consumers and industrial buyers. Shows how this knowledge is indispensable to the marketing manager when he or she delineates target markets and makes decisions about product, price, promotion, and channels of distribution. Current theories and models are related to present practices and potential applications.

MKT 306 Advertising and Promotion 3

Prereq.: MKT 295 (C- or higher). Study of an organization's marketing communication with consumers and other stakeholders. Theory, characteristics and management of various promotion mix elements are surveyed with an emphasis on advertising and sales promotion.

MKT 307 Sales Administration 3

Prereq.: MKT 295 (C- or higher). Examines the organization of sales departments and how to select, train, administer, and evaluate the sales force. Techniques of sales forecasting, planning, and analysis are explored. Fall.

MKT 311 Retailing 3

Prereq.: MKT 295 (C- or higher). Discussions of retail store problems, opportunities and trends in retailing, store organizations, merchandising, and store management. Spring.

MKT 321 International Marketing 3

Prereq.: MKT 295 (C- or higher). An analysis of the techniques, procedures, and strategies used by multinational firms. Potential problems are explored. Methods and sources of data for determining products to sell and countries in which to sell them are studied. Fall. [I]

MKT 350 Internet Marketing and Channels 3

Prereq.: MKT 295 (C- or higher). Discussion of the supply chain with emphasis on internet marketing. A critical analysis of various distributive strategies, underlying theories of distribution channels, techniques of costing alternative trade channels, and the structuring of channel intermediaries. Spring.

MKT 358 Relationship Marketing 3

Prereq.: MKT 295 (C- or higher). Strategic planning for developing and retaining repeat customers and business buyers. An examination of customer service systems and measurements such as buyer communication, customer satisfaction research, databases, pricing incentives, and product enhancements. Spring.

MKT 359 Special Events Marketing 3

Prereq.: MKT 295 (C- or higher). Prepares current and future managers to deal with business special events and meetings. Provides students with basic concepts common to all special events, as well as, ideas and techniques concerning unique situations. Fall.

MKT 373 Marketing Research 3

Prereq.: MKT 295, STAT 201 with grades of C- or higher; MKT 305 (may be taken concurrently). Overview of research methods and procedures used in marketing to help solve marketing problems. Analysis of basic research designs and methods of collecting and interpreting data.

MKT 375 Services Marketing 3

Prereq.: MKT 305 (C- or higher). Investigates unique problems associated with marketing of services. Focuses on managing customer perceptions of service quality by designing services to match customer driven quality standards, communication to set realistic customer expectations and delivering services to meet those expectations.

MKT 380 Market Data Analysis 3

Prereq.: STAT 201, MKT 373 with a grade of C- or higher. Theoretical foundations in consumer need identification, prospecting, segmentation, positioning, pricing, advertising, consumer purchase decision process. Use of ANOVA, factor, cluster, discriminant, and conjoint analysis, perceptual maps and experimental designs.

MKT 390 Product Development & Management 3

Prereq.: MKT 380 (C- or higher). Analytic methods and models used in practice to develop new products and services; step-by-step development process including; opportunity identification, concept generation, concept evaluation, development, launch, management over the life cycle.

MKT 413 Business-to-Business Marketing 3

Prereq.: MKT 295 (C- or higher). Organization, principles, policies, procedures, and techniques used in effective and efficient buying and selling of materials, equipment and, supplies by business and industry. Emphasis on roles of purchasing agents in wholesale organizations and buyers in retail establishments.

MKT 415 Marketing Touristic Startups 3

Prereq.: MKT 295, MGT 295, AC 211 (with a grade of C- or higher). Principles and practices in creating and marketing touristic startups: market research, market identification, market analysis, market planning, market pursuit, and marketing management. Spring.

MKT 439 Direct Marketing 3

Prereq.: MKT 373 C- or higher. Theory and application of direct marketing concepts, issues and applications including: list maintenance, market segmentation, customer profiling, response model building, model performance, the offer letter, media selection and performance.

MKT 444 Direct Marketing Analytics 3

Prereq.: MKT 373 C- or higher. Students learn SAS programming, advanced statistical application, and marketing analytics as used in the direct marketing industry. Specific applications include: customer profiling, geographic segmentation and customer response modeling. Cross listed with STAT 456. No credit given to students with credit for STAT 456. Spring.

MKT 450 Marketing Strategy and Plan 3

Prereq.: AC 212, FIN 295, MGT 295, MIS 201, MKT 305 and MKT 380 (all with grades of C- or higher). and senior standing. Synthesis of analytical frameworks: models for understanding customers, competitors, collaborators (e.g., suppliers and intermediaries), the organization itself, and the design of its strategy. Students practice decision making with a marketing simulation and write a marketing plan.

MKT 470 Integrated Marketing Communication 3

Prereq.: MKT 306 (C- or higher). Applications of marketing communication theory. Students learn how an organization integrates its promotion mix elements to present a unified message, and then create a strategic promotion plan for a real client. Fall. [GR]

MKT 471 Topics in Human Geography: Marketing 3

Prereq.: Permission of instructor. Cross listed with GEOG 471. See GEOG 471 for detailed description. No credit given to students with credit

for GEOG 471.

MKT 480 Marketing for Non-Profit Organizations 3

Prereq.: MKT 295 (C- or higher). A comprehensive study of the techniques used in marketing as they apply to non-profit organizations such as hospitals, governments, social action groups, educational institutions, religious institutions, etc. Topical areas to be covered will include market analysis, promotion decisions, market information systems, and decision making in non-profit structures.

MKT 481 Consultative Selling Techniques 3

Prereq.: MKT 305 (C- or higher) or permission of instructor. Integrate theory and application of the consultative sales process with counselor style selling techniques emphasizing internalization of selling skills for business-to-business marketing employing lecturing, modeling, role playing, and coaching. Also studied are sales careers, CRM systems and applied psychology for selling.

MKT 494 Independent Study in Marketing 1 TO 6

Prereq.: MKT 295 (C- or higher); and senior standing, permission of the supervising instructor, the department chair, and the Dean of the School of Business. Special study or research projects, as assigned. Students with a deep interest in a specialized subject area explore their topic in detail. Winter, Summer.

MKT 495 Field Studies in International Marketing 3

Prereq.: Registration for a marketing study abroad program. Study abroad course where marketing readings intertwine with visits to business and cultural centers in international countries. The program focuses on global marketing. May only be taken once and cannot be combined with an independent study in marketing for a study abroad program. [I]

MKT 496 Practicum in Marketing 3

Prereq.: Permission of department chair. Students work on a real world project under the direct supervision of a faculty advisor. Projects may be sponsored by a host organization. Student performance is monitored and evaluated in relation to conditions set forth in an approved Project Plan. May be repeated for a maximum of 6 credits. On demand.

MKT 497 Marketing Internship 3

Prereq.: MKT 295 (C- or higher); and permission of the department chair and the Dean of the School of Business. Offers opportunity for students to use marketing knowledge and skills while gaining professional experience in a Connecticut business, government agency or non-profit organization. Majors with an overall GPA of 2.50 or better only. Winter, Summer.

MKT 498 Marketing Seminar 3

Prereq.: MKT 295 (C- or higher) and senior standing. Exposes students to the latest developments in the field of marketing. Emphasis is placed on current advanced books and literature in relevant journals. Content will vary from semester to semester. On demand.

Mathematics

MATH 099 Elementary Algebra 3

Review of fundamental algorithms of whole numbers, integers, rational numbers, and elementary algebra. Students who are required to take MATH 099 must pass this course with a C- or better before successful completion of 24 hours of regular coursework. Letter grade will affect GPA as if MATH 099 were a three credit course, but these credits may not be used to fulfill the number of credits required for graduation. This course may not be used to meet the General Education requirement nor requirements for a major, a minor, or certification in mathematics. Remedial. Fall, Spring, Summer.

MATH 101 Intermediate Algebra 3

Prereq.: MATH 099 (C- or higher) or placement exam. Review and extension of elementary algebra. A study of functions including their algebraic properties and graphs. Quadratic equations and inequalities are solved and graphed. Graphing calculator required. No credit given to students with credit for MATH 115, 119, 121, 123, 124, 125, 135 or 152. This course may not be used to meet the General Education requirement nor requirements for a major, a minor, or certification in mathematics.

MATH 105 Survey of Mathematics for Liberal Arts 3

Prereq.: MATH 101 (C- or higher) or placement exam. This course is intended for those students who are not majoring in mathematics or the natural sciences. Provides students with an introduction to a broad range of topics in mathematics. No credit given to students with credit for MATH 218. May not be used to meet the requirements for a major, a minor, or certification in mathematics. CSUS Common Course. Skill Area II

MATH 106 Mathematical Topics for Liberal Arts 3

Prereq.: MATH 101 (C- or higher). Topics in mathematics suitable for students majoring in other disciplines and not covered in other courses. Topics may include: the mathematics of music, mathematics and the arts, game theory, cryptography, and mathematical modeling. May be repeated with different topics for a maximum of six credits. Skill Area II

MATH 110 Finite Mathematics 3

Prereq.: MATH 101 (C- or higher) or placement exam. Topics to include those chosen from logic, theory of sets, counting techniques, probability theory, linear equations, linear programming, matrix algebra, graph theory, and Markov chains. Emphasis placed on the construction of mathematical models and their applications. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood or middle level certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Fall. Skill Area II

MATH 113 Structure of Mathematics I: Number Systems 3

Prereq.: MATH 101 (C- or higher) or placement exam; open only for students seeking elementary certification. Methods of teaching inductive reasoning, sets, numeration, number theory, integer properties and operations, rational number properties, and numeration, through a problem solving approach. Observations in elementary mathematics classrooms are required. No credit given to those with credit for MATH 313. Skill Area II

MATH 115 Trigonometry 3

Prereq.: MATH 101 (C- or higher) or placement exam. Study of relations, functions (special emphasis on the six trigonometric functions), inverses, and graphs. An analytic approach to trigonometry using circular functions, angular measures, identities, graphs and inverses. No credit given to students with credit for MATH 119, 124, 135, or 152. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood or middle level certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Skill Area II

MATH 116 Pre-Calculus Mathematics 3

Prereq.: MATH 101 (C- or higher) or placement exam. Properties of the real numbers, relations and functions, exponential and logarithmic functions, mathematical induction, and conics. No credit given to students with credit for MATH 119, 124, 125, 135 or 152. Skill Area II

MATH 119 Pre-Calculus with Trigonometry 4

Prereq.: MATH 101 (B- or higher) or placement exam. Intensive preparation course for the calculus sequence. Properties of functions including polynomial, rational, periodic, exponential and logarithmic, and rate of change change. Also covers trigonometry, including the unit circle, right triangles, and analytic trigonometry. No credit given for students with credit for MATH 115, 116, 121, 124, 135 or 152. CSUS Common Course. Skill Area II

MATH 120 Problem Solving I 1

Prereq.: MATH 115 (C- or higher) or MATH 119 (C- or higher) or placement exam. Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry, and trigonometry. Strong emphasis placed on clarity, comprehensiveness, and correct use of mathematical terminology in student solutions. One two-hour lab per week.

MATH 123 Applied Business Mathematics 3

Prereq.: MATH 101 (C- or higher) or placement exam. Elements of calculus and finite mathematics with emphasis on applications to problems arising in business. Topics include polynomial and rational functions, modeling, limits, continuity, derivatives, maxima and minima of functions, matrices, systems of linear equations, linear inequalities, and linear programming. Exponential and logarithmic functions will be studied if time permits. No credit given for students with credit for MATH 124, 125, 135 or 152. Skill Area II

MATH 124 Applied Calculus with Trigonometry 4

Prereq.: MATH 101 (C- or higher). Polynomial, rational, exponential, logarithmic and trigonometric functions. and their application to the natural sciences. The concepts of rate of change, limit, and derivative are emphasized. Integration is introduced. No credit given to students with credit for MATH 115, 119, 125, 135, or 152. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood, or middle level, certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Skill Area II

MATH 125 Applied Calculus 3

Prereq.: MATH 101 (C- or higher) or placement exam. This course is for students majoring in the social, biological, behavioral, and managerial sciences. Topics include review of algebra, differentiation, and integration. Graphing calculator required. No credit given to students with credit for MATH 124, 135, or 152. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood or middle level certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Skill Area II

MATH 135 Applied Engineering Calculus I 3

Prereq.: MATH 119 (C- or higher) or MATH 115 (C- or higher) and MATH 121 (C- or higher) or Math Placement Exam. This course is for students majoring in engineering technology. Topics include analytical geometry, limits, and differentiation. Exponential, logarithmic, and trigonometric functions are included. Applications to physics and engineering problems will be emphasized. No credit given to students with credit for MATH 124, 125, or 152. Skill Area II

MATH 136 Applied Engineering Calculus II 3

Prereq.: MATH 135 (C- or higher) or permission of instructor. Continuation of MATH 135. Topics include the integral, techniques of integration, application of integrals, and multivariate calculus. No credit given to students with credit for MATH 221. Engineering Technology students with credit for MATH 125 prior to Spring 2003 will be admitted. Skill Area II

MATH 152 Calculus I 4

Prereq.: MATH 115 (C- or higher) and MATH 121 (C- or higher), or MATH 119 (C- or higher). Limits and continuity, derivatives, applications of derivatives including transcendental functions. Antiderivatives, definite integrals with applications. CSUS Common Course. Skill Area II

MATH 211 Clinical Experience in Mathematics Education I 1

Prereq.: MATH 152 and MATH 120 (C- or higher). Provides prospective teachers of mathematics with an opportunity to gain practical experience in a tutorial setting. Students are trained as tutors for level 1 CRLA (College Reading and Learning Association) certification and are assigned to work a minimum of 3 hours per week in the Learning Center primarily helping students taking MATH 099 and MATH 101.

MATH 213 Structure of Mathematics II: Probability & Geometry 3

Prereq.: MATH 113 (C- or higher); open only for students seeking elementary certification. Problem solving approach to deductive reasoning and logic, probability, descriptive statistics, point set, metric, analytic and transformational geometry; and properties of plane and solid figures. Observations in elementary mathematics classrooms are required. No credit given to those with credit for MATH 313. Skill Area II

MATH 218 Discrete Mathematics 4

Prereq.: MATH 152 with a grade of C- or higher. Topics include logic, induction, recursion, combinatorics, matrices, graph theory, set theory, and number theory.

MATH 220 Problem Solving II 1

Prereq.: MATH 120 and 152, both with grades of C- or higher. Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry, trigonometry, and calculus. Strong emphasis placed on clarity, comprehensiveness, and correct use of mathematical terminology in student solutions. One two-hour lab per week.

MATH 221 Calculus II 4

Prereq.: MATH 152 (C- or higher). Further application of integration and techniques integration. Improper integrals and L'Hopital's. Infinite series including Taylor series and representation of functions. Skill Area II

MATH 222 Calculus III 4

Prereq.: MATH 221 (C- or higher). Continuation of MATH 221. Parametric equations, polar coordinates, two- and three-dimensional vectors, three-dimensional analytic geometry, functions of several variables, partial differentiation, double and triple integrals.

MATH 226 Linear Algebra and Probability for Engineers 4

Prereq.: MATH 221 (C- or higher). Introduction to the mathematics required for engineering, including basic linear algebra and topics in probability and statistics. Emphasis on applications. Fall.

MATH 228 Introduction to Linear Algebra 4

Prereq.: MATH 152 and MATH 218 both with grades of C- or higher. Vector spaces, systems of linear equations, determinants, linear transformations, and matrices are considered. CSUS Common Course.

MATH 250 Symbolic Computation 4

Prereq.: MATH 221 and either MATH 228 or MATH 226 (C- or higher). Introduction to symbolic computation packages, including Mathematica. Emphasis on applications and independent research. Fall. (E)

MATH 300 Mathematics Internship 3

Prereq.: Permission of the department and a 3.00 GPA in mathematics. Designed to provide students an opportunity to work in a business environment directly related to their major or specialization. Each student will apply his/her classroom knowledge in mathematics, actuarial science, operations research, and/or statistics in an appropriate business setting. Graded on pass-fail basis only.

MATH 305 Structure of Mathematics III: Number Patterns 3

Prereq.: MATH 213 and either MATH 115, MATH 116 (formerly MATH 121) or MATH 119 (all with C- or higher); only open for students seeking elementary certification. Exploratory approach to number patterns and functions. Topics include prime and composite numbers, perfect numbers, Fibonacci numbers, figurative numbers, Pythagorean triples, and sequences. Calculators will be used.

MATH 306 Structure of Mathematics IV: Development of Geometric Ideas 3

Prereq.: MATH 213 and either MATH 115, MATH 116 (formerly MATH 121) or MATH 119 (all with C- or higher); open only for students seeking elementary certification. Exploration of geometric concepts via hands-on activities and computer software. Topics include congruence, similarity, transformations, tessellations, and fractals.

MATH 307 Topics in Elementary Mathematics 1 TO 3

Prereq.: Permission of instructor. Selected elementary topics in mathematics covering specialized areas not offered in the regular curriculum. May be repeated with different topics for a maximum of 3 credits. Can be used to meet requirements of a major or minor in mathematics only for students seeking elementary, early childhood or middle level certification. Not recommended for use in meeting certification requirements for secondary school mathematics. Irregular.

MATH 311 Clinical Experience in Mathematics Education II 1

Prereq.: MATH 211 (B- or higher). Tutors are trained at level 2 (CLRA certification) and assigned to tutor in a middle school or high school setting.

MATH 313 Number Systems from an Advanced Viewpoint 3

Prereq.: MATH 218 (C- or higher) and MATH 221 (C- or higher). Examination of the content of elementary school mathematics from the point of view of teachers of secondary mathematics. Taken concurrently with either MATH 327 or 328. Spring.

MATH 320 Problem Solving III 1

Prereq.: MATH 220 (C- or higher) and 228 (C- or higher). Polya's four-step approach to problem solving applied to non-routine problems in algebra, geometry, trigonometry, calculus, discrete mathematics, and linear algebra. Strong emphasis placed on clarity, comprehensiveness, and correct use of mathematical terminology in student solutions. One two-hour lab per week.

MATH 327 Curriculum & Technology in Secondary Mathematics I 3

Prereq.: MATH 218 (C- or higher) or MATH 221 (C- or higher). Intended for students seeking certification to teach mathematics at the secondary level. Examination of the content of the mathematics curriculum in grades 7-12, with emphasis on the development of algebraic thinking across grade levels, probability and statistics, and the use of explorations, Geometer's Sketchpad, and graphing calculators. Graphing calculator required. Spring.

MATH 328 Curriculum & Technology in Secondary Mathematics II 3

Prereq.: MATH 218 (C- or higher) or MATH 221 (C- or higher). Intended for students seeking certification to teach mathematics at the secondary level. Examination of the content of the mathematics curriculum in grades 7-12, with emphasis on the teaching of geometry, and discrete mathematics, including the use of geometric drawing programs, and the internet. Geometer's Sketchpad and graphing calculator required. Fall.

MATH 344 Mathematics in Diverse Cultures 3

Prereq.: MATH 152 or MATH 125 or MATH 305 all with grades of C- or higher. Mathematical systems of different cultures around the world and their contributions to the development of mathematics. Recent trends in ethnomathematics research and ideas on multiculturalizing the mathematics classroom will also be discussed. Spring. (E) [I]

MATH 355 Introduction to Differential Equations with Applications 4

Prereq.: MATH 221 and either MATH 226 or MATH 228 (C- or higher). Introduction to analytical, geometric, and numerical methods for solving ordinary differential equations. Basic models of physical systems using ordinary differential equations. Introduction to software used for solving ordinary differential equations. Spring.

MATH 366 Introduction to Abstract Algebra 4

Prereq.: MATH 218 (C- or higher). Certain fundamental structures such as groups, rings, integral domains, and fields are considered.

MATH 377 Introduction to Real Analysis 4

Prereq.: MATH 221 (with grade of C- or higher). In-depth introduction to the theory of functions, including integration, differentiation, and series.

MATH 383 College Geometry 3

Prereq.: MATH 328 or 366 or 377 (all with C- or higher). Historical overview of the development of geometry since the time of Euclid. In-depth

study of selected topics from Euclidean geometry and the role of axiomatics. Also covers material from at least one of the following non-Euclidean geometries; finite, projective, spherical, and hyperbolic. Spring.

MATH 398 Independent Study in Mathematics 1 TO 3

Prereq.: MATH 228 or 366, and a 3.00 G.P.A. in mathematics and permission of instructor. Special independent work to meet individual interest in areas not covered by the regular curriculum. Work will be under the supervision of a faculty member and in an area and for an amount of credit agreed upon prior to registration for the course. On demand.

MATH 409 Mathematics through Computers 3

Prereq.: MATH 305 or 306; MATH 116, or MATH 119 (all with C- or higher). Exploration of computer software, such as Geometer's Sketchpad, Logo, and Excel, and the use of Internet sources to promote better understanding of mathematical concepts and algorithms. Restricted to students seeking certification.

MATH 411 Clinical Experience in Mathematics Education III 1

Prereq.: MATH 211 (B- or higher) and MATH 221 (C- or higher). Tutors are assigned to work in the Learning Center and may tutor students in courses up through MATH 152. Students who have not had Level 2 CLRA certification training receive the same training as students taking MATH 311.

MATH 412 Elementary Mathematical Methods 3

Prereq.: MATH 213 (C- or higher); open only for students seeking elementary certification. Concepts underlying contemporary mathematics curriculum for elementary grades. Appropriate methods for developing concepts, through problem solving, including the meaning of operations and procedures in arithmetic. This course is for teacher certification only and graduate credit will not be granted. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

MATH 413 Teaching Mathematics in the Secondary School 4

Prereq.: MATH 327 and admission to the Professional Program in Secondary Teacher Education. Topics include planning for instruction, classroom management, promoting effective discourse, methods to address the needs of a diverse student population, and methods of assessment. Field experience required. Taken concurrently with EDSC 425. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class.

MATH 421 History of Mathematics 3

Prereq.: MATH 221 or for graduate students, admission to M.A., Mathematics or the M.S., Mathematics (for certified secondary teachers). Development of mathematics is traced from arithmetic of commerce, astronomy, geometry, and trigonometry in Babylonia, Egypt, Greece, and Rome to the later accomplishments in algebra, geometry, and calculus. Spring. (O) [GR]

MATH 426 Student Teaching Seminar 1

Prereq.: MATH 413. Examination of problems which arise in secondary mathematics instruction. Taken concurrently with EDSC 435.

MATH 440 Selected Topics in Mathematics 1 TO 3

Prereq.: Permission of instructor. Selected topics in mathematics covering specialized areas not covered in regular offerings or that go beyond that provided for in the standard curriculum. May be repeated with different topics for a maximum of 6 credits. Irregular. [GR]

MATH 449 Mathematics Laboratory for Elementary School 3

Prereq.: MATH 412, 414 or 327 or equivalent and student teaching. Provides teachers in elementary school with the opportunity to make mathematical materials useful in teaching elementary mathematics. Each participant constructs mathematical models and manipulatives appropriate to his/her teaching level and interest. Mathematical projects and educational implications are discussed. Can be used to meet the requirements for a major or minor in mathematics only for students seeking elementary, early childhood or middle level certification. Not recommended for use in meeting requirements for secondary school mathematics. Summer. [GR]

MATH 450 Seminar in Proof 4

Prereq.: MATH 366 and 377 (both with grades of C- or higher), one of which may be taken concurrently. Students will study a number of important theorems in mathematics, examining the proofs of these theorems in depth. Each student will make a presentation to the class before the end of the semester. Topics will vary based on student and instructor interest. This is a capstone course for the BA major. Class is limited to 15 students. Spring.

MATH 455 Introduction to Partial Differential Equations with Applications 4

Prereq.: MATH 355 (C- or higher) or permission of department chair. Introduction to analytical, geometric, and numerical methods for solving partial differential equations. Basic models of physical systems using partial differential equations. Introduction to software used for solving partial differential equations. Fall. (O) [GR]

MATH 465 Introduction to Fractal Geometry and Chaos 3

Prereq.: MATH 218 or 221 (both with C- or higher), or master's degree program. Topics will include self similarity, fractal dimension, iterated function systems, Mandelbrot and Julia sets, complex iteration, cellular automata, and dynamical systems. Much of the work will involve using software to draw and investigate fractal images and chaos. Spring. (E)

MATH 468 Symbolic Logic 3

Prereq.: MATH 366 or equivalent. Introduction to truth, validity and argument. Methods of deduction, propositional functions and quantifiers, logic of relations, deductive systems, and propositional calculus. Spring. (E) [GR]

MATH 469 Number Theory 3

Prereq.: MATH 366 or equivalent. Elementary theory of numbers. Divisibility, prime numbers, Fundamental Theorem of Arithmetic, congruences, Diophantine equations, quadratic residues and continued fractions are among topics considered. Fall. (O) [GR]

MATH 470 Mathematical Methods in Operations Research 3

Prereq.: STAT 215 or 315, and MATH 110 or 228 or permission of instructor. Selected topics chosen from the areas of linear programming, decision analysis, and network analysis. Summer. (E) [GR]

MATH 477 Numerical Analysis 3

Prereq.: MATH 221 and CS 151 or permission of instructor. Selected topics including difference operators, iterative methods of finding zeros of functions, interpolation and polynomial approximation, numerical integration and differentiation, matrices, and systems of linear equations. No credit given to students with credit for CS 254. Summer. (O) [GR]

MATH 491 Advanced Calculus 3

Prereq.: MATH 222 or permission of instructor. Topics from continuity and differentiability of functions of several variables, exterior differential forms, multiple and iterated integration, line integrals, Gauss', Green's, and Stokes' theorems. Fall. (E) [GR]

Mechanical Engineering

ME216 Manufacturing Engineering Processes 0 TO 3

Prereq.: ENGR 150 (C- or higher). Engineering fundamentals of manufacturing processes for metals, ceramics and plastics, including forming, forging, rolling, drawing, EDM, laser cutting, welding, casting, molding and machining operations, are developed through analytical class work and manufacturing laboratory experiments. Lecture two hours and laboratory three hours per week.

ME258 Engineering Thermodynamics 3

Prereq.: CHEM 161, 162; PHYS 125 (C- or higher). Engineering thermodynamics concepts involving storage, transformation, transfer of energy and properties of substances. First and second law analysis of thermodynamic systems and control volumes for engineering design. Spring.

ME345 Engineering Statistical Analysis of Operations 3

Prereq.: MATH 226. Engineering probability and statistical techniques used to make inferences in experiments. Probability distributions. Tests of significance, hypothesis testing, simple linear regression, multiple regression models and ANOVA. Design of experiments, Taguchi quality techniques, Measurement System Analysis and SPC/SQC. Three hours of lecture and one hour of lab per week. Fall.

ME352 Modeling of Dynamic Systems 3

Prereq.: ENGR 252 (C- or higher), MATH 355. Mathematical modeling and analysis of dynamic systems including mechanical, electrical, and electromechanical. Use of complex algebra and Laplace transform techniques for solving and interpreting system behavior. Introduction to basic control systems and mechanical vibrations. Fall.

ME354 Fluid Mechanics 3

Prereq.: ENGR 251 (C- or higher) and ME 258 (C- or higher) and MATH 355. Basic principles of fluid mechanics. Hydrostatic forces, kinematics of fluid motion, integral and differential representation of conservation of mass, momentum and energy, Bernoulli's equation, dimensional analysis, viscous flow, frictional losses, pipeline network analysis and design. Two hours lecture and two hours laboratory, course meets four hours per week. Fall.

ME358 Engineering Thermodynamics II 3

Prereq.: ME 354. Gas mixtures, their composition and thermodynamic properties. Chemical reactions, chemical and phase equilibrium. Fuels and combustion. Theoretical and actual combustion. Theoretical and actual combustion processes. Compressible flows in nozzles and ducts. Multistage power cycles. Refrigeration and air conditioning.

ME360 Manufacturing Operations Analysis and Simulation 3

Prereq.: ME 345. Planning and optimization of resources utilization, forecasting, scheduling and sequencing of activities, inventory and maintenance planning for JIT environment, automated production. Lean Manufacturing environment and analysis and design. Analysis and simulation of production problems using computers. Fall.

ME367 Machine Design 3

Prereq.: ENGR 252 (C- or higher) and ENGR 257 (C- or higher). Analysis for the design of basic mechanical elements, and their role in the design of machines; theories of failure, fatigue design, design of bolted connections, welds, springs, bearings, gears, clutches, and brakes. Spring.

ME370 Instrumentation 3

Prereq.: ENGR 257 (C- or higher), ME 354 (C- or higher) and ENGR 290. Characteristics of measurement systems; signals. Fourier transform, general system model, analog and digital signal conditioning, sensors and actuators. Data acquisition, A/D and D/A conversion, data and error analysis. Strain, pressure, temperature, velocity, and flow measurements. Two hours lecture and two hours laboratory, course meets four hours per week. Spring.

ME 400 Special Topics in Mechanical Engineering 3

Special topics introduces know ledge of advanced mechanical engineering concepts, materials, and techniques. May be repeated under different topics for a total of 9 credits. Irregular.

ME 403 Control of Dynamic Systems 3

Prereq.: ME 352, MATH 222. Topics include lumped physical system models; electrical, fluid, mechanical, and thermal system analysis; linear system transient, steady-state behavior; analysis and design of feedback control systems; transfer functions; block diagrams; proportional, rate, and integral controllers; and hardware and implementation. Spring.

ME 452 Mechanical Vibrations 3

Prereq.: ENGR 252 (C- or higher) and MATH 355. Modeling and analysis of vibrating systems, characteristics of single degree and multiple degrees of freedom systems. Modal analysis and synthesis, vibration control by isolation, absorption, or balancing. Applications of computer simulation and analysis techniques in vibrations. Irregular.

ME 454 Heat Transfer 3

Prereq.: MATH 355 and ME 354 (C- or higher). Introduces the transport of heat by steady and transient heat conduction; forced and natural convection; radiation; introduction to phase change heat transfer and to heat exchangers. Two hours lecture and two hours laboratory per week. Spring.

ME 458 Heating, Ventilating and Air Conditioning Systems Design 3

Prereq.: ME 454 (may be taken concurrently); for graduate students, permission of instructor. Analysis and design of heating, ventilating, air conditioning and refrigerating systems (HVAC) for buildings and industrial applications, including equipment and component selection. Energy-efficient concepts and controls will be emphasized. Irregular. [GR]

ME 459 Energy Conversion Systems 3

Prereq.: ME 354 (C- or higher). Design of energy producing systems utilizing combustible fuels and renewable sources; solar, wind, tidal, geothermal, fuel cells, nuclear. Study of energy demand and available resources and distribution in the world. Energy storage; distribution, conservation, and environmental impacts. Irregular.

ME 460 Manufacturing System Design 3

Prereq.: ME 360. Analysis, synthesis, and control of manufacturing operations. Group Technology and flexible manufacturing. Process design and tolerance control in discrete parts manufacturing. Analysis and design of Lean Manufacturing environment. Use of SPC/SQC and statistical methods. Spring.

ME 466 Inventive Engineering Design 3

Prereq.: PHYS 126. Design methodology and practice in problem solving using various techniques. Creative concept generation. Use of inventive principles and engineering contradictions in problem solving applied to product, process and system design. Patents and intellectual property protection. Spring.

ME 480 Propulsion Systems 3

Prereq.: ME 354 (C- or higher). Principles of propulsion devices. One-dimensional flows in propulsion systems, combustion and equilibrium. Examines inlets, nozzles, compressors and turbines. Basic theory and design of turbojets, ramjets, turboprop, turbofan and chemical rocket engines. Evaluates propellants and overall performance. Fall.

ME 483 Aerodynamics 3

Prereq.: MATH 222, ME 354 (C- or higher). Basics of compressible flows. Reviews potential flow theory, viscous effects, and compressibility effects. Theory and design of aerodynamic bodies. Investigates subsonic, transonic, and supersonic airfoils. Computer simulation. Requires aerodynamic design project. Spring.

ME 485 Introduction to Combustion 3

Prereq.: ME 354 (C- or higher), MATH 222. Thermodynamics of combustion, kinetic and transport phenomena, chemical equilibrium and reaction kinetics, chemical reactors. Structure, properties and gas dynamics of laminar and turbulent flames, diffusion flames. Ignition, quenching and flame stability. Combustion in propulsion and power generation systems. Irregular.

ME 486 Aerospace Structures and Materials 3

Prereq.: MATH 222, MATH 226 and ENGR 257 (C- or higher). Topics will include bending, torsion and buckling of built up aerospace structures. Strain energy, fundamentals, and application of composite and alloys as applied to aerospace structures are covered along with computer modeling techniques. Spring.

ME 497 Senior Project I: Project Research 2

Prereq.: ME 354 (C- or higher) and ME 367 (C- or higher). First of two-course capstone design sequence. Students work in an environment appropriate to an industrial setting. Teams propose and begin development of designs. Teamwork and oral and written communication skills emphasized. Mechanical Engineering majors only. Fall.

ME 498 Senior Project II: Design Project 2

Prereq.: ME 370, ME 497 and ETM 467. Second course in capstone design sequence. Student design teams finalize capstone projects through oral and written presentation. Final design analysis must satisfy requirements and show sound engineering judgment. Computer simulation and prototype development expected. Spring.

Modern Languages

ML 111 Elementary Modern Language I 3

Open to students with one year or less of high school study to the target language. Not open to native speakers. Through a direct conversational approach, foundations of the target language grammar and structure are established. May be repeated in a different language. On demand. Skill Area III

ML 112 Elementary Modern Language II 3

Prereq.: ML 111 (same language) or high school equivalent (normally two years of high school study). Study of the spoken and written target language is continued with analysis of the target language's structure. May be repeated in a different language. On demand. Skill Area III

ML 125 Intermediate Modern Language I 3

Prereq.: One year of college instruction in the target language, or equivalent. Principles of the target language structure are reviewed. Short stories and plays are read and discussed. Conversational and composition on topics of general interest. No credit given to students with credit for more advanced coursework in the target language. May be repeated in a different language. On demand. Skill Area I

ML 126 Intermediate Modern Language II 3

Prereq.: ML 125 in the target language or equivalent. Continuation of ML 125 including the study of grammatical structures of the target language. No credit given to students with credit for more advanced coursework in the target language. May be repeated in different language. On demand. Skill Area I [I]

ML 200 Topics in Modern Language Studies 3

Prereq.: Permission of instructor. Further development of particular skills, structures, and uses of language studied at the intermediate level. Taught in the target language. May be repeated with different topics and in different languages. May be counted as an elective for a major or minor in a modern language. Irregular. Skill Area I [I]

ML 300 Topics in Modern Language Cultural Study 3

Prereq.: Permission of instructor. Study of cultural, social, economic, geographical, and historical aspects of the countries where the target language is spoken. Taught in the target language. May be repeated with different topics and in different languages. May be counted as an elective for a major or minor in a modern language. Irregular.

ML 400 Topics in Advanced Modern Language Studies 3

Prereq.: Permission of instructor. Literary and advanced language topics taught in the target language. May be repeated with different topics and in different languages. May be counted as an elective for a major or minor in a modern language. On demand. [GR]

ML 420 Internship in Foreign Languages 1 TO 3

Prereq.: Appropriate 226 course or equivalent in target language. Practical field experience using the target language. One credit per eight-week unit. May be repeated to a total of 3 credits. On demand. [GR]

ML 428 Methods and Materials for Teaching World Languages at Elementary School Level 3

Prereq.: ML 490 (may be taken concurrently) or LING 300 (may be taken concurrently) or permission of instructor, and admission to Professional Program or Accelerated Teacher Program in Spanish or admission to graduate program in modern language or permission of instructor for currently certified teachers. Participants will link the rationale, history, and theoretical foundations of elementary world language instruction to teaching and learning, and construct and adapt models for curriculum planning, program implementation articulation, and assessment. Participants will explore contemporary methodologies, lessons, activities resources, and address issues and concerns that apply to the elementary school level. NOTE: Instructors may not override professional program admission requirement. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. Fall.

Summer. [GR]

ML 429 Seminar in Modern Language Teaching Methods 4

Prereq.: Admission to the Professional Program or State language certification. Discussion and practice of the historical, theoretical and contemporary issues, and selected topics related to the teaching of modern languages at the secondary level. Includes 30 hour field experience done outside class hours in assigned public school setting. Not for credit toward any master's degree. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. Fall.

ML 440 Student Teaching Seminar in Modern Languages 1

Prereq.: Admission to the Professional Program in teacher education. Discussion, critical thinking and problem solving techniques with applications in the foreign language classroom. Taken concurrently with EDSC 435. Spring.

ML 490 Teaching World Languages II: Acquisition in Young Children for Teachers of World Languages 3

Prereq.: Admission to Professional Program or Accelerated Teacher Program in Spanish or admission to graduate program in modern language or permission of instructor for currently certified teachers. Participants will learn about research in the first and second language acquisition of world languages and discuss and apply implications of research findings (including brain research theory) for teaching and learning of world languages. Not open to TESOL students. NOTE: Instructor may not override professional program admission requirement. Summer. [GR]

ML 492 Topics in Language Teaching 1 TO 3

Prereq.: ML 429. Special aspects of language teaching, such as creative uses of the language laboratory and other special aids, individualizing language instruction, teaching of literature and culture in the schools, will be emphasized. Topics may vary from section to section. Course may be repeated, with different topics, for up to 6 credits. Irregular. [GR]

ML 496 Independent Study in Modern Languages 3

Prereq.: Permission of instructor. Independent work in language, culture, and literature, to meet individual interest in topics not covered in the regular curriculum. Work done under the supervision of a faculty member. On demand. [GR]

Music

Note: Students enrolled in the following courses will be assessed an Applied Music Fee-\$300.00 for ½ hour lesson (MUS 177) and \$400.00 for full hour lesson (MUS 178, 278, 378, 478). Contact the department at 860-832-2912 for additional information. (Fees subject to change.)

MUS 090 Concert/Forum Attendance 0

Attendance, totaling 9 per semester, at concerts/student forums sponsored by the Music Department. Music majors are required to enroll every semester except the semester they enrolled in either EDSC 420/421 or MUS 400.

MUS 100 Search in Music 3

Introduction to and overview of various topics, techniques, and genres in music history and/or theory. Titles and themes may vary from section to section. Three hours of lecture per week. May be repeated with different content for up to 6 credits. Irregular. Study Area I

MUS 101 Practicum in Music Education 2

Overview of topics related to a career in music education. Includes case study analysis, discussion of issues in music education, observations and reflections on classroom teaching and rehearsals, and laboratory in music education technology. Open only to music majors. Spring.

MUS 109 Fundamentals of Music 3

Music reading, ear-training, and elementary music theory. CSUS Common Course. Study Area I

MUS 110 Listening to Classical Music 3

Introduction to masterpieces of Western art music and to skills required for critical listening. CSUS Common Course. Study Area I [I]

MUS 111 Music of the World's People 3

Introduction to music from a cross-cultural perspective, including African, Asian, Hispanic, and Native American musical traditions. CSUS Common Course. Study Area I [I]

MUS 112 Computer Applications to Music 3

Prereq.: MUS 109 Exploration of music using computer technology. Includes music fundamentals, elementary principles of musical composition, and computer sound synthesis through the use of computers. Study Area I

MUS 113 History of Jazz 3

Survey of the evolution of jazz from its origins in African-American, European, and American ethnic styles through present models as illustrated through lectures, recordings, and related readings. CSUS Common Course. Study Area I

MUS 114 Introduction to Music Technology 1

Prereq.: MUS 109 or MUS 121, and MUS 250 (or equivalent skills) (both with C- or higher). Any may be taken concurrently. Introduction to fundamental technology skills relevant to music: computer-based notation, MIDI sequencing, and basic principles of digital-audio recording and editing. Open to music majors only.

MUS 115 Aural Skills I 1

Prereq.: Open only to Music majors. Coreq.: MUS 121. Development of sight-singing skills, diatonic major and minor materials.

MUS 116 Aural Skills II 1

Prereq.: Open only to Music majors. Coreq.: MUS 122. Continued development of diatonic major and minor sight singing and ear training skills. Introduction to chromatic materials.

MUS 121 Music Theory I 2

Prereq.: MUS 114 (may be taken concurrently); open only to Music majors or minors; or permission of instructor. Coreq.: MUS 115. Basic properties of music with emphasis on melodic materials; study includes stylistic analysis, composition, two and three-part counterpoint.

MUS 122 Music Theory II 2

Prereq.: MUS 121 (C- or higher); open only to Music majors or minors; or permission of instructor. Coreq.: MUS 116. Homophonic texture and diatonic harmonic relations, form, and analysis.

MUS 140 Ensemble 1

Prereq.: Permission of instructor through audition. Study and performance for ensembles for various combinations. May be repeated for credit with different content. This course does not satisfy ensemble degree requirements for Music majors (except B.A. in Jazz Studies).

MUS 141 Chorus 1

Prereq.: basic proficiency in singing; or permission of instructor. A variety of choral literature will be performed each semester. May be repeated for credit with different course content.

MUS 142A Band: Wind Symphony 1

Prereq.: basic proficiency in playing a wind, brass, or percussion instrument; or permission of instructor. A variety of band literature will be performed each semester. May be repeated for credit with different content.

MUS 143 Sinfonietta 1

Prereq.: basic proficiency in playing a string, wind, brass, or percussion instrument; or permission of instructor. Standard orchestral literature will be played each semester. Course may be repeated for credit with different content.

MUS 144 Marching Band 1

Prereq.: basic proficiency in playing a wind or percussion instrument; or permission of instructor. Performance of marching band music and opportunities to perform at football games and other special events. May be repeated for credit with different content. Fall.

MUS 147A Traditional Jazz Ensemble 1

Prereq.: Permission of instructor through audition. Standard big-band instrumentation repertoire that concentrates on ensemble playing while giving the more accomplished musicians improvisatory opportunities.

MUS 147B Improvisatory Jazz Ensemble 1

Prereq.: Permission of instructor through audition. Varied instrumentation. May be divided into several groups concentrating on individual development of jazz improvisatory skills. May be repeated for credit with different content.

MUS 148 Ensemble: University Singers 1

Prereq.: Permission of instructor through audition. A select small vocal ensemble which studies and performs primarily a capella repertoire including madrigals, motet, chamber music, vocal jazz, and world music. Performs several times both on and off campus with occasional concert tours. May be repeated for credit with different content.

MUS 149 University Chamber Players 1

Prereq.: Permission of instructor through audition. A select ensemble of musicians exploring their passion for chamber music in all its settings. May be repeated for credit with different content.

MUS 177 Applied Music 1

Prereq.: open to non-majors by permission of instructor. Individual instrumental or vocal instruction in performance. May be repeated with different content for a total of 6 credits. Fee: \$300 per semester. (Fee subject to change)

MUS 178 Applied Music for Majors 2

Prereq.: open only to Music majors. Individual instrumental or vocal instruction in performance. May be repeated with different content for a total of 6 credits. Fee: \$400 per semester. (Fee subject to change.)

MUS 211 Ethnomusicology 3

Prereq.: MUS 121 or MUS 109 for music majors (C- or higher); permission of instructor). Introduction to the discipline of ethnomusicology. Case studies explore different musical systems and their relationship to their cultural settings. Fall. [I]

MUS 213 Jazz Styles and Chronology 3

Prereq.: MUS 113 (C- or higher) or permission of instructor. Critical study of major jazz artists and the influence of their lives, culture, and music on the development of jazz. On demand.

MUS 214 Electro-acoustic Music and Sonic Art 3

Historical survey of electro-acoustic music composition and sonic art. Introduction to computer-based digital audio recording and editing, sound synthesis, and effects. Simple electro-acoustic and sonic art composition projects. Spring. Study Area I

MUS 215 Aural Skills III 1

Prereq.: MUS 116 (C- or higher); open only to Music majors. Coreq.: MUS 122. Continued development of diatonic major and minor sight singing and eartraining skills. Introduction to modulatory materials.

MUS 216 Aural Skills IV 1

Prereq.: MUS 215 (C- or higher); open only to Music majors. Coreq.: MUS 222. Continued development of diatonic major and minor sight singing and eartraining skills. Expanded tonal and atonal materials.

MUS 221 Music Theory III 2

Prereq.: MUS 122 (C- or higher); open only to Music majors. Coreq.: MUS 215. Harmonic relations continued; chromatic and higher tertian harmony, form, and analysis continued, basic principles of orchestration.

MUS 222 Music Theory IV 2

Prereq.: MUS 221 (C- or higher); open only to Music majors. Coreq.: MUS 216. Study of historical forms and contrapuntal techniques through analysis, composition, and performance, continuation of orchestration study.

MUS 235 Music History I 3

Prereq.: MUS 121 (C- or higher). Survey of the development of Western music in its historical context from ancient Greece to the late Baroque era. [I]

MUS 236 Music History II 3

Prereq.: MUS 122 and MUS 235 (both with C- or higher). Survey of the development of Western music in its historical context from the late Baroque to the late Romantic era. [I]

MUS 250 Piano Class I 2

Introduction to piano through the study of harmonic, melodic, and rhythmic patterns. Elementary keyboard skills in sight-reading, transposition and melody harmonization. For students with no previous piano training.

MUS 251 Piano Class II 2

Prereq.: MUS 250 (C- or higher) or equivalent skill and permission of instructor. Continuation of keyboard skills introduced in MUS 250.

MUS 259 Vocal Methods 1

Prereq.: open only to Music majors. Methods and materials of class instruction in voice.

MUS 261 Woodwind Methods 1

Prereq.: open only to Music majors. Beginning class instruction in woodwind instruments.

MUS 262 Brass Methods 1

Prereq.: open only to Music majors. Beginning class instruction in brass instruments.

MUS 263 Percussion Methods 1

Prereq.: open only to music majors. Class instruction in snare drum, tympani, and related orchestral and band percussion instruments.

MUS 264 Voice Class 2

Instruction in voice production and vocal techniques. Vocalizations for vowels, range, flexibility. Song repertoire for individual members.

MUS 267 String Methods: Violin and Viola 1

Prereq.: open only to Music majors. Methods and materials of class instruction in violin and viola.

MUS 268 String Methods: Cello and Double Bass 1

Methods and materials class instruction in cello and double bass. Open only to Music majors.

MUS 269 Technology in Music Education 1

Prereq.: MUS 101 and MUS 114 (both with C- or higher). Introduction to the practical application of general productivity, multimedia, and music-specific technologies to teaching music in elementary, middle, or high schools. Restricted to Music Education majors. Fall.

MUS 273 Jazz Improvisation I 2

Prereq.: MUS 121 (C- or higher) or permission of instructor. Study of jazz theory and performance to develop the basic skills required for improvising. Students will transcribe, perform and analyze solos in various styles while becoming proficient in jazz theory and terminology.

MUS 274 Jazz Improvisation II 2

Prereq.: MUS 273 (C- or higher) or permission of instructor. Study of jazz theory and performance leading to an advanced level of improvising and proficiency in theory and terminology. Students will transcribe, perform and analyze solos containing complex harmony and advanced vocabulary.

MUS 278 Applied Music for Majors II 2

Prereq.: MUS 178 (C or higher); open only to Music majors. Individual instrumental or vocal instruction in performance. May be repeated for up

to 6 credits in any one performing area. Fee: \$400 per semester. (Fee subject to change.) Spring.

MUS 295 Beginning Composition 2

Prereq.: MUS 114 and MUS 221 (both with C- or higher); or permission of instructor. Fundamental principles, techniques, and skills of music composition. Introduction to contemporary innovations in musical styles and language. Composition of simple, short musical compositions. Spring.

MUS 310 General Music Education, Part I (Grades PK-4) 3

Prereq.: MUS 101 (C- or higher). Organization, aims, and supervision of elementary school general music programs. Materials for teaching general music in the elementary schools. Open only to Music Education majors. Field experience required (10 hours). To be taken concurrently with EDTE 314.

MUS 311 General Music Education, Part II (Grades 5-12) 3

Prereq.: MUS 101 (with a grade of C- or higher), MUS 310 (with a grade of C or higher), and admission to the Professional Program in Music Education. Organization, aims, and supervision of general music programs, and resources and techniques for teaching general music. Aims, materials, procedures, and techniques for teaching general music and non-performance classes in middle and high schools grades (7-12). Field experience requirement: teacher candidates will have a minimum of 15 hours of field experience. To be taken concurrently with EDSC 425, SPED 315, MUS 315, and MUS 316. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. Spring.

MUS 315 Choral Music Methods 4

Prereq.: MUS 101 (with a grade of C- or higher), MUS 310 and MUS 311 (both with grades of C or higher) and admission to the Professional Program in Music Education. Organization, aims, methods and supervision of school vocal programs and choral organizations in elementary, middle and high schools. Discussion of special problems of choral conducting and the selecting of choral materials and repertoire for students in grades 4-12. Field experience required (20 hours). Open only to Music Education majors. Must be taken concurrently with EDSC 425, SPED 315, MUS 311, and MUS 316. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. Spring.

MUS 316 Instrumental Music Methods 4

Prereq.: MUS 101 (with a grade of C- or higher), MUS 310 and 311 (both with grades of C or higher), and admission to the Professional Program in Music Education. Organization, aims, methods, and supervision of school instrumental programs and instrumental organizations. Discussion of special problems of instrumental conducting and the selecting of instrumental materials and repertoire appropriate for students in grades 4-12. Open to Music Education majors only. Must be taken concurrently with EDSC 425, SPED 315, MUS 311, and MUS 315. CT law requires fingerprinting and a criminal background check for the filed experiences in this class. Fingerprinting must be completed prior to the beginning of class. Spring.

MUS 335 Music History III 3

Prereq.: MUS 221 and MUS 236 (both with C- or higher); open only to Music majors. Survey of the development of Western music in its historical context from the late Romantic period to the present. [I]

MUS 350 Piano Class III 2

Prereq.: MUS 251 (C- or higher) or equivalent skill and permission of instructor. Continuation of MUS 251 with emphasis on keyboard skill. Harmonization of folk melodies, improvising to given chord pattern, sight-reading of community songs.

MUS 351 Piano Class IV 2

Prereq.: MUS 350 (C- or higher) or equivalent skill and permission of instructor. Continuation of MUS 350. Improvisation on more advanced level. Repertoire from various styles of piano literature.

MUS 367 Choral Conducting 2

Prereq.: MUS 222 (C- or higher) or equivalent. Development of skills in choral conducting and score reading. Open only to Music majors. Fall.

MUS 368 Instrumental Conducting 2

Prereq.: MUS 222 and MUS 367 (both with C- or higher); or permission of instructor. Development of skills in instrumental conducting, baton technique, and score reading. Open only to Music majors. Spring.

MUS 378 Applied Music for Majors III 2

Prereq.: MUS 278 (C or higher); open only to Music majors. Individual instrumental or vocal instruction in performance. May be repeated for up to 6 credits. Fee: \$400 per semester. (Fee subject to change).

MUS 380 Advanced Notation, Sequencing, and Sound Synthesis 2

Prereq.: MUS 114 (C- or higher); open only to Music majors; or permission of instructor. Advanced development of music technology skills focusing on computer-based notation, sound synthesis, MIDI sequencing, and digital audio recording and editing. Spring.

MUS 390 Orchestration 2

Prereq.: MUS 114 and MUS 222 (both with C- or higher); or permission of instructor. Techniques and principles of orchestration; both instrumental and vocal arranging. Open only to Music majors. Fall.

MUS 395 Composition 3

Prereq.: MUS 222 and MUS 295 (both with C- or higher); open only to Music majors; or permission of instructor. Principles and techniques of music composition, geared to the mature musician; much independent work. Open only to music majors. Spring.

MUS 400 Project in Music 1 TO 4

Prereq.: Permission of instructor. Individual study in an area of student's choice. May take the form of performance, composition, paper, or other area to be determined in consultation with a music department advisor. [GR]

MUS 401 Topics in Music 1 TO 3

Prereq.: basic proficiency in singing; or permission of instructor. A variety of choral literature will be performed each semester. May be repeated for credit with different course. Irregular. [GR]

MUS 402 Student Teaching Seminar 1

Prereq.: Acceptance into the Professional Program. Coreq.: EDSC 420 or EDSC 421. Seminar in which students discuss experiences in their learning communities, share resources, problem-solve, and develop and refine teaching techniques.

MUS 404 Topics in Performance 1 TO 3

Prereq.: Permission of instructor. Topics relevant to the performing musician including accompaniment, diction for singers, and performance practice. On demand. [GR]

MUS 405 Topics in Composers 3

Prereq.: Permission of instructor. Historical and analytical study of selected composers and their works. On demand. [GR]

MUS 469 Music Theory Review 2

Prereq.: Four semesters of undergraduate music theory. Survey of the principles of diatonic and chromatic elements of theory. This course is a prerequisite to MUS 470 if graduate theory placement exam is not passed. Credits from this course may not be applied toward the M.S. degree in Music Education.

MUS 470 Musical Structure and Style 3

Prereq.: Admission to the M.S. in Music Education program, or four semesters of undergraduate music theory or demonstrated proficiency on

the music theory entrance examination. Survey of the principles of music theory through analysis of representative forms from various style periods. Irregular. [GR]

MUS 478 Applied Music for Majors IV 2

Prereq.: MUS 378 (C or higher); open only to Music majors. Individual instrumental or vocal instruction in performance. May be repeated for up to 4 credits. Fee: \$400 per semester. (Fee subject to change).

Nursing

NRSE 110 Introduction to Nursing Theories 3

Prereq.: Pre-nursing majors only. Explores current and historical theories of nursing, health, behavior, aging and other theories as they relate to nursing. Fall.

NRSE 150 Nutrition 3

Prereq.: CHEM 150 and BIO 111 or BMS 111 or BMS 102 (may be taken concurrently). Pre-nursing majors only. CHEM 152 should be taken concurrently. Emphasizes basic normal nutrition across the lifespan and the current guidelines for maintaining wellness through healthy eating. The interconnectedness of nutrition and health or disease is stressed and an introduction to nutritional therapy is included. Nursing application of nutritional knowledge is the primary focus of this course. Spring.

NRSE 210 Health Assessment 4

Prereq.: Admission to the professional program in Nursing, PSY 236, and EXS 207 (C or better). Provides the theoretical knowledge and skills necessary to perform a comprehensive health assessment including comprehensive history taking, interviewing, and assessment techniques. Fall.

NRSE 246 Health Care Ethics 3

Prereq.: Admission to the professional program in nursing or permission of instructor. Introduction to basic ethical theories and principles and their application to contemporary health care issues. Discussion will focus on issues connected with confidentiality, competency, research, experimentation, allocation of scarce resources as well as those connected with elderly and other vulnerable populations. Irregular.

NRSE 250 Nursing Care of Well Populations 4

Prereq.: Admission to the BSN professional program in Nursing, NRSE 210, and EXS 208 (C or better). Focus on well populations. The nursing role in promotion of health, prevention of disease and encouragement of healthy behaviors in populations across the lifespan is emphasized. Required clinical experience in community/ community-based settings. Spring.

NRSE 300 Nursing Assessment 4

Prereq.: Current Connecticut Registered Nurse License, or permission of the department chair. The health assessment course is designed to prepare the registered nurse with the theoretical knowledge and skills necessary to perform a comprehensive assessment. The emphasis will be on comprehensive history taking, interviewing, and assessment techniques.

NRSE 301 Theoretical Foundations of Nursing 3

Prereq.: CT RN license or permission of department chair. Investigation of related nursing theories and their application to nursing practice. An examination of the concept of wellness, leadership, teaching, and learning as applied to individuals, families, populations and communities. Fall.

NRSE 303 Introduction to Nursing Research 3

Prereq.: NRSE 301 and matriculation into the B.S.N. program. Basic nursing research design and methodology. Preparation of the professional nurse to be a critical consumer of nursing research and to begin to apply basic nursing research findings to nursing practice.

NRSE 310 Altered Health Concepts and Therapeutic Interventions 4

Prereq.: Admission to the professional program in Nursing; BMS 216 (C or better). Coreq.: NRSE 303 and 320. Selected health problems and associated pharmacological/holistic interventions are addressed from a lifespan perspective. Medication administration, therapy and safety are considered along with non-pharmacological interventions. Fall.

NRSE 320 Holistic Care of Adults with Health Alterations 5

Prereq.: Admission to the professional program in Nursing; BMS 216 (C or better). Coreq.: NRSE 303 and 310. Nursing care of adults across altered health states. These health alterations will be explored with a focus on their impact on mental and spiritual wellness. Evidence based nursing interventions appropriate to this population will also be covered. Required clinical hours off campus. Fall.

NRSE 342 Ethical Issues Confronting the Geriatric Patient 3

Prereq.: Permission of instructor. Introduction to the major ethical/social/political issues arising in the care and treatment of the elderly individual. Irregular.

NRSE 350 Nursing Care of Families in Transition 5

Prereq.: Admission to the professional program in nursing and NRSE 303, NRSE 310 and NRSE 320. Coreq.: NRSE 375 and BIO/BMS 412. Prepares student to care for nursing care of families in transition. Highlights nursing judgements that encompass creative and caring interventions based on cultural competence and developmental approaches. Integrates concepts from the biologicalsciences and social sciences. Requires 99 hours in a clinical site. Spring.

NRSE 375 Seminar in Family Nursing Concepts 2

Prereq.: Admission to the Professional Program in Nursing; NRSE 303, NRSE 310, and NRSE 320. Coreq.: NRSE 350 and BIO/BMS 412. Focuses on application of family concepts through the use of case study and problem-based learning. The family is viewed from a holistic perspective with a focus on transitions experienced by families. Spring.

NRSE 400 Nursing Externship 3

Prereq.: Admission to the professional program in nursing; NRSE 246 and 350. Integrates practice and education through health-care based service model and collaborative partnerships to enhance clinical nursing competence, confidence and skills. Total of ninety-nine clinical hours off campus. Irregular.

NRSE 410 Holistic Family Care and Health Promotion of Families, Populations and Communities 4

Prereq.: NRSE 300, 301, 303, and matriculation in the BSN program. Integration, analysis, and synthesis of comprehensive theoretical concepts of holistic care across the life span in diverse settings. Must be taken concurrently, consecutively or contiguously with NRSE 412 and 414. Fall, Spring, Summer.

NRSE 412 Holistic Nursing Care of Families, Populations, and Communities Clinical Practicum 4

Prereq.: NRSE 410 and matriculation in the BSN program. Application of the nursing process to families, populations, and communities in diverse settings. Emphasis on leadership, delegation, health promotion, and complex care, based on evidence-based practice.

NRSE 413 Population- and Community-Based Nursing Care 5

Prereq.: NRSE 300, 301, 303; matriculation in the RN / BSN program. Focuses on families, populations and communities, both local and global, as units of nursing care. Fall.

NRSE 414 Professional Nursing Role 4

Prereq.: NRSE 413. Synthesis of professional nursing practice from the analysis of selected ethical, social, political, professional, and role issues with related field experiences as appropriate. Spring.

NRSE 420 Social Justice and Community Health Issues 3

Prereq.: Admission to the professional program in nursing; NRSE 350. Concepts of Community and Public Health nursing will be explored from a social justice framework. Common community health care problems and the health care challenges faced by vulnerable populations as well as newly emerging issues such as global health, emergency preparedness and health care reform will be examined. Fall.

NRSE 430 Psychiatric/Mental Health Nursing 4

Prereq.: Admission to the professional program in nursing. Coreq.: NRSE 420 and 440. Integrates behavioral, biological, genetic, psychosocial, cultural, environmental, and religious influences on mental health across the life span. Promotion of health, disease prevention, and adaptation to

health deviations will be emphasized. Required clinical hours on and off campus. Fall.

NRSE 440 Gerontological Nursing 3

Prereq.: Admission to the professional program in nursing and PS 110. Coreq.: NRSE 420 and NRSE 430. The process of aging is examined in terms of values and attitudes toward older citizens. All levels of health will be examined including successful aging, health promotion, disease prevention, acute/chronic illness, limitation of disability and end of life care. Fifty clinical hours required off campus. Fall.

NRSE 460 Seminar and Practicum in Community Health Nursing 4

Prereq.: Admission to the professional program in nursing; NRSE 420. Taken concurrently with NRSE 470. Students will identify concepts of social justice in community health settings and incorporate them into population based health interventions. Emphasis is on synthesis of professional nursing concepts in promoting transition of care across settings. Required clinical hours off campus. Spring.

NRSE 470 Holistic Nursing Care of the Critically Ill 5

Prereq.: Admission to the professional program in nursing. Taken concurrently with NRSE 460. Nursing care for critically ill populations across the life span with a focus on altered body systems and the impact on mental and spiritual wellness. Emphasis is on integration of professional role in a changing practice environment. Required clinical hours off campus. Spring.

NRSE 480 Professional Issues 2

Prereq.: Admission to the professional program in nursing and NRSE 420 and NRSE 430 and NRSE 440. Synthesis of professional nursing practice from the analysis of selected ethical, social, political, professional role issues and related field experiences. Taken concurrently with NRSE 490. Spring.

NRSE 490 Leadership and Management in Nursing 3

Prereq.: Admission to the professional program in nursing or the RN to BSN program. Concepts and practices of leadership needed by healthcare clinicians to fulfill professional responsibilities for the quality of care for patients, for caregivers, and organizations. Emphasis on leadership, quality and safety, group dynamics, staff motivation and conflict resolution. Spring.

NRSE 498 Special Studies in Nursing 1 TO 3

Prereq.: Permission of instructor. Individualized plan to aid the learner in attainment of professional goals. Plan may consist of directed study of reading, clinical experience, individual instruction, research, or other appropriate activities. [GR]

Peace Studies

PES 110 Introduction to the Study of Peace & War 3

Introduction to the study of peace and war from an interdisciplinary perspective, focusing on problems of just war theory, pacifism, types of wars, and the nature of peace movements, with reference to conflicts today and in the past. Fall. Study Area II

PES 111 War & Peace through Films 3

Films illustrative of issues and dilemmas of war and peace; followed by in-class discussion. Fall. Study Area II

PES 202 Peace Psychology 3

Cross listed with PSY 202. See PSY 202 for a detailed description. No credit given to students with credit for PSY 202. Irregular.

PES 210 Topics in Peace Studies 1 TO 3

Topics vary. May be repeated with different topics for credit up to a maximum of 6 credits. On demand.

PES 310 Internship in Peace Studies 1 TO 6

Prereq.: Minor in Peace Studies or permission of instructor. Placement of student with an organization that addresses issues of war and peace or related topics of social justice. May be repeated for a maximum of 6 credits. On demand.

PES 345 Philosophy of War and Peace 3

Cross listed with PHIL 346. No credit given to students with credit for PHIL 346. See PHIL 345 for detailed description. [I]

PES 410 Research in Peace Studies 3

Prereq.: Open to Peace Studies minors only. Directed research project in Peace Studies. Spring.

Philosophy

PHIL 100 Search in Philosophy 3

Introduction to the techniques and perspectives of philosophical inquiry. Title and content may vary from section to section. Study Area I

PHIL 112 Introduction to Philosophy 3

Introduction to the study of philosophy, to some significant philosophies, and to philosophical problems in metaphysics, theories of knowledge, ethics, and/or aesthetics. CSUS Common Course. Study Area I

PHIL 121 Introduction to Philosophy through Literature 3

Introduction to philosophical inquiry pursued through literary works. Topics covered include the nature of literary understanding, its relation to philosophical inquiry, and the meaning and grounds of philosophical ideas about the identity and interpretations of a work of literature. Study Area I

PHIL 125 Introduction to Philosophy through Popular Culture 3

Study of philosophical issues as they arise in films, television, music etc. Recent topics include ethics, feminism, nihilism, the meaning of life. Irregular. Study Area I

PHIL 135 Nature, Mind, and Science 3

Introduction to philosophical problems concerning matter, life, mind, cosmology, and evolution from ancient times to the present. Fall. Study Area I

PHIL 144 Moral Issues 3

Critical examination (both practical and theoretical) of issues arising in the private and public conduct of one's life. Typical issues for examination are abortion, violence, capital punishment, and conflicts between personal values and professional duties. CSUS Common Course. Spring. Study Area I

PHIL 211 Global Justice 3

Critical examination of theoretical and practical issues within the field of global justice. Theoretical concerns include the nature and scope of justice, the moral significance of national boundaries, and the possibility of cross-cultural reasoning at the global level. Practical concerns include global poverty, women's human rights, terrorism, and environmental degradation. Fall. (E) [I]

PHIL 221 Introduction to Modern Logic 3

Introduction to formal systems of deductive reasoning (Aristotelian syllogism, Venn diagrams, sentential, and predicate logic), as well as non-deductive reasoning and the relations between logic and philosophy. Skill Area II

PHIL 222 Philosophy of Gender 3

Study of attitudes to gender in the history of philosophy, discussion of recent and contemporary issues and texts, and an introduction to feminist thought. Cross listed with WGSS 222. No credit given to students with credit for WGSS 222. Fall. (E)

PHIL 230 Ancient Greek Philosophy 3

Development of Greek philosophy from the pre-Socratics to Plato and Aristotle. Fall.

PHIL 232 Medieval and Renaissance Philosophy 3

Development of European philosophy from the Middle Ages through the Renaissance (3rd to the 16th century). Topics may include pagan philosophy (Neoplatonism), arguments for the existence of God, and free will and divine foreknowledge. Authors may include Plotinus, Augustine and Aquinas. Spring. (E) Study Area I

PHIL 235 Philosophy of Social Science 3

Study of philosophical questions related to the social sciences, including the origin and nature of the concept of social science and the relation between social science and natural science. (O) Study Area I

PHIL 240 Ethical Problems in Business 3

Critical examination (both practical and theoretical) of contemporary moral problems in business such as ethical investment, questionable foreign payments, disclosure, dumping, mergers, job discrimination, whistle-blowing, and big and small business responsibilities and regulations. Spring.

PHIL 241 Environmental Ethics 3

Critical examination of ethical problems concerning how people treat the land, air, plants, and animals. Fall. (E) Study Area I

PHIL 242 Ethical Problems in Technology 3

Critical examination (both practical and theoretical) of contemporary moral problems in technology, ranging from modern farming and manufacturing technologies to recombinant DNA, nuclear, modern surgical and computer technologies. Fall. (O)

PHIL 244 Introduction to the Philosophy of Social Justice 3

Introduces students to philosophical theories and issues of social justice within the United States. Critically explores the philosophical aspects of systemic oppression and the role of various social institutions and structures in producing inequality and injustice. Possible topics include structural inequality and poverty, racism in the criminal justice system, gender-based violence, and affirmative action. Fall. Study Area I

PHIL 245 Computer Ethics 3

Examination of ethical theories and principles relevant to issues regularly confronted by computer professionals and users, including privacy, intellectual property, expression, and codes of conduct. Fall.

PHIL 248 Philosophy of the Arts 3

Philosophical analysis of some of the concepts used in identifying, describing, and evaluating both works of art and aesthetic experience: expression, representation, form, content, interpretation. Fall. (O) Study Area I

PHIL 250 Introduction to Asian Philosophy 3

Broad survey of Indian and Chinese philosophical traditions. Fall. (E) Study Area I []

PHIL 255 Philosophy of Religion 3

Critical examination of important concepts, beliefs and arguments presented in world religions. Fall. Study Area I

PHIL 260 African Philosophy 3

Examination of some or all of the five leading trends in African philosophy; ethnophilosophy, sagacity philosophy, metaphilosophy, modern/critical philosophy, and liberation philosophy. Spring. Study Area I []

PHIL 275 Chinese Philosophy 3

Close examination of the foundational texts of the Confucian and Taoist traditions including the four Confucian and two Taoist classics. Spring. (E) Study Area I []

PHIL 290 Philosophical Methods 3

Introduction to philosophical methods, including research of material, argumentation and writing, and oral presentation of topics within different philosophical traditions. Open only to philosophy majors or minors. Spring.

PHIL 310 Intermediate Seminar 3

Prereq.: PHIL 290 or permission of instructor. Prepares majors and minors in Philosophy for the Senior Seminar. Topics vary. May be repeated with a different topic for up to 6 credits.

PHIL 320 Modern Logic 3

Prereq.: PHIL 220 or permission of instructor. Further study of sentential and predicate logic. The formal foundations of epistemology and metaphysics as applied to various philosophical problems such as logical paradoxes, and minds and machines. Irregular.

PHIL 330 Early Modern Philosophy 3

European philosophy from the Renaissance to the Enlightenment (17th and 18th centuries). Authors may include Descartes, Spinoza, Leibniz (rationalists), Locke, Berkeley, and Hume (empiricists). The course concludes by studying Kant. Topics may include: epistemology, metaphysics, ethics, philosophy of science, political theory and philosophical psychology. Fall. (O)

PHIL 332 The Age of Ideology 3

Major issues of the nineteenth century: the era of Darwin, Hegel, Schopenhauer, Nietzsche, Marx, and others, focusing on metaphysics, epistemology, political philosophy, and philosophy of history. Topics include philosophical background to continental philosophy, liberal, conservative and socialist ideologies, and the scientific doctrines of evolutionism and mechanism. Spring. (E) [I]

PHIL 335 Philosophy of Science 3

Study of some contemporary philosophies of science, including theories of scientific revolutions, confirmation and refutation of scientific theories, hypothesis formation and theory testing, and scientific progress. Spring. (E)

PHIL 344 Topics in Philosophical & Social Justice 3

Examines topics in the philosophical literature on social justice. Possible topics include democracy, social activism, welfare, structural inequality and oppression, racism, and poverty. Spring. Study Area I.

PHIL 345 Philosophy of War & Peace 3

Philosophical concepts related to war and peace from the ancient world to modern times. including just war, perpetual peace, moral equivalent of war, non-violence, absolute and non-absolute pacifism, war crimes, cease fires and peace-keeping. Cross listed with PES 345. No credit given to students with credit for PES 345. [I]

PHIL 346 Ethical Theory 3

Critical examination of practical and theoretical problems about right and wrong conduct, good and bad character, and justified and unjustified practices, policies and institutions, as well as of ethical theories for addressing the problems. Spring.

PHIL 349 Philosophy of Law 3

The nature of law and of such correlative concepts as legal rights, obligations, responsibility and punishment. The logic of judicial reasoning. The relationship between law and morality. Fall. (O)

PHIL 360 African-American Philosophy 3

Critical examination of the writings of African-American philosophers from 1619 to the present. Addresses issues in moral, social, and political philosophy. Spring. (O)

PHIL 366 Existentialism 3

Some of the important existentialists in the 19th and 20th centuries, focusing on questions concerning human existence, such as freedom, responsibility, anguish, interpersonal relationships, and the meaning (or lack of meaning) of human existence itself. Spring. Study Area I [I]

PHIL 368 Contemporary Epistemology and Metaphysics 3

Study of relations between language, thought, and reality by reference to the works of leading 20th century thinkers, both analytic and others. Spring. (O)

PHIL 376 Buddhist Philosophy 3

Critical survey of Buddhist philosophy from its Indian beginnings to its development in China, including contemporary aspects. Primary source material is used to illustrate key doctrinal developments. No credit given to those with credit for PHIL 276. Fall. [I]

PHIL 382 Special Topics in Philosophy 3

Study of various topics not dealt with in other philosophy courses. Irregular.

PHIL 400 Senior Seminar 3

Prereq.: PHIL 310 or permission of instructor. Senior level study and research in philosophy. Topics vary. May be repeated with a different topic for up to 6 credits.

PHIL 440 Project in Practical Ethics 3

Prereq.: PHIL 220, 346 and six credits from PHIL 144, 222, 240, 241, 242, 349, NRSE 246 341, 342. Research in practical ethics. May include a practicum designed by the student and approved by the instructor. On demand. [GR]

PHIL 441 Philosophy Honors Thesis 3

Prereq.: Major in philosophy and approval of department. Undergraduate thesis on a topic in philosophy. On demand.

PHIL 492 Independent Study 1 TO 3

Prereq.: Permission of instructor. Individual research in selected topics. Open to any student who wishes to pursue a topic of special interest for which the student is qualified. On demand. [GR]

Physical Education

Note: Students not majoring in physical education should see other courses under recreation. PE 144 is required of all students entering with fewer than 15 credits and is recommended to be taken in a student's first year.

PE 101 Coaching Permit: Legal Liability and Safety Aspects of Coaching 1

This course is designed to acquaint the student with a background in legal liability with specific reference to negligence, due process, and product liability. Summer, Winter.

PE 102 Coaching Permit: Medical Aspects of Coaching 1

This course is designed to acquaint the student with the medical aspects of coaching adolescents. Instruction will include the care of, prevention of, and rehabilitation of athletic-related injuries. Summer, Winter.

PE 103 Coaching Permit: Principles and Practices of Coaching 1

This course is designed to acquaint the student with the aspects of coaching which deal with the values of athletics in education, ethics, public relations, motivation, aggression and violence, anxiety and stress, and practice sessions. Summer, Winter.

PE 111 Orientation to Physical Education 2

Examines the history, philosophy, and foundation aspects of physical education with allied fields. Open to physical education majors only.

PE 144 Fitness/Wellness Ventures 2

Benefits of healthy lifestyle incorporating fitness and wellness topics within a lecture and activity setting. Required of all students entering with fewer than 15 credits and recommended to be taken in a student's first year. CSUS Common Course. Skill Area IV

PE 219 Methods of Teaching Golf 1

Designed for the student to teach and perform various golf swings and to learn golf course strategies and course management. Activity course. Open to physical education majors only.

PE 273 Tumbling and Gymnastics 2

Skills course in tumbling and gymnastics emphasizing pedagogy, error correction, and spotting techniques. Basic tumbling skills and apparatus activities are included. Activity course. Open to physical education majors only.

PE 277 Outdoor Adventure Activities 2

Survey course that includes group initiative games, rope course activities, and orienteering. Develops skills necessary to organize a safe, effective outdoor education program. Some class meetings occur off campus. Activity course. Open to physical education majors only.

PE 278 Methods of Teaching Games 2

Effectively organize and implement a variety of games experiences for primary grades, intermediate grades and middle school. Emphasis on selection of age-appropriate games and demonstration to involve children in the analysis and modification of games. Activity course. Open to physical education majors only.

PE 279 Methods of Teaching Team Sports 2

Methods course in the fundamental skills and techniques of team sports. Focus on preparing students to plan teaching strategies for skill attainment and proper teaching progressions. Activity course. Open to physical education majors only.

PE 280 Methods of Teaching Racquet Sports 2

Survey course in racquet sport skills and techniques that will focus on application of motor learning and kinesiological principles for personal skill development as well as teaching/coaching application. Activity course. Open to physical education majors only.

PE 299 Psycho-Social Aspects of Physical Education 3

Coreq.: EDTE 314 Prereq.: DAN 272 or PE 278. Examination of the foundation and practical psychological and sociological principles to facilitate teaching effectiveness and student learning in physical education. 10 hours of field experience in an elementary physical education setting required.

PE 300 Developmental Movement 3

Prereq.: PE 299. Application of Laban's Movement Framework to the teaching of elementary physical education. Includes rhythmic activities, folk dance, and developmentally appropriate games. Open to physical education majors only.

PE 305 Evaluation in Physical Education 3

Prereq.: STAT 104. Measurements in health and physical education. Emphasis on modern tests of physical fitness, skills, knowledge, and general motor ability. Open to physical education majors only.

PE 337 Group Process in Health Education 3

Prereq.: EXS 210 or permission of instructor. A survey of individual and group processes that relate to school health instruction. Students will learn how to facilitate groups for effective interaction. Group approaches will be applied to a variety of health education populations. Concentrates on the role of the group leader and the interpersonal relationships of groups. Irregular.

PE 374 Methods of Teaching Fitness 3

Prereq.: EXS 214 (C- or higher). Introduces the prospective teacher of physical education to a philosophy of helping to prepare public school age children for a lifetime of fitness through physical education. Emphasis on health-related fitness, aerobic, anaerobic, plyometric, stretching activities and resistance trainings. Activity course. Open to physical education majors only. Fall, spring, summer.

PE 405 Elementary Methods in Physical Education 3

Coreq.: PE 406. Prereq.: PE 300 and admission to the professional program in physical education. Application of the child-centered, problem-solving approach as a method to learning fundamental concepts of movement. Discussion, observation, and laboratory experience will provide theoretical background. 20 hours of field experience in an elementary physical education setting required. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

PE 406 Adapted Physical Education 3

Coreq.: PE 405. Prereq.: PE 300 and admission to the professional program in physical education. Pedagogical skills and knowledge pertaining to physical education for individuals with disabilities and gifted and talented individuals. Emphasis on program planning and teaching effectiveness in the psychomotor domain. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

PE 408 The Curriculum Process in K-12 Physical Education 3

Prereq.: PE 300 and admission to the professional program in physical education. Identification of competency-based, goal-oriented activities appropriate to K-12 physical education. Emphasis on program development and design, instructional process, program implementation, and evaluation.

PE 416 Organization and Administration of Physical Education 3

Coreq.: PE 417. Prereq.: PE 405 and admission to the professional program in physical education. Administrative procedures involved in conducting physical education activities, arranging programs, providing facilities and handling staff-class details, finance, publicity, interscholastic, and intramural activities. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

PE 417 Secondary Methods in Physical Education 3

Coreq.: PE 416. Prereq.: PE 405 and admission into the professional program in physical education. Curricular content of physical education for secondary teaching is discussed and analyzed. Methods and techniques of teaching are presented and opportunities for teaching provided. Course is a prerequisite to student teaching. Open to physical education majors only. 20 hours of field experience in a secondary physical education setting required. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

PE 420 Lifespan Motor Development 3

Prereq.: PE 300, PSY 236, and admission to the professional program in physical education. Study of changes in motor behavior across the lifespan; processes that underlie these changes, and factors that affect them. Emphasis upon the young learner, task analysis and developmentally appropriate instruction.

PE 422 Motor Learning 3

Prereq.: Admission to the professional program in physical education and PE 420 or permission of instructor. Examines the principles of motor learning which affect skill acquisition of secondary and post-secondary school learners.

PE 490 Independent Study in Physical Education 1 TO 3

Prereq.: Senior standing and permission of department chair. Reading and research in approved topics under the guidance of a member of the department. May be repeated for a total of 3 credits.

Physics

PHYS 111 Introductory Physics I 3

For students who do not plan to major or minor in science. Includes study of selected topics from mechanics, heat, electricity and light, and modern physics. Not open to students who have received credit for SCI 117. Two lectures and one two-hour laboratory per week. CSUS Common Course. Study Area IV

PHYS 113 The Sound of Music 3

An introductory course covering the physical basis of music, sources of sound, transmission and detection of sound waves, characteristics of sensation of sound and their physical correspondents, and general consideration of architectural acoustics. Two lectures and one two-hour laboratory per week. Spring. Study Area IV

PHYS 121 General Physics I 4

Prereq.: MATH 119, or MATH 124, or MATH 115 and 116, or MATH 115 and 125 (prerequisites may be taken concurrently with PHYS 121). Fundamental principles of mechanics and properties of matter; heat and sound. Three lectures and one three-hour lab per week. No credit given to students who have taken PHYS 125. CSUS Common Course. Study Area IV

PHYS 122 General Physics II 4

Prereq.: PHYS 121. Continuation of PHYS 121. Electricity (DC and AC), magnetism, optics, and atomic phenomena. Three lectures and one three-hour laboratory per week. No credit given to students who have taken PHYS 126. CSUS Common Course. Study Area IV

PHYS 125 University Physics I 4

Prereq.: MATH 152. Introductory course for science/engineering students which uses calculus. Fundamental principles of mechanics, heat, and sound. Three lectures, one recitation, and one three-hour laboratory per week. Credit not given to students who have had PHYS 121. CSUS Common Course. Study Area IV

PHYS 126 University Physics II 4

Prereq.: PHYS 125. Continuation of PHYS 125. Study of electricity, magnetism, and optics. Three lectures, one recitation and one three-hour laboratory per week. CSUS Common Course. Study Area IV

PHYS 220 Mechanics I 3

Prereq.: PHYS 122 or 126, MATH 222 (may be taken concurrently). Vector formulation of kinematics and dynamics of particles and rigid bodies. Topics include Newton's laws, momentum, energy, moving coordinate systems, central force motion, and the harmonic oscillator. Irregular.

PHYS 250 Intermediate Lab I 1

Prereq.: PHYS 125, 126 and 220 or 320 (may be taken concurrently). Laboratory course with experiments performed in mechanics, heat, and thermodynamics. One three-hour laboratory per week. Irregular.

PHYS 305 Foundations of Electricity and Magnetism 3

Prereq.: PHYS 220 and MATH 222. Electrostatics, circuit theory, electromagnetic fields of steady and alternating currents, solutions of Laplace's equation, Maxwell's equations, and propagation of electromagnetic waves. Irregular.

PHYS 320 Heat and Thermodynamics 3

Prereq.: PHYS 122 or 126, MATH 222. Nature and measurement of heat, thermoproperties of matter, thermodynamic processes, and introductory statistical mechanics. Irregular.

PHYS 325 Optics 4

Prereq.: PHYS 122 or 126, MATH 221 (may be taken concurrently). Study of geometrical and physical optics. Topics include lens and mirror theories and applications, interference, and diffraction phenomena including holography and polarization. Matrix methods are employed where applicable. Three lectures and one three-hour laboratory per week. Irregular.

PHYS 331 Electronics I 3

Prereq.: PHYS 122 or 126, MATH 221 (may be taken concurrently). Unified treatment of solid state devices and their applications in filters, regulators, power supplies, oscillators, amplifiers, and control devices. Introduction to digital circuits such as logic gates. Two lectures and one three-hour laboratory period per week. Irregular.

PHYS 332 Electronics II 3

Prereq.: PHYS 331. A continuation of PHYS 331. Digital circuitry including flip-flops, counters, ADC and DAC, shift registers, microprocessor architecture, instruction set, addressing, and interfacing. Two lectures and one three-hour laboratory per week. Irregular.

PHYS 338 Digital Systems Laboratory 1

Prereq.: CS 354 (may be taken concurrently). Laboratory experiments and designs that lead to understanding of concepts of digital systems, using logical and sequential networks. One three-hour lab per week.

PHYS 341 Fiber Optic Communication Theory 3

Prereq.: PHYS 325. Scientific principles of fiber optics and optical communication systems. Examines fundamental behavior of optical components, device integrations in optical fiber links, and performance characteristics of complex optical links and networks. Irregular.

PHYS 350 Intermediate Lab II 1

Prereq.: PHYS 305 or 425 (may be taken concurrently). Laboratory course with experiments in electrical measurements and modern physics (Planck's constant, charge to mass ratio of the electron, Millikan's oil drop experiment, etc.). One three-hour laboratory per week. Irregular.

PHYS 425 Modern Physics 3

Prereq.: PHYS 305. Special theory of relativity; quantum aspects of matter and of electromagnetic radiation, Bohr model, nuclear structure, radioactivity. Irregular. [GR]

PHYS 450 Advanced Laboratory 1

Prereq.: PHYS 331, 425. A study of the 400 kV Van de Graaf accelerator, particle detection electronics, and a study of induced nuclear reactions. One three-hour laboratory per week. Irregular. [GR]

PHYS 452 Independent Study in Physics 1 TO 3

Prereq.: Approved plan of study by arrangement with supervising instructor and approval of department chair. Special work in laboratory or theory to meet individual requirements in areas not covered by regular curriculum. May be taken more than one semester up to a limit of 6 credits. [GR]

PHYS 460 Seminar in Physics 1

Prereq.: Senior standing. Through individual readings, discussions, and presentations, students will study contemporary topics in various fields of physics. Capstone requirement for all physics majors in the B.A. and B.S. non-teaching programs. Hours by arrangement. Spring. [GR]

PHYS 470 Quantum Mechanics 3

Prereq.: PHYS 425. Limits of classical physics, wave packets and uncertainty, Schrodinger wave equation, eigenfunctions and eigenvalues, one-dimensional potentials, wave mechanics, operator methods. Irregular. [GR]

PHYS 471 Quantum Mechanics II 3

Prereq.: PHYS 470. Three-dimensional Schrodinger equation, angular momentum, radial equation, hydrogen atom, operator matrices and spin, addition of angular momentum, plus additional topics to be chosen by instructor. Irregular. [GR]

PHYS 480 Student Internship in Physics 3

Prereq.: Senior standing and permission of the student's advisor. Students participating in the program will serve as interns, obtaining outside industrial and/or research experiences in an environment directly related to their program. Before commencing work, a plan of the Committee of Physics faculty members. Restricted to physics majors pursuing the B.A. degree. On demand (fall or spring semester).

PHYS 490 Topics in Physics 3

Selected studies in physics which are not offered presently in the curriculum of the department. Course may be repeated for different topics. No topic may be taken for credit more than once. Irregular. [GR]

Polish

POL 111 Elementary Polish I 3

Open only to students with one year or less of high school study. Functional approach to grammar. Development of facility in speaking, understanding, reading Polish. Fall. Skill Area III

POL 112 Elementary Polish II 3

Prereq: POL 111 or equivalent (normally, two years high school study). No credit given to students with previous credit for more advanced course work in Polish except by permission of the department chair. Continuation of POL 111. Functional approach to grammar. Development of facility in speaking, understanding, reading Polish. Spring. Skill Area III

POL 125 Intermediate Polish I 3

Prereq.: One year of college Polish or equivalent. Principles of Polish structure are reviewed. Short stories and poems are read and discussed. Conversation and composition topics given to improve oral and written expression. Fall. Skill Area I [I]

POL 126 Intermediate Polish II 3

Prereq.: POL 125 or equivalent. Continuation of POL 125. Further work in written and oral expression. Spring. Skill Area I [I]

Political Science

PS 104 The World's Political Systems 3

Comparative survey of the structures and functions of the national governments of selected industrialized and Third World nations, such as the U.S., Russia, Britain, France, India, Nigeria, and Brazil. Scope and methods of political science and key policy issues will be treated in a comparative context. PS 104 or 110 is required for all political science majors. CSUS Common Course. Study Area II [I]

PS 110 American Government & Politics 3

Structure, functions, services, and problems of government and politics at the national level. PS 110 or 104 is required of all political science majors. CSUS Common Course. Study Area II

PS 230 American State and Local Government 3

Organization and major problems of state and local government in the United States, with attention to intergovernmental relations, federalism, and contemporary issues. Study Area II

PS 231 Conduct of American Foreign Policy 3

Theories, processes, and problems of American foreign policy and the craft of diplomacy, with special attention to contemporary issues.

PS 232 Ancient and Medieval Political Thought 3

Political thought from Plato to Machiavelli. Fall. Study Area I

PS 235 International Relations 3

Introduction to study of international relations, including international politics, international law and morality, international organization, international conflict and cooperation and the foreign policies of the major powers. Cross listed with LAS 235. No credit given to students with credit for LAS 235. CSUS Common Course. Study Area II [I]

PS 241 Women and American Law 3

Examines the evolution of women's legal rights in the United States. Special attention given to the legal status of women in the economic, political, educational, and judicial sectors of society. Cross listed with WGSS 241. No credit given to students with credit for WGSS 241. Fall. (E)

PS 260 Public Administration 3

Prereq.: PS 104 or 110. Study of administrative theory and the politics of bureaucracy. Assigned readings, field projects, and research papers. Study Area II

PS 270 Law and Politics 3

Study of the structure of the U.S. court system, the judicial process and legal reasoning. Other topics include the role of the Supreme Court in U.S. politics and comparative judicial systems. Fall. Study Area II

PS 280 Religion & Politics 3

A cross-national and international survey of the role and impact of religion in domestic, regional, and international politics and conflicts. Select cases and topics, including the role of religion in the politics of the U.S. will be considered. Spring. Study Area II

PS 291 Topics in Political Science 3

Examination of selected topics in political science. Topics may vary from semester to semester. May be repeated with a different topic for up to

6 credits. On demand.

PS 315 Internet & Media Politics 3

Technologies of the information superhighway, their political implications, and decentralizing effects; economic concentration in the media industries; politics and public policy toward the telecommunications industries; the 1996 Telecommunications Act; rate deregulation; and potential threats to privacy and freedom of speech and of the press. Spring. (O) Study Area II

PS 325 Public Opinion in American Politics 3

Content and context of public opinion in American politics, and its relationship to political analysis in the mass media. Emphasis on the formation and political impact of public opinion, and on opinion measurement techniques; critical analysis of the reliability and credibility of political arguments expressed in the public sphere. Fall.

PS 330 American Parties and Interest Groups 3

Prereq.: PS 104, 110 or permission of instructor. Historical development and current operation of party organizations in the United States, with attention to voting behavior, interest groups, the influence of news media, etc. Field research projects. Fall. (E)

PS 331 American Constitutional Law 3

Prereq.: PS 110. Great constitutional issues through the study of Supreme Court decisions. Origins of judicial review in *Marbury v. Madison* to current issues, exclusive of civil liberties. In addition to the traditional case approach, attention is given to a behavioral understanding of judicial decision making.

PS 332 Civil Liberties 3

Prereq.: PS 110. Constitutional safeguards of liberty and property. Special attention to privileges and immunities, equality and civil rights. Cross listed with AMS 332. No credit given to students with credit for AMS 332.

PS 334 Modern Political Thought 3

Critical consideration is given to modern political thinkers, origins, developments, and present significance. Spring. Study Area II

PS 335 American Political Thought 3

American political thought, with special attention to early and contemporary discussion of liberalism, conservatism, pluralism, and radicalism. Spring. (E)

PS 336 West European Governments 3

Comparison of selected West European political systems, mainly in Britain, France and West Germany. Other countries may be included. []

PS 338 International Organization 3

Basic assumptions, objectives, growth, problems, and prospects of international organizations, such as the League of Nations, the U.N. and its specialized agencies, the O.A.S. Irregular. []

PS 339 International Law 3

Nature and functions of international law in the international community, in theory as well as in practice. []

PS 343 Political Leadership 3

Prereq.: PS 104, 110 or instructor's permission. Analysis of political leadership and its role in the political process.

PS 345 International Terrorism 3

Examination of definitions, history, philosophy, and theories of international terrorism, as well as tactics and strategies of terrorist groups and responses of governments, with emphasis on policy alternatives and civil liberties dilemmas for democratic countries combatting terrorism. [I]

PS 380 International Conflict and Security 3

Theory and case studies of international and domestic conflict and conflict resolution during the Cold War and post-Cold War eras. Emphasis on forms of conflict (international war, civil wars, revolutions, domestic insurgencies) and forms of conflict resolution (intervention, bargaining, negotiation, diplomacy and strategies of international security, peace-building and peacekeeping). Fall, Spring, Summer. [I]

PS 415 Government & Business in the Information Age 3

Prereq.: PS 104 or 110 or 315 or permission of department chair. Analysis of the evolution of the pattern of interaction between business and government in the American administrative and political process as we enter the information age, with attention to how we as members of society are affected by and may influence this process. Spring. (E) [GR]

PS 420 Government and Politics of Latin America 3

Historical, social, economic, and ideological factors impacting contemporary government and politics in Latin America. Summer. [I] [GR]

PS 421 Government and Politics of Africa 3

Historical, social, economic, and ideological factors impacting contemporary government and politics in Africa. Summer. [I] [GR]

PS 425 Asian Politics 3

Prereq.: PS 104. Examination of the government and politics of East and South Asia with major focus on Japan, China, and India. Emphasis on historical and cultural forces shaping politics, Western impact on Asia, and cross-national comparisons. Spring. [I] [GR]

PS 430 The American Presidency 3

Prereq.: PS 104 or 110 or permission of instructor. Office of President and place in the political system, colonial antecedents and modern counterparts. Emphasis on the presidency's functional and institutional development, contemporary role in politics and public policy, and interplay between man and office. Cross listed with AMS 430. No credit given to students with credit for AMS 430. Spring. [GR]

PS 431 The Legislative Process 3

Prereq.: PS 104 or 110 or permission of instructor. Structure, behavior, and operation of U.S. Congress. Comparison with state legislatures. Interrelationships with executive and judicial branches. Problems of popular representation. Attention to the budgetary process, lobbying, and campaign financing. Spring. (O) [GR]

PS 432 Urban Politics and Government 3

Prereq.: PS 104 or 110 or permission of instructor (non-Political Science introductory courses may be substituted with permission of instructor). Selected urban conditions and problems such as housing, racial relations, power structure, intergovernmental relations, partisan politics, group behavior, forms of government, politics of planning, regionalism, economic development, transportation, and communication. Field research projects. Fall. (O) [GR]

PS 433 20th-Century Political Thought 3

Contemporary approaches to political theory, such as socialism, conservatism, liberalism, and group theory. Fall. [GR]

PS 434 Government and Politics of the Middle East and North Africa 3

Historical background, contemporary setting, political processes, and major problems of some of the countries of Middle East and North Africa. Spring. [I] [GR]

PS 435 Russian and Eastern Europe 3

Government and politics of Russia and of selected Eastern European countries such as Poland, Hungary, Ukraine, and Yugoslavia. Irregular. [I]

[GR]

PS 439 U.S. Middle East Policy 3

Examination of the evolution of United States foreign policy towards the Middle East since WW II. Emphasis placed on the sources, determinants, and goals of United States policy and the challenges facing the United States in the region. Irregular. [GR]

PS 445 Public Policy Analysis and Evaluation 3

Prereq.: PS 260 or permission of department chair. An investigation in perspectives and methods of measuring public policies. [GR]

PS 446 The Budgetary Process 3

Prereq.: PS 110 and 260. Examination and analysis of budgeting as an administrative and political process, with attention to techniques and reform efforts. [GR]

PS 448 Current U.S. Public Policy Issues 3

Prereq.: PS 110 and PS 230; or permission of instructor. Study of the politics and administration of government programs in such fields as education, healthcare, housing, and social welfare policy. Significant independent student research project in U.S. politics required. Fall

PS 450 Ethics, Corruption, and Virtue in Public Service 3

Prereq.: PS 110, 260, and junior standing. An examination of the ethical dimensions of public service, including elective, appointment, and civil service. Topics include relationship between ethical theory and practice, standards of evaluation for action, administrative discretion, and ethical training for public administrators. Fall.

PS 470 National Intern Experience 12

Prereq.: Junior, senior, or graduate status; minimum 3.00 grade point average. For undergraduate students, special exception may be granted by the internship advisor in consultation with the department chair. Government or political intern experience in Washington, D.C., or other national settings, typically through a program such as the Washington Center. Cannot be used to satisfy the requirements for a political science major if the student has completed PS 480 or PS 482. No more than 6 credits of PS 470 may be applied toward a political science major. By application. [GR]

PS 480 State Internship Experience 4

Prereq.: Junior or senior status with a minimum 2.50 grade point average unless special exception is granted by the internship coordinator in consultation with the department chair. Also open to graduate students with a minimum 3.00 grade point average. Must be taken concurrently with PS 485. Students who apply and are admitted to this program are assigned to work in state and local government departments and agencies for a minimum of two days a week. Not open to students who have completed PS 482. Cannot be used to satisfy the requirements for a political science major if the student has completed PS 470. By application. Spring. [GR]

PS 482 Intensive State Internship Experience 9

Prereq.: Junior, senior, or graduate status; minimum 3.00 grade point average. For undergraduate students, special exception may be granted by the internship advisor in consultation with the department chair. Must be taken concurrently with PS 485. Students who apply and are admitted to this internship are assigned to work on a full-time basis, five days per week. Not open to students who have completed PS 480. Cannot be used to satisfy the requirements for a political science major if the student has completed PS 470. No more than 5 credits of PS 482 may be applied toward a political science major. By application. Spring. [GR]

PS 485 State Internship Seminar 3

Prereq.: Students must be enrolled in a department approved internship. Concurrent enrollment in either PS 480 or PS 482 is required. Structure, behavior, and operation of government institutions, agencies, and external organizations with an emphasis on applying theoretical knowledge to practical political experiences. Spring. [GR]

PS 490 Directed Readings in Political Science 1 TO 6

Prereq.: Permission of instructor. Individual programs of study for students with special abilities or interests in political science. May be repeated with different topics to a maximum of 6 credits. On demand. [GR]

PS 491 Advanced Studies in Political Science 1 TO 6

Intensive study of selected problems in political science. On demand. [GR]

Psychology

Note: Junior standing is recommended for 300-level courses; junior or senior standing is required for 400-level courses.

PSY 112 Introduction to Psychology 3

Survey of the scientific study of mental processes and behavior. Required of all psychology majors and minors. CSUS Common Course. Study Area III

PSY 113 Exploring Psychology 1

Prereq.: PSY 112 (may be taken concurrently). Introduction to the academic, professional, and ethical aspects of the field of psychology. Develops critical thinking, research, library, and information acquisition for psychology. Also explores career options. Open only to Psychology majors or with permission of instructor.

PSY 125 Environment & Behavior 3

Prereq.: PSY 112. Effects of built and natural environment on human behavior, cognition, and emotion. Study Area III

PSY 200 Learning & Memory 3

Prereq.: PSY 112. Introduction to theories, methods, and research in the study of learning and memory. Underlying mechanisms of behavior and models of memory derived from animal and human research will be emphasized. Study Area III

PSY 202 Peace Psychology 3

Overview of psychological process involved in peace and war and how humans manage conflict in a way that generates justice and equity rather than destruction. Examines international, societal, and personal levels of conflict. Promotes critical thinking skills, tolerance for rival viewpoints, nonviolent resolutions of conflict and social responsibility. Cross listed with PES 202. No credit given to students with credit for PES 202. Irregular.

PSY 221 Research Methods in Psychology I 4

Prereq.: PSY 112 (C- or higher) and STAT 215 (C- or higher). Introduction to research problems in psychology, with an emphasis on experimental designs which employ a single independent variable. Student will plan an independent research project which will be done outside of the class setting. Lecture, discussion, and instructor-supervised research activities will take place during class time. Class will meet 4 hours per week.

PSY 222 Research Methods in Psychology II 4

Prereq.: PSY 221 (C- or higher). Controlled experiments are contrasted with non-experimental designs, such as naturalistic observation, surveys, and field studies. Factorial, mixed, and multivariate designs are discussed. Student will complete the independent project proposed in PSY 221. This work will be done outside of the class setting. Lecture discussion, and instructor-supervised research activities will take place during class time. Class will meet 4 hours per week.

PSY 225 Peer Tutoring in Research Methods 1

Prereq.: PSY 221 (B or higher) and permission of instructor. Peer tutor training. Students attend class 1 hour per week and tutor 3 hours per week, assisting students enrolled in PSY 221 and 222. Completion of Level 1 CRLA Certification required. May be repeated for up to 3 credits. (Re-enrollees mentor less experienced tutors, develop a learning portfolio, and complete Level 2 CRLA certification).

PSY 234 Industrial and Organizational Psychology 3

Prereq.: PSY 112 or permission of instructor. Application of psychological theory, knowledge, and methods to behavior in industry and organizations.

PSY 236 Life-Span Development 3

Human development from conception through old age, considering physical, emotional, social, and intellectual factors. Required of all psychology majors. Study Area III [D]

PSY 241 Introduction to Health Psychology 3

Prereq.: PSY 112. Examination of how psychological processes impact health, both positively and negatively. Topics include health-related behaviors, stress, coping, and management of chronic illness such as cancer, diabetes, heart disease, and HIV/AIDS. Study Area III

PSY 250 The Psychology of Community Service 3

Prereq.: PSY 112. Integration of psychology concepts and principles with community experience to understand service to our communities. Significant community service experience in a new setting required during the course. Fall.

PSY 270 Psychology and the Law 3

Prereq.: PSY 112. Interaction between psychology and the U.S. legal system. Application of basic psychological science findings to the investigation and adjudication of criminal and civil matters including forensic psychology. Applied psychology research and practice that has focused explicitly on legal issues. Spring.

PSY 281 Cognitive Psychology 3

Prereq.: PSY 112. Overview of current theory concerning the processing of information by the human mind. Emphasis placed on relevant contributions from the areas of perception, memory, language, and thinking. Study Area III

PSY 330 Abnormal Psychology 3

Prereq.: PSY 112 and one other psychology course. Symptoms, causes and treatment of deviant behavior, anxiety disorders, psychoses, personality disorders, substance abuse disorders.

PSY 342 Sensation & Perception 3

Prereq.: Six credits in psychology or permission of instructor. Study of the physiological, psychophysical, and psychological processes through which organisms interact with the environment. Fall.

PSY 350 Cross-Cultural Psychology 3

Prereq.: PSY 112 and 6 additional credits in psychology. Exploration of topical areas in psychology from a multicultural, multiethnic perspective. Students will become more aware of the role that culture and ethnicity play in shaping human behavior and student's awareness of the range of cultural variation will be raised. [I]

PSY 361 Psychology of Early Childhood 3

Prereq.: PSY 236. Study and observation of young children (birth to age six), with emphasis on the development, origins, and dynamic processes of behavior within this age range.

PSY 362 Child Psychology 3

Prereq.: PSY 236. Advanced study in developmental psychology through the childhood years. Emphasis on topics in the areas of social, emotional, personality, and cognitive development.

PSY 363 Adolescent Psychology 3

Prereq.: PSY 236. Research studies pertaining to adolescence, with special emphasis on psychological development and problems characteristic of the age.

PSY 364 Adult Development & Aging 3

Prereq.: PSY 236 or permission of instructor. Study of behavior, dynamics and developmental processes from early adulthood through old age and death.

PSY 365 Psychology of the Exceptional Child 3

Prereq.: PSY 236. Psychological characteristics of exceptional children (gifted, retarded, emotionally disturbed, physically handicapped, etc.) with emphasis on implications of these characteristics for classroom procedures.

PSY 372 Social Psychology 3

Prereq.: Two courses in psychology. Influence of social factors on behavior, cognition, and emotions of individuals. Analysis of methods of research in social setting.

PSY 380 Psychology of Dying and Death 3

Prereq.: PSY 112 or equivalent. Psychological issues of death, dying, and suicide. Topics include death and denial, fear of death, grief and bereavement, child's and adolescent's view of death, psychological stages of dying, and euthanasia.

PSY 385 Humanistic Psychology 3

Prereq.: Two courses in psychology. Study of humanistic approaches to the understanding of behavior. Focus is on the healthy personality and its potential for self-actualization.

PSY 390 Human Sexuality 3

Prereq.: PSY 112 and one other course in psychology. Survey of social scientific theories and studies relevant to understanding human sexuality. Topics include reproductive technology, attraction, sexual response cycle, therapeutic interventions, sexually-transmitted diseases, and human development.

PSY 410 Media Psychology 3

Prereq.: One psychology course and at least junior standing or graduate status; or permission of the instructor. Seminar examining the impact of electronic media on human behavior, feelings, thinking, and psychological development. Primary focus on the psychological impact of television and newer electronic media technologies (e.g., computers and the Internet). Summer. [GR]

PSY 430 Psychology of Diversity 3

Prereq.: PSY 112 or permission of instructor. Open to students with junior or higher standing. Review of psychological research and theories pertaining to the study of diversity. Implications for clinical work and community education will be discussed. [GR]

PSY 440 Motivation 3

Prereq.: Three courses in psychology. Physiological and psychological variables in selected motivational processes. Problems of measurement, empirical findings, and theoretical research. Readings in contemporary literature. [GR]

PSY 444 Positive Psychology 3

Prereq.: PSY 112 and 3 additional credits in Psychology or permission of instructor. Scientific study of human strengths. Topics include optimism, creativity, well-being, and resilience. Spring. [GR]

PSY 446 Introduction to Psychotherapy and the Psychology of Counseling 3

Prereq.: PSY 330 and 6 other credits in Psychology or permission of instructor or admission to M.A. Psychology. An introduction to the basic theories underlying psychotherapeutic process. Explores the primary assumptions of the behavioral, biological, cognitive, humanist-existential, and psychodynamic models. Topics include ethical and professional standards and diversity. Spring. [GR]

PSY 448 Psychology of Women 3

Review of research and theories pertaining to the psychology of women. The dynamic aspects of being female in the development of cognitive, emotional, motivational, and social behavior is emphasized. Psycho-social implications and consequences of changing sex roles will be examined.

PSY 450 Biopsychology 3

Prereq.: Six credits in psychology or permission of instructor. Analysis of relationships between bodily processes and behavior. [GR]

PSY 451 Psychological Evaluation 3

Prereq.: Three courses in psychology. Principles and problems basic to construction, choice and use of psychological measuring instruments, and study of application to diagnosis. Special Condition: completion of additional project by graduate students. Fall. [GR]

PSY 454 Drugs and Behavior 3

Prereq.: PSY 112. Overview of the major classes of psychoactive drugs and their effect on the brain and behavior. Legal drugs, such as alcohol and caffeine, and illegal drugs are considered. [GR]

PSY 458 Human Neuropsychology 3

Prereq.: PSY 330 and 450, or permission of instructor. Relationship between the brain and behavior is examined. Topics include disorders of speech and memory, common neurological disorders such as dementia and stroke, and alcohol-related disorders. Spring. [GR]

PSY 460 Behavior Modification: Theory and Practice 3

Prereq.: PSY 200 or permission of instructor. Application of learning principles to the modification of both normal and abnormal behavior. The settings for application include areas such as personal, social, and marriage counseling; individual and group psychotherapy; formal and informal education and re-education; personal, vocational, and correctional rehabilitation. [GR]

PSY 470 Personality Psychology: Theories and Research 3

Prereq.: Three courses in psychology. Nature of personality theory and critical analysis of major contemporary theories of personality, including empirical evidence relevant to these theories. [GR]

PSY 490 History & Systems of Psychology 3

Prereq.: PSY 112, three other courses in psychology and junior standing. Historical study with emphasis on general philosophical bases, development of psychology as an experimental science, and comparative analysis of principal modes of psychological inquiry.

PSY 496 Internship in Psychological Applications 3

Prereq.: Written permission of instructor. Supervised work in public and private agencies and institutions requiring the application of psychological principles. A study of appropriate references and a written report of procedures and conclusions required. May be repeated for a total of 6 credits.

PSY 497 Psychology Capstone Seminar 3

Prereq.: PSY 222 and 75+ credits; or permission of instructor. Majors only. Seminar integrating the fields of psychology. Students will demonstrate critical thinking, independent scholarship, oral and written communication through the collective examination and review of primary sources. The project will be at the level which the students can use to present at a national or regional forum. Irregular.

PSY 498 Topics in Psychology 1 TO 3

Study of selected topics in psychology. Topics announced each semester. May be repeated with different topics for a total of 6 credits. [GR]

PSY 499 Independent Reading and Research in Psychology 1 TO 3

Prereq.: Junior, senior, or graduate standing and written permission of instructor. Directed independent studies in psychology. May be repeated for a total of 6 credits. On demand.

Quantitative Reasoning

QR 100 Basic Quantitative Reasoning 3

Prereq.: Permission of instructor or department chair. Designed to improve student's ability to succeed in mathematics courses and other disciplines requiring quantitative reasoning, problem-solving skills and overcoming math anxiety. Students will be given diagnostic tests to identify areas requiring remediation and will take the mathematics placement examination at the end of the course. This does not meet the prerequisite for any mathematics course and may not be used to meet the general education requirement or any major or minor in mathematics.

Reading

RDG 140 Reading Efficiency 3

Student's reading is analyzed and training is provided to improve vocabulary, comprehension, and rate. Study skills needed in college work are given attention. Skill Area IV

RDG 315 Comprehensive Reading Instruction I 3

Prereq.: Admission to the Professional Program in Teacher Education. Taken concurrently with EDTE 315 (Elementary Education majors). Concentrates on early literacy processes, with an emphasis on work identification skills. Topics include theories of reading, emergent literacy, reading instructional frameworks common in PreK-2 classrooms, early writing experiences as they relate to reading, concepts about print, phonological awareness, phonics, sight word knowledge, context knowledge, and fluency. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

RDG 316 Comprehensive Reading Instruction II 3

Prereq.: RDG 315. Taken concurrently with EDTE 320 (Elementary Education majors) or EDTE 420 (Early Childhood majors). Theories, instructional applications, and materials for the teaching, learning and assessment of literacy processes in K-6 classrooms. Topics include handwriting, spelling, reading and writing connections, vocabulary development, comprehension strategies, ELL instruction, reading assessment, and theories of reading. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

RDG 400 Writing Instruction for Teachers 2

Prereq.: Permission of Teacher Education chair and Reading and Language Arts chair. Course will explore writing as it relates to the teacher as writer and the impact of his/her writings on writing instruction in elementary classroom. Focus will be on developing the teacher as writer.

RDG 412 Literacy in the Elementary School 3

Prereq.: RDG 316. Taken concurrently with EDTE 420 (Elementary Education majors). Introduction to foundational, philosophical and theoretical underpinnings of literacy education. An integrated approach to teaching the language arts, including reading, writing, speaking, listening, viewing, and visually representing in the elementary school curriculum. Field experience required.

RDG 440 Literacy in the Secondary School 3

Prereq.: Admission to the Professional Program in Teacher Education and EDTE 316 or permission of Reading Department chair. Fundamentals of reading and language arts to support instructional design and student development across disciplines and grade levels. Designed for pre-service content area teachers. Field experience required. Recommended to be taken concurrently with EDSC 425. Not open to post-baccalaureate students. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

Recreation

(Physical Education and Human Performance)

REC 104 Self-Defense 1

Rigorous program designed to combine self-defense techniques, increased strength, stamina, and flexibility, which provides an increased awareness and understanding of the ability to defend oneself.

REC 105 Intermediate Self-Defense 1

Prereq.: Permission of instructor. Combination of self-defense techniques, increased strength, stamina, and flexibility on an intermediate level. Provides an increased awareness and understanding of the ability to defend oneself.

REC 141 Volleyball 1

Course designed to teach volleyball's offensive and defensive techniques. Games are designed to teach team play and strategy.

REC 162 Badminton 1

Tactics and strategies in performing various fundamentals and methods in badminton.

REC 165 Level 1 Yoga 1

Students will learn the philosophy, health benefits and longevity patterns of Yoga. Balancing poses, stretching, strength, breath work, salutations, and meditation will be included.

REC 166 Tennis 1

Fundamentals and techniques in practicing and playing tennis.

REC 168 Weight Training 1

Tactics, strategy, and proper methods in performing a variety of weight training techniques.

REC 169 Golf 1

This course is designed to perform various golf strokes and the proper methods of how to play the game of golf.

REC 170 Introduction to Ice Hockey 1

Students will learn the beginning and/or intermediate fundamentals of ice hockey. Puck skills, skating with pucks and game play will be included. Winter, Summer.

REC 171 Introduction to Ice Skating 1

Students will learn the beginning and/or intermediate fundamentals of ice skating. Winter, Summer.

REC 200 Beginning Swimming 1

How to perform the proper tactics and fundamentals for beginning swimmers. CSUS Common Course. Winter, Summer.

REC 230 Intermediate Swimming 1

This course is designed to acquaint, practice, and perform correct swimming techniques for intermediate swimmers.

REC 232 Lifeguard Training 2

Prereq.: Successful completion of the American Red Cross Screening test (administered during the first week of class). Provides skills to respond effectively to medical and aquatic emergencies. American Red Cross Certification in First Aid, CPR and Lifeguarding may be obtained. CSUS Common Course.

REC 233 Water Safety Instructor's Course 2

Prereq.: Swim the following strokes 25 yards each: front crawl, breaststroke, elementary breaststroke, sidestroke, (and butterfly 15 yards); tread water for 1 minute. Planning, conducting, and evaluating instruction in swimming and water safety. Includes peer teaching opportunities. American Red Cross certification prepares student as a Water Safety Instructor. Spring.

Religious Studies

REL 105 Development of Christian Thought 3

Critical survey of the central, formative ideas of Christian thought and their development from New Testament times to the present. Fall. (E)
Study Area I

REL 110 World Religions 3

Investigation of the essence of religion, the variety of religious phenomena and systems, and various approaches to the study of religion. Study Area I [I]

REL 250 Japanese Religion 3

Survey of Japanese religion from ancient times to the modern era, including Shinto, Confucianism, Buddhism, Taoism, and the new religions. Spring. Study Area I [I]

REL 256 Philosophy, Religion, and Spirituality 3

Philosophic examination of religious concepts, themes, and arguments about what is most deep and rich in human experience, as this is revealed by literature, film and other forms of expressive culture. Spring. Study Area I [I]

REL 257 Special Topics in Religion 3

Study of selected topics in religion. May be repeated under different topics for up to 6 credits. On demand. Study Area I

REL 361 African-American Religion 3

Examines history, leadership, dynamics, theology, and cultural milieu of African-American religion with focus on religious experience and on spiritual response to social, economic and political oppression and exploitation. Spring. (E)

REL 492 Independent Study 1 TO 3

Prereq.: Permission of instructor. Individual research in selected topics. Open to any interested student who wishes to pursue a topic of special interest for which the student is qualified. On demand.

Robotics

ROBO 110 Introduction to Robotics and Mechatronics 3

Introduction to fundamentals of Mechatronics and Robotics systems. Topics include programming, types of sensors and actuators and their use. Two hours of lecture and two hours of lab per week. Fall.

ROBO 220 Parametric Modeling and Simulation 3

Parametric design techniques applied to part and assembly modeling. Topics include solid, surface, and assembly modeling, design simulation, optimization, and documentation. Two hours of lecture and two hours of lab per week. Spring.

ROBO 240 Electro-Mechanical Converters and Drivers 3

Prereq.: CET 236. Introduction to electromagnetic energy conversion, DC and induction motors, power electronics, adjustable speed drives for control of motors and their function in control systems. Two hours of lecture and two hours of lab per week. Spring.

ROBO 310 Data Acquisition & Processing 3

Prereq.: CET 323 and CET 363. Microprocessor-based techniques for data acquisition and processing, including sensors, interfacing, sampling, reconstruction, and computer communications. Signal processing based on error analysis and statistics. Two hours of lecture and two hours of lab per week. Fall.

ROBO 330 Fluid Power Systems 3

Prereq.: ET 354. Study of the design and fabrication of fluid-based power systems, including hydraulics and pneumatics. Two hours of lecture and two hours of lab per week. Fall.

ROBO 350 Applied Control Systems I 3

Prereq.: ROBO 310, MATH 221. Feedback and feed forward regulation for continuous and discrete systems; performance analysis and design for automatic control systems; transfer functions; block diagrams. PID and lead-lag compensation. Two hours of lecture and two hours of lab per week. Spring.

ROBO 370 Mechanisms for Automation 3

Prereq.: ROBO 220, MATH 226, MFG 216, ET 252, and ET 357. Analysis and synthesis of mechanism. Introduction to mechanical transmission and control components. Two hours of lecture and two hours of lab per week. Spring.

ROBO 380 Mechatronics 3

Prereq.: ROBO 240, ROBO 330, ROBO 350, ROBO 370, and CET 453. Analysis, modeling and prototyping of embedded systems. Identification of commonly used digital controller; introduction to nonlinear effects and their compensation in mechatronic systems. Two hours of lecture and two hours of lab per week. Fall.

ROBO 460 Applied Control Systems II 3

Prereq.: ROBO 350, MATH 355, and ETM 358. Programmable controllers, human-machine interface, distributed and supervisory control systems for manufacturing and processing systems. Process control of level, heat, flow, pressure, and PH. Two hours of lecture and two hours of lab per week. Fall.

ROBO 470 Robotics Systems Engineering and Analysis 3

Prereq.: ROBO 110. Principles of design and practical approaches to systems engineering. Life-cycle costing, scheduling, risk management,

functional analysis, conceptual and detail design, test evaluation, project management. Three hours of lecture per week. fall.

ROBO 480 Industrial Robotics 3

Prereq.: ROBO 380, and ROBO 460. Introduction to the science of flexible automata and robot kinematics. Students will model, design, plan, program, select, and implement industrial robot systems. Two hours of lecture and two hours of lab per week. Spring.

ROBO 496 Industrial Internship 3

Prereq.: senior standing and permission of instructor. Supervised work opportunity in an industrial environment directly related to the program. Written technical reports and program assessments are required. Students are recommended to take internship after junior year. Graded on a pass/fail basis. Summer.

ROBO 497 Capstone Senior Project 3

Prereq.: open only to Robotics and Mechatronics majors; senior standing, and permission of instructor. Research leading to the simulation and construction of a prototype robotics/mechatronics project that is presented orally and in writing. Projects must satisfy relevant requirements and show sound technical judgement. Spring.

School of Engineering and Technology

SET 490 Topics in International Field Studies 3

Prereq.: Permission of academic advisor. International field study experience related to selected topics in Engineering, Technology, Technology & Engineering Education, and Biomolecular Sciences. May be repeated under different topics for a maximum of 6 credits. On Demand. [I]

Science Education

SCI 111 Elementary Earth-Physical Sciences 3

Prereq.: Open only to students in elementary education programs. Inquiry-based introduction to topics in earth and physical sciences contained within the Connecticut State Science elementary standards. Study Area IV

SCI 412 Elementary Science Methods 2

Prereq.: BIO 211, SCI 111, admission to the Professional Program in Teacher Education. Subject matter majors with complementary area of earth science are exempt from SCI 111. Methods of science instruction and assessment using developmentally appropriate activities. Introduction to science curriculum, the National Science Standards, and the State of Connecticut Frameworks. Not open to Summer participants without permission of instructor. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

SCI 416 Educational Technology in Secondary Science 1

Prereq.: Admission to the Professional Program in Teacher Education. Taken concurrently with SCI 417. Examination and use of software applications, hardware, and the Internet in the context of integrating educational technology into science curriculum.

SCI 417 Teaching of Science in the Secondary School 3

Prereq.: EDTE 316, Admission to the Professional in Teacher Education. Taken concurrently with ESC 425 and SCI 416. Examination and application of curriculum, instruction, and assessment strategies in line with national and state standards/frameworks and CSDE certification requirements, including the BEST program and science teaching portfolio development. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

SCI 419 Student Teaching Seminar 1

Prereq.: SCI 417 (EDSC 435 taken concurrently). Discussion, reflection, and collaboration with peers on issues that arise in secondary science education in the areas of curriculum, instruction, classroom management, and student assessment.

SCI 420 History and Nature of Science 3

Prereq.: Three courses in science or mathematics, or permission of department chair. Study of the history and nature of science. Examination of scientist's lives and discoveries through a cultural, political, and economic lens; and how science distinguishes itself from other disciplines' ways of knowing the world by examining contemporary assumptions, issues, and values of science. A safety plan based on state and national recommendations for implementation in the classroom will be required. [GR]

SCI 452 Independent Study in Science 1 TO 6

Prereq.: Approved plan of study by arrangement with the supervising instructor and approval of the science department chair. Includes special work in the laboratory or study of theory to meet the individual requirements in areas not covered by the regular curriculum. May be taken for more than one semester up to a limit of 6 credits. On demand. [GR]

SCI 453 Environmental Interpretation Internship 3

Prereq.: Prior completion of two field trips to environmental education facilities approved by advisory committee and senior standing. Responsible experiences in an environmental education facility. Before commencing the internship, a plan of the internship must be approved by the Advisory Committee on Environmental Interpretation. [GR]

SCI 456 Teaching Science to Young Children 3

Prereq.: Permission of instructor. Develops teaching strategies which assist young children in expanding their awareness, understanding, and appreciation of their natural environment. Teachers will learn active involvement techniques and will prepare hands-on science curriculum materials for use with children from preschool through grade 3. On demand. [GR]

SCI 485 Studies in Science 1 TO 3

Prereq.: Permission of instructor. Selected studies in the sciences which are not offered presently in the curriculum of the science departments. Course may be repeated for different topics, but the student may not take this course for credit under the same topic more than once. On demand. [GR]

Social Sciences

SSCI 415 Social Studies Methods at the Secondary Level 4

Prereq.: Admission into the Professional Program of teacher education for History/Social Studies, EDTE 316, and either SPED 315 or SPED 501. Must be taken concurrently with EDSC 425 and either RDG 440 or RDG 506. Concepts, methods, and materials for teaching social studies in the secondary school. Emphasis on the use of documents, learning styles, process skills, and the interdisciplinary nature of social studies. Field experience required. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

SSCI 421 Social Studies Student Teaching Seminar 1

Seminar during student teaching semester enabling students to share resources and ideas for upcoming lessons, difficulties, and successes, and discover how various schools and teachers approach the same issues. Must be taken concurrently with EDSC 435.

SSCI 499 Individual Practicum 1

Prereq.: Permission of history department chair; admission to the professional program in teacher education. Individual practicum for students to complete field experience hours in secondary history and social studies classrooms. Irregular.

Social Work

SW 100 Exploration in Social Work 3

For students with a strong desire to help people and facilitate social change to determine if they wish to pursue a career in social work. Students will be introduced to the full range of client and practice settings in the global context. Limited to students with 45 credits or less or permission of the instructor. Study Area III

SW 225 Writing for the Social Work Profession 3

Prereq.: ENG 110. Coreq.: SW 226 or 227. Prepares generalist social work students to write for the profession; emphasis is on professional reports, assessments, research, case notes, courtroom, and writing agency-based documents. Restricted to pre-social work majors and must be taken concurrently with SW 226 or SW 227. Skill Area I

SW 226 Social Welfare Policy and Services I 3

Prereq.: SOC 110 or ANTH 140, SOC 111 and PS 110 or 230. Exploration of the historical background of social work and social welfare institutions in the United States and around the world; knowledge, values, and practice skills that distinguish social work as a discipline. Field work required. Pre-Social Work majors only. Fall.

SW 227 Human Behavior and the Social Environment I 3

Prereq.: BIO 111 or BMS 111, SOC 233. Examination of individuals, families, and communities, taking an ecological perspective of the life span; various cultural, economic, and ethnic factors that influence lives; application of social work values and how these relate to developmental tasks in a socio-political environment. Field work required. Pre-Social work majors only. Spring.

SW 360 Generalist Social Work Practice with Individuals and Families 3

Prereq.: SW 226, 227 and admission to Social Work major. Study of delivery of direct service to individuals and families interacting within groups and communities; tasks and skills necessary for generalist social workers to empower clients to modify and change their situations. Field work required. Fall.

SW 361 Generalist Social Work Practice with Small Groups 3

Prereq.: SW 226, 227 and admission to Social Work major. Use of the small group as a resource for delivering direct service in generalist social work practice; tasks and skills necessary for the social worker to use group process to empower clients. Field work required. Spring.

SW 362 Generalist Social Work Practice with Organizations and Communities 3

Prereq.: SW 360 and 361. Interventions and strategies for assisting families, organizations, and communities in the context of generalist social work practice; tasks and skills necessary to bring about change in large systems. Recommend SW 450 and 451 or SW 452 and 453 be taken concurrently. Fall.

SW 368 Human Behavior and the Social Environment II 3

Prereq.: SW 360 (may be taken concurrently) and admission to the Social Work major. The ecosystems framework provides the framework to examine systems of all sizes; families, groups, organizations, and communities. Special attention given to the impact of human diversity, discrimination, and oppression in the context of these social systems. Fall.

SW 374 Introduction to Social Work Research 3

Prereq.: STAT 215. Research knowledge and skills essential for beginning social work practice. Theory of social research, hypothesis testing, research design, sampling, data collection techniques, and ethical issues germane to social workers. Quantitative and qualitative research and the problem-solving model, associated with a research proposal applicable to social work practice, will be developed. Fall.

SW 426 Social Welfare Policy and Services II 3

Prereq.: SW 360, 361 and ECON 200. Uses of policy analysis and planning as intervention strategies in generalist social work practice. Recommended that SW 450 and 451 or SW 452 and 453 be taken concurrently. Spring.

SW 433 Independent Studies in Social Work 3

Prereq.: Senior standing in the Social Work major and permission of the program director. Student must have a written study proposal approved by the program director prior to registering for this course. Readings and research in selected areas of social work. On demand. [GR]

SW 436 Health and Social Work 3

Prereq.: SW 226 and 227; or permission of the instructor. Examination of health issues such as cancer, AIDS, Alzheimer's, and other disabilities; prevention, treatment, and attitudes; policies and programs in both public and private sectors which impinge upon the lives of clients with health problems. Irregular. [GR]

SW 437 Child Welfare I 3

Prereq.: SW 226 and 227; or permission of the instructor. Examination of the role of the social worker in meeting the needs and protecting the rights of children. Irregular. [GR]

SW 438 Child Welfare II 3

Prereq.: SW 226 and 227; or permission of instructor. Examination of current social issues, such as war, poverty, and divorce, that impact the lives of children. Irregular. [GR]

SW 440 Social Work Practice with African Populations 3

Prereq.: SW 226 and SW 227; or permission of instructor. Critical aspects in understanding the African communities and how they relate to social work. Micro, mezzo, and macro approaches to providing strength-based culturally relevant interventions are highlighted. Irregular. [I]

SW 441 Social Work Practice with Latinos 3

Prereq.: Permission of instructor. Critical aspects in understanding the Latino community and how they relate to social work. Micro, mezzo and macro approaches to providing strength-based culturally relevant interventions are highlighted. Irregular. [I] [GR]

SW 442 The Social Consequences of Immigration 3

Prereq.: Permission of instructor. Explores the development of immigration policies, social service delivery structures, and practices that help social workers provide services to immigrants and refugees. Irregular. [I] [GR]

SW 450 Field Education Experience I 3

Prereq.: All other requirements for the major except SW 362 and 426 (may be taken concurrently with this course); completed field application and permission of field coordinator. Placement in a social work agency in the community for a minimum of 200 hours. Students are engaged in social work roles and activities which help them to develop generalist practice skills and knowledge. Must be taken concurrently with SW 451.

SW 451 Field Education Seminar I 3

Prereq.: All other requirements for the major except SW 362 and 426 (may be taken concurrently with this course); completed field application and permission of field coordinator. Shared learning experience among all students placed in a community social work agency to provide an opportunity for information exchange in depth. Case processes and agency analysis are required. Social work philosophies, values, and ethics in the social service delivery system are reinforced. Relevant readings, assignments, and projects to help students integrate theory and practice. Must be taken concurrently with SW 450.

SW 452 Field Education Experience II 3

Prereq.: SW 450 and 451 and permission of field coordinator. Continued placement in a social work agency in the community for a minimum of 200 hours. Students are engaged in social work roles and activities which further prepare them for professional practice responsibilities. Must be taken concurrently with SW 453.

SW 453 Field Education Seminar II 3

Prereq.: SW 450 and 451 and permission of field coordinator. Shared learning experience among all students placed in a community social work agency to provide an opportunity for information exchange in depth. Evaluation of practice and organized community outreach in the social service delivery system are reinforced. Relevant readings, assignments, and projects help students integrate theory and practice. Must be taken concurrently with SW 452.

SW 478 Current Topics in Social Work 3

Prereq.: Permission of instructor. Analysis and evaluation of special topics in the general field of social work. Topics will vary from year to year. If topics vary, may be taken more than once. Irregular. [GR]

Sociology

SOC 110 Introductory Sociology 3

Major theoretical models and research methodologies used by sociologists in examining the institutions of societies and everyday lives of individuals. Topics include social stratification, ethnic relations, race, poverty, gender roles, aging, the family, population and urban/suburban communities. CSUS Common Course. Study Area III

SOC 111 Social Problems 3

Conditions or patterns of behavior that are considered to be harmful to society or its members, about which it is considered that something should be done. Included as possible topics are sexism, physical and mental health, drug and alcohol abuse, sexuality, inequality, discrimination, environmental problems and abuses of power. Study Area III

SOC 210 Sociological Inquiry 3

Prereq.: SOC 110. Exposes students to the sociological imagination, the link between theory and methods, how evidence is assembled to produce explanations of social phenomena, and the impact of sociological knowledge on public policy and culture. Sociology majors only.

SOC 212 Race, Class, and Gender 3

Sociological definition of race, class, and gender, at academic and experiential levels; the interrelationship of these social characteristics as they affect individual consciousness, group interaction, and access to institutional power and privileges in the United States. Study Area III

SOC 232 City and Suburban Life 3

Prereq.: SOC 110. Examination of the development of preindustrial cities and how they differ from modern urban areas. Research on differences between suburban and urban life will be explored as well as contrasting lifestyles which coexist within urban areas. Post-World War II policies which helped to lead to many of today's problems will be identified and discussed. Irregular.

SOC 233 The Family 3

The family in its social context, including cross-cultural perspectives and theories of family structure and change. The contemporary American family and its emerging alternatives will be studied, with special reference to the family life cycle and current issues in family studies. Study Area III

SOC 234 The Social Construction of Self and Society 3

Prereq.: SOC 110. Symbolic interactionism and social constructionist theories are used to explore the making of meanings and identities by individuals, groups and institutions, and the influence of these constructions on society. Irregular.

SOC 240 The Sociology of Gender 3

Gender as biology, social learning, social organization, and social structure. The gendered nature of friendships, sexuality, conversation, power, and violence. Interpersonal/institutional sexism as it affects women and men. Issues of inequalities in work, education, politics, and health. Women's and men's movements. Cross listed with WGSS 240. No credit given to students with credit for WS 240 or WGSS 240. Irregular. Study Area III

SOC 300 Sociological Theory 3

Prereq.: SOC 210. Examines the work of Marx, Weber, Durkheim, Goffman and selected other theorists. Discussion of theories within their historical context.

SOC 310 Research Methods 3

Prereq.: SOC 210. Examines scientific method as used in sociology. Topics include inductive and deductive reasoning, quantitative and qualitative research designs, measurement, sampling, methods of data collection, and analysis strategies.

SOC 312 Class, Power, and Status 3

Prereq.: SOC 110, 212. Examines theories and forms of class inequality and social stratification. Assesses the consequences of class and status inequality on prospects for social change, the degree of political influence, institutional structures, opportunities for mobility, and life chances. Irregular.

SOC 322 Race and Ethnic Relations 3

Prereq.: SOC 110, 212. Examines the social forces and structures that privilege one racial/ethnic group over another and the cultural dynamics that perpetuate and make these arrangements possible. Particular attention will be given to the historical and social construction of race and ethnicity. Cross listed with AMS 322 and LTN 322. No credit given to students with credit for AMS 322 or LTN 322. Irregular.

SOC 333 Culture and Society 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Examines social processes shaping the production and reception of cultural objects. Considers the impact of cultural meanings with a particular focus on the role of cultural capital, symbolic boundaries and power struggles. Substantive topics may include music, literature, food, technology, art, and popular culture. On demand.

SOC 336 Deviance and Social Control 3

Prereq.: SOC 110. Investigates the production and enforcement of the boundaries between social forms that are deemed normal, acceptable, good, healthy, moral, and/or natural and those that are considered deviant, bad, sick, evil and/or unnatural. Approached the study of topics in deviance and control through an engagement with a number of theoretical and historical perspectives on deviance. Irregular.

SOC 340 Aging in American Society 3

Prereq.: SOC 110. Analysis of demographic changes, role shifts, age stereotyping, institutionalization, and their implications for the treatment and status of the elderly. Exploration of the processes of aging in the later years and the impact of the same on people's lives. Irregular.

SOC 350 Gay & Lesbian Communities 3

Prereq.: SOC 110. Examines the history and structure of American gay and lesbian communities. Questions the social forces that have contributed to the formation, growth and consequences of such communities. Topics such as the gay and lesbian civil rights movement, the role of organizations and the development of gay and lesbian identity are addressed. Irregular.

SOC 400 Topics in Social Theory 3

Prereq.: SOC 210 and 300. Selected topics in social theory. May be repeated with different topics for a maximum of 6 credits. On demand.

SOC 410 Quantitative Analysis 3

Prereq.: SOC 310, STAT 215. Analysis of quantitative data using computer applications to test hypotheses and to complete a research project. On demand.

SOC 411 Oral History for the Social Sciences 3

Prereq.: SOC 310 or HIST 301 or ANTH 374 or permission of instructor. Examination of oral history as a social science methodological approach. Emphasis on the collection, transcription, analysis, archiving, indexing, and dissemination of primary data. Irregular. [GR]

SOC 412 Qualitative Analysis 3

Prereq.: SOC 310. Intensive exposure to participant observation, in-depth interviewing, and content analysis. Emphasis on the collection, coding, and interpretation of primary data. Additional focus on the ethics and politics of qualitative research designs.

SOC 413 Community Research 4

Prereq.: SOC 310. Coreq.: SOC 477. Students design and carry out a community research project, including meeting with research subjects off campus. Taken concurrently with SOC 477. May include the collection and analysis of quantitative and/or qualitative data. May not be repeated. Irregular.

SOC 422 Sociology of Immigration 3

Prereq.: SOC 110. Explores the sociological dynamics of coming to the U.S. and changing it. Includes such issues as undocumented immigration, the impact of immigration on the economy, and questions of assimilation. Cross-listed with LTN 422. No credit may be received by students who have received credit for LTN 422. Irregular.

SOC 424 Genocide and the Modern World 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Genocide, mass murder, and ethnic cleansing have been a defining feature of the 20th century. Explores the causes and varieties of genocide, as well as the responses of the international community. Irregular. [I]

SOC 425 Information, Images, and Inequality 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Examination of the new forms of property, value, social control, identity formation, social relations and class inequities that have emerged with the information age and the electronic marketplace. Presents a political economy of virtual reality. Irregular.

SOC 426 Sociology of Revolution 3

Prereq.: SOC 110 and three additional credits in Sociology Examines major theoretical perspectives used by sociologists to interpret and explain revolutions. Emphasis on Bourgeois, socialist, nationalist, populist, and post-modern revolutions. [I]

SOC 427 American Poverty and Social Welfare 3

Prereq.: SOC 110. Overview of how poverty is measured and understood, and how it has changed over time. Explores the emergence and development of the American welfare state. Irregular.

SOC 428 Globalization and its Discontents 3

Prereq.: SOC 110. Exposes students to the political, cultural, and economic processes of globalization. Social consequences of globalization are examined, including its impact on the state, production, and the movement of people. Irregular. [I]

SOC 429 Animals and Society 3

Prereq.: SOC 110. Using Symbolic Interaction as the main theoretical perspective, this course explores the social relationship between humans and animals and examines the social meanings which shape the role and status of animals in society. Irregular.

SOC 430 Schools, Education and Society 3

Prereq.: SOC 110 and 3 additional credits in sociology. Examines the role of educational institutions with a particular focus on social processes that create, reproduce, or alleviate various social inequalities. Some of the following topics may be covered: relations between communities and schools; effects of government control and privatization; and interactions between individuals in schooling contexts. Irregular.

SOC 433 Independent Studies in Sociology 1 TO 3

Advanced study and projects in sociology of special interest to students under the supervision of one or more department members. May be repeated for a maximum of 6 credits. On demand. [GR]

SOC 440 Death and Dying: Sociological Implications 3

Prereq.: SOC 110. Different cultural, social, and historical perspectives on death and their impact on social roles and institutional change. Problems faced by the health care profession in meeting the needs of the terminally ill and the bereaved. Student will be required to have a field experience with a terminally ill patient and/or bereaved family. Irregular.

SOC 444 Sport and Play in Society 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Examines the institution of sport from the social, political, economic, and cultural perspectives. Substantive topics include sexism and racism in sport, sport and the mass media, deviance in sport, sport and social mobility, and the relationship of sport with religious, political, and economic structures. Irregular.

SOC 445 Social Construction of Sexuality 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Explores how sexuality is constructed in American culture in the 21st century. Criticizes common assumptions that naturalize sex and sexuality to investigate complex and changing social contexts of sexualities. Irregular.

SOC 452 Organizations, Occupations, and Work 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Systematic study of large scale, bureaucratic organizations with emphasis on relations among the organization's members, the organization as a social entity and its social and physical environment. Irregular. [GR]

SOC 455 Men, Masculinity, & Manhood in American Society 3

Prereq.: SOC 110. Overview of men's studies with an emphasis on historical conceptualizations of masculinity and masculine identity and its social construction. Special topics to be covered include men's socialization; men and relationships, sex, and friendships; men and power/violence; fatherhood; and depictions of men in the mass media. Irregular.

SOC 460 Social Movements and Collective Action 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Goals, composition, and impact of collective efforts to address an injustice or achieve social change are considered in historical and cultural context. Emphasis on recent American movements in opposition to government policies, established elites, and dominant cultural norms, such as the Civil Rights Movement, the women's movements, the peace movement, and the environmental movement. Irregular.

SOC 466 Gas, Food, and Lodging 3

Prereq.: SOC 110 and 3 credits in Sociology. Few technological changes have reshaped our society as rapidly and completely as the automobile has during the last century. This course examines the social influence of the automobile on identity, geography, the environment, community culture, work, and the family. Irregular.

SOC 477 Community Research Topics 4

Prereq.: SOC 310. Coreq.: SOC 413. In-depth review of sociological literature and examination of community interests and viewpoints related to the community research project undertaken in SOC 413 (taken concurrently). Includes meeting with community members and stakeholders off campus. May not be repeated. Irregular.

SOC 478 Current Topics in Sociology 3

Prereq.: SOC 110. Analysis and evaluation of special topics in the field of sociology. Not a seminar. May be repeated with different topics. Irregular.

SOC 480 The Polish-American Immigrant and Ethnic Communities 3

Prereq.: SOC 110 or SOC 212 or HIST 301 or permission of instructor. Explores the processes of migration and resettlement of Polish immigrants and their descentance in America with a focus on economic, political and social factors. Cross-listed with HIST 482; no credit given to students with credit for HIST 482. Irregular. [GR]

SOC 482 The Social Experiences of HIV/AIDS 3

Prereq.: SOC 110 and 3 additional credits in Sociology. Examines global and U.S. experiences of the HIV/AIDS epidemic from a sociological perspective. Explores the social forces that determine the social construction, distribution and experience of the epidemic. Considers the impact on, and response to the epidemic by, communities and cultures worldwide. Irregular.

SOC 484 Sociology of Music 3

Prereq.: SOC 110. Examines the ways in which people use music to define social rituals, build collective identities, and make meaning of our everyday lives. Emphasized how music relates to core sociological concepts, including norms, power, inequality, and social change. Irregular.

SOC 485 Ads, Fads, and Consumer Culture 3

Prereq.: SOC 110. Examination of the socio-cultural causes and consequences of consumption and consumer behavior including socially constructed motives, meanings, and outcomes of shopping, and the role of advertising and market research. Irregular.

SOC 490 Community Intern Experience 3

Prereq.: Sociology major with 2.70 GPA or higher and two letters of recommendation addressing academic ability and maturity. Taken concurrently with SOC 491. Accepted students are assigned to work in either a profit or nonprofit community-based organization for 8 to 10 hours per week. Spring.

SOC 491 Intern Seminar and Research 3

Prereq.: Sociology major with 2.70 GPA or higher and two letters of recommendation addressing academic ability and maturity. Taken concurrently with SOC 490. Assigned readings and research projects related to work assignment of SOC 490. Spring.

SOC 494 Sociological Field Studies Abroad 3

Classroom and study abroad exploring sociological topics from any world region. Involves travel outside the United States. May be taken under different topics for up to 9 credits. Irregular. []

SOC 495 Passages & Prospects 1

Prereq.: 27 credits in Sociology or permission of department chair. Capstone seminar examines sociologists in American society and influence of the discipline on social policy. Student portfolio review explores academic achievements, sociological understanding and career alternatives.

Spanish

SPAN 111 Elementary Spanish I 3

Open only to students with one year or less of high school study. Not open to native speakers of Spanish. No credit given to students who have received credit for SPAN 118. Through a direct conversational approach, foundations of Spanish linguistic structure are established. CSUS Common Course. Skill Area III

SPAN 112 Elementary Spanish II 3

Prereq.: SPAN 111 or equivalent (normally, two years high school study). Not open to native speakers of Spanish. No credit given to students with previous credit for more advanced course work in Spanish except by permission of the department chair. Study of spoken and written Spanish is continued with analysis of Spanish language structure. CSUS Common Course. Skill Area III

SPAN 118 Intensive Elementary Spanish 6

Open only to students with one year or less of Spanish at the high school level. Not open to native speakers of Spanish. No credit for students who have received credit for SPAN 111 and/or SPAN 112. Intensive oral-proficiency based Spanish language course designed to bring students to intermediate level production and receptive skills in one semester. Six classroom hours per week. Only three credits may be applied toward the International requirement. Skill Area III

SPAN 123 Basic Spanish Review 3

Prereq.: Three years of Spanish in high school or equivalent preparation. Refresher course in structure patterns and sound systems of the Spanish language. Open only to non-native speakers of Spanish. No credit will be given to those with credit for more than three years of high school study of Spanish. Skill Area III [I]

SPAN 125 Intermediate Spanish I 3

Prereq.: One year college Spanish or equivalent. Principles of Spanish language structure reviewed. Short stories and plays are read and discussed. Conversation and composition on topics of general interest. Open only to non-native speakers of Spanish. No credit given to students with credit for more advanced course work in Spanish. CSUS Common Course. Skill Area I [I]

SPAN 126 Intermediate Spanish II 3

Prereq.: SPAN 125 or equivalent. Continuation of SPAN 125 with the study of grammatical structures. Open only to non-native speakers of Spanish. No credit given to students with credit for more advanced course work in Spanish. CSUS Common Course. Skill Area I [I]

SPAN 128 Intensive Intermediate Spanish I 6

Prereq.: One year of college Spanish or equivalent. Equivalent to SPAN 125-126. Development of speaking, reading and writing skills, and awareness of Hispanic cultures. Review of selected grammar. No credit given to students with more advanced Spanish coursework. Six classroom hours per week. Open only to non-native speakers of Spanish. Fall, Spring, Summer. Skill Area I [I]

SPAN 190 Language for Heritage Speakers of Spanish I 3

Prereq.: Permission of department chair. Designed to activate oral command and improve presentational and expository skills in Spanish through the study of pertinent cultural topics. For heritage speakers of Spanish only. Equivalent to SPAN 125. Fall. Skill Area I [I]

SPAN 191 Language for Heritage Speakers of Spanish II 3

Prereq.: Permission of instructor. Continuation of SPAN 190. Further study of grammar and additional practice in diction, reading, and writing. Eligible Spanish speakers will take this course in place of SPAN 126. Spring. Skill Area I [I]

SPAN 225 Intermediate Spanish III 3

Prereq.: SPAN 125 or SPAN 126 or permission of instructor. Designed to help students improve listening and speaking skills through a variety of texts. Further study of grammar. Open only to non-native speakers of Spanish. Fall. Skill Area I [I]

SPAN 226 Intermediate Spanish IV 3

Prereq.: SPAN 125 or SPAN 126 or permission of instructor. Designed to help students improve reading and writing skills through a variety of texts. Further study of grammar. Open only to non-native speakers of Spanish. Spring. Skill Area I [I]

SPAN 261 Business Spanish 3

Prereq.: SPAN 190 or 225, or permission of instructor. Development of skills geared to specific situations which would be encountered in business offices, foreign firms, travel agencies, and the like. Fall. Skill Area I [I]

SPAN 290 Hispanic Culture for Heritage Speakers of Spanish I 3

Prereq.: SPAN 190 or permission of instructor. Designed to improve reading and writing skills in Spanish through the study of pertinent cultural topics. For heritage speakers of Spanish only. Equivalent to SPAN 225. Fall. Skill Area I [I]

SPAN 291 Hispanic Culture for Heritage Speakers of Spanish II 3

Prereq.: SPAN 191 or permission of instructor. Study of major current issues related to the Hispanic culture in the US and Latin America. Topics may include immigration, politics, and religion. Primarily for heritage speakers of Spanish. Equivalent to SPAN 226. Spring. Skill Area I [I]

SPAN 300 Literary Analysis 3

Prereq.: SPAN 225 or SPAN 226 or SPAN 290 or SPAN 291 (any may be taken concurrently), or permission of instructor. Taught in Spanish. Instruction in the techniques of literary analysis as an instrument for the development of critical reading ability, and as a necessary step in literary research. Fall. [I]

SPAN 304 Introduction to Spanish Literature I 3

Prereq.: SPAN 225 or SPAN 226 or SPAN 290 or SPAN 291 or SPAN 300 (any may be taken concurrently), or permission of instructor. Taught in Spanish. Introduction to great literary works of Spain from the Middle Ages to 1700. Fall. Study Area I [I] [L]

SPAN 305 Introduction to Spanish Literature II 3

Prereq.: SPAN 225 or SPAN 226 or SPAN 290 or SPAN 291 or SPAN 300 (any may be taken concurrently) or permission of instructor. Taught in Spanish. Introduction to the major works in Spanish literature since 1700. Spring. Study Area I [I] [L]

SPAN 315 Spanish Civilization 3

Prereq.: SPAN 225 or SPAN 226 or SPAN 290 or SPAN 291 (any may be taken concurrently), or permission of instructor. Taught in Spanish. Cultural evolution of Spain with emphasis on modern period. Fall. Study Area II [I]

SPAN 316 Latin American Civilization 3

Prereq.: SPAN 225 or 226 or 290 or 291 (any may be taken concurrently), or permission of instructor. Taught in Spanish. Cultural evolution of Latin America with emphasis on modern period. Cross listed with LAS 316. No credit given to students with credit for LAS 316. Spring. Study Area II [I]

SPAN 335 Advanced Spanish for Oral Expression 3

Prereq.: SPAN 225 or 291. Taught in Spanish. Development of oral proficiency through discussion of readings and films. Fall. [I]

SPAN 336 Advanced Spanish Composition 3

Prereq.: SPAN 226 or 291. Taught in Spanish. Advanced practice in Spanish based on readings, translations, and frequent compositions. Spring. [I]

SPAN 375 Introduction to Spanish American Literature I 3

Prereq.: SPAN 225 or SPAN 226 or SPAN 290 or SPAN 291 or SPAN 300 (any may be taken concurrently) or permission of instructor. Taught in Spanish. Study of selected writings of major Spanish-American authors from the age of discovery and the colonial period up to the end of the nineteenth century. Cross listed with LAS 375. No credit given to students with credit for LAS 375. Fall. Study Area I [I] [L]

SPAN 376 Spanish American Literature II 3

Prereq.: SPAN 300 or permission of instructor. Taught in Spanish. Readings and interpretation of great works of Spanish American literature from end of Romanticism to present. Cross listed with LAS 376. No credit given to students with credit for LAS 376. Spring. Study Area I [I] [L]

SPAN 441 Cross-Cultural Communication 3

Prereq.: Permission of instructor. Open only to non-native speakers of Spanish. Development of fluency in oral expression. Speech analysis and phonetic theory to improve pronunciation and intonation. Introduction to problems of translation, enhancement of oral competence, and development of cross-cultural understanding. Fall. (E) [I] [GR]

SPAN 451 Introduction to Spanish Linguistics 3

Prereq.: Permission of instructor. Taught in Spanish. Studying grammatical construct and covering many areas of linguistics; phonology, morphology, syntax, semantics, and pragmatics. A course designed for students interested in teaching Spanish in the future and to those who enjoy examining the varieties of Spanish spoken by populations around the world. On demand.

Special Education

SPED 315 Introduction to Educating Learners with Exceptionalities 3

Prereq.: Admission to the Professional Program in Teacher Education. Overview of growth and development of students with disabilities, including those identified as gifted and talented, and methods for assessing, planning for and working effectively with these students. Meets State of Connecticut requirement for teacher certification (10 hours of off-campus field experience required). CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class.

SPED 430 Characteristics and Education of Individuals with Behavioral/Emotional Disorders 3

Prereq.: SPED 315 or permission of instructor. Taken concurrently with SPED 431. Overview of the education of behavioral/emotional disorders, autism and attention deficit hyperactivity disorders. Topics include characteristics, identification, etiology, theoretical, and educational approaches. Involves field-experience component. [GR]

SPED 431 Behavior Management and Social Skills Development 3

Prereq.: SPED 315 or permission of instructor. Taken concurrently with SPED 430. Examination of methodologies for evaluation, assessment, management of student behavior, and program planning/instruction utilized in special education settings. Involves field-experience component. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

SPED 433 Educational Assessment for Exceptional Learners 3

Prereq.: Admission to the Professional Program and SPED 432. Examines formal and informal assessment materials and techniques used in evaluating adaptive skills, processing abilities, and academic achievement in individuals with learning and/or behavior problems. Topics include procedures for test selection/administration, methods for scoring and interpreting test results. Involves field-experience component. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

SPED 434 Characteristics and Education of Individuals with Developmental Disabilities 3

Prereq.: Admission to the Professional Program. Taken concurrently with SPED 435. Overview of mental retardation, developmental disabilities, autism and physical disabilities. Topics include characteristics, identification, etiology, theoretical, and educational approaches. Involves field-experience component. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

SPED 435 Curriculum Adaptations and Teaching Strategies for Learners with Exceptionalities 3

Prereq.: SPED 433. Taken concurrently with SPED 434. Techniques for assessing social studies, science, and pre-vocational skills, as well as for selecting, developing, and adapting curricula and methods for students with exceptionalities. Involves field-experience component. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. [GR]

SPED 436 Language Arts for Learners with Exceptionalities 3

Prereq.: SPED 432, 433. Taken concurrently with SPED 438. Techniques for planning and delivering instruction in the areas of reading, writing, and oral language specific to students with special needs. [GR]

SPED 437 Integrative Seminar for Beginning Special Educators 3

Prereq.: SPED 436. Taken concurrently with SPED 439. Examines collaborative strategies for assessment and program planning. Communication skills, professional ethics and codes of conduct will be examined. [GR]

Statistics

STAT 104 Elementary Statistics 3

Prereq.: MATH 101 (C- or higher) or placement exam. Intuitive treatment of some fundamental concepts involved in collecting, presenting, and analyzing data. Topics include frequency distributions, graphical presentations, measures of relative position, measures of variability, probability, probability distributions (binomial and normal), sampling theory, regression, and correlation. No credit given to students with credit for STAT 108, 200, 215, 314 or 315. CSUS Common Course. Skill Area II

STAT 200 Business Statistics 3

Prereq.: MATH 101 (C- or higher) or placement exam. Application of statistical methods used for a description of analysis of business problems. The development of analytic skills is enhanced by use of one of the widely available statistical packages and a graphing calculator. Topics include frequency distributions, graphical presentations, measures of relative position, measures of central tendency and variability, probability distributions including binomial and normal, confidence intervals, and hypothesis testing. No credit given to students with credit for STAT 104, 108, 215, 314, or 315. Skill Area II

STAT 201 Business Statistics II 3

Prereq.: STAT 200 or equivalent (C- or higher). Application of statistical methods used for a description and analysis of business problems. The development of analytical skills is enhanced by use of one of the widely available statistical packages. Topics include continuation of hypothesis testing, multiple regression and correlation analysis, residual analysis, variable selection techniques, analysis of variance and design of experiments, goodness of fit, and tests of independence. No credit given to students with credit for STAT 216, 416 or 453.

STAT 215 Statistics for Behavioral Sciences I 3

Prereq.: MATH 101 (C- or higher) or placement exam. Introductory treatment of research statistics used in behavioral sciences. Quantitative descriptive statistics, including frequency distributions, measures of central tendency and variability, correlation, and regression. A treatment of probability distributions including binomial and normal. Introduction to the idea of hypothesis testing. No credit given to students with credit for STAT 104, 108, 200, 314 or 315. Skill Area II

STAT 216 Statistics for Behavioral Sciences II 3

Prereq.: STAT 215 or permission of instructor. Continuation of STAT 215. Survey of statistical tests and methods of research used in behavioral sciences, including parametric and nonparametric methods. No credit given to students with credit for STAT 201, 416 or 453. Spring. Skill Area II

STAT 314 Introductory Statistics for Secondary Teachers 3

Prereq.: MATH 218 and 221. Techniques in probability and statistics necessary for secondary school teaching. Topics include sampling, probability, probability distributions, simulation, statistical inference, and the design and execution of a statistical study. Computers and graphing calculators will be used. No credit given to those with credit for STAT 201, 216 or 453. Graphing calculator required. Fall.

STAT 315 Mathematical Statistics I 3

Prereq.: MATH 221; and MATH 218 or permission of department chair. Theory and applications in statistical analysis. Combinations, permutations, probability, distributions of discrete and continuous random variables, expectation, and common distributions (including normal). Fall.

STAT 416 Mathematical Statistics II 3

Prereq.: STAT 315. Continuation of theory and applications of statistical inference. Elements of sampling, point and interval estimation of population parameters, tests of hypotheses, and the study of multivariate distributions. [GR]

STAT 425 Loss and Frequency Distributions and Credibility Theory 3

Prereq.: STAT 416 (may be taken concurrently). Topics chosen from credibility theory, loss distributions, simulation, and time series. Spring. [GR]

STAT 453 Applied Statistical Inference 3

Prereq.: Graduate standing with at least one course in statistics or STAT 315 or permission of instructor. Statistical techniques used to make inferences in experiments in social, physical, and biological sciences, and in education and psychology. Topics included are populations and samples, tests of significance concerning means, variances and proportions, and analysis of variance. No credit given to students with credit for STAT 201 or 216. Spring, Summer. [GR]

STAT 455 Experimental Design 3

Prereq.: STAT 201 or 216 or 416 or permission of instructor. Introduction to experimental designs in statistics. Topics include completely randomized blocks, Latin square, and factorial experiments. Fall. (O) [GR]

STAT 456 Fundamentals of SAS 3

Prereq.: CS 151 and STAT 201 or 216 or equivalent. Introduction to statistical software. Topics may include creation and manipulation of SAS data sets; and SAS implementation of the following statistical analyses: basic descriptive statistics, hypotheses tests, multiple regression, generalized linear models, discriminant analysis, clustering and analysis, factor analysis, logistic analysis and model evaluation. This course is cross listed with MKT 444. No credit given to students with credit for MKT 444. Spring. (E) [GR]

STAT 465 Nonparametric Statistics 3

Prereq.: STAT 201 or 216 or 416 or permission of instructor. General survey of nonparametric or distribution-free test procedures and estimation techniques. Topics include one-sample, paired-sample, two-sample, and k-sample problems as well as regression, correlation, and contingency tables. Comparisons with the standard parametric procedures will be made, and efficiency and applicability discussed. Fall. (E) [GR]

STAT 476 Topics in Statistics 3

Prereq.: Permission of instructor. Topics depending on interest and qualifications of the students will be chosen from sampling theory, decision theory, probability theory, Bayesian statistics, hypothesis testing, time series or advanced topics in other areas. May be repeated under different topics to a maximum of 6 credits. Spring. (O) [GR]

Technology & Engineering Education

TE 110 Technological Systems 3

A holistic perspective of technological systems and their impacts on social institutions. Focus on human endeavors in the development, use and control of technology. Fall. Study Area II

TE 115 Electronic Portfolio Assessment 3

Construction of electronic portfolios to organize, display, and provide reflection of student's coursework and projects. Topics include portfolio design and construction methods, artifact selection, reflective practices, and implementation skills. Fall.

TE 155 Integrating Engineering Concepts for K-8 Students 3

Prereq.: TE 115, may be taken concurrently. Fingerprinting required. Development, implementation, and assessment of age-appropriate engineering-design activities that integrate studies of technology, science, social studies, language arts, and mathematics. Field experience required. Spring.

TE 215 Materials Processing 3

Concepts involved in the efficient processing of multiple materials. Appropriate hand tools and equipment are employed to demonstrate the relationship between materials, properties and processes. Attention is given to procedures common to a variety of manufactured products. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

TE 217 Laboratory Practices 3

Prereq.: TE 115. Laboratory practices designed to promote Science, Technology, Engineering, and Math (STEM) activities and projects. 3 hr Lecture/2 hr Lab, course meets 5 hours per week. Fall.

TE 221 Innovation & Invention 3

Prereq.: MFG 121. Introduction to teaching engineering design (K-12). Focus on activities that lead to innovation and invention, problem identification, research methods, prototype development and presentation of results. Three hours lecture and two hours laboratory, course meets five hours per week. Spring.

TE 245 Building Design & Construction 3

Prereq.: MFG 121. Means used to design and construct buildings. Investigation of building codes, site work, wood frame, masonry, concrete and steel frame design and construction techniques. A residential structure design project is required. Three hours lecture and two hours laboratory, course meets five hours per week. Fall.

TE 299 Technology & Engineering Education Practicum 3

Prereq.: TE 115 and TE 155; Coreq.: EDTE 314. Fingerprinting required. Organization and management of technology exhibitions and competitions for middle- and high-school students. Focus on developing children's knowledge, abilities, and leadership through extracurricular and classroom activities. Field experience required. Fall.

TE 310 Communication Systems 3

Prereq.: TE 115. Application of graphic and electronic communication systems with focus on how the individualized components function together as a system. Research and lab activities include computer graphics, desktop publishing, video, and telecommunications. Three hours lecture and two hours laboratory, course meets five hours per week.

TE 330 Transportation Design 3

Prereq.: TE 215 and TE 221. Application of the systems which extend the means of transportation beyond the physical capability of the human body. Includes terrestrial, atmospheric, marine, and space transportation technologies and their social, environmental, and economic impact. Three hours lecture and two hours laboratory, course meets five hours per week.

TE 399 Teaching Technology & Engineering (K-12) Teaching 3

Prereq.: TE 299 and coreq.: EDTE 314. Develops background for Technology Education student teaching and professionalism. Emphasis on the development, presentation, and evaluation of student-developed lessons and methods of student assessment, applied to Technology Education laboratories. Field experience required. Fall.

TE 400 Professional Practices and Responsibilities in Technology and Engineering Education (K-12) 3

Prereq.: TE 399, may be taken concurrently; admission into the Professional Program. Coreq.: EDSC 425. Professional course which stresses preparation for student teaching, or supervised teaching, and objectives, planning techniques, and problems of teaching technology education at the secondary, middle and elementary school levels. Required of all undergraduate majors in Technology Education, and post-baccalaureate students in the Technology Education certification program. Field hours required. CT law requires fingerprinting and a criminal background check for the field experiences in this class. Fingerprinting must be completed prior to the beginning of class. Fall.

TE 417 Robot Design & Construction 3

Prereq.: TE 215 and TE 221. Examines the use of robotics in education. Topics include robot applications in education, system development methodologies, project planning and scheduling, robot design and implementation, competitions, and educational resources. Three hours lecture and two hours laboratory, course meets five hours per week.

TE 488 Independent Study in Technology Education 1 TO 3

Prereq.: Senior or graduate standing and permission of instructor. Directed independent studies in technology education for students who wish to pursue specialized areas which are not covered in regular course offerings. May be repeated with different topics for a maximum of 6 credits. On demand. [GR]

TE 498 Technology & Engineering Education Senior Design Project 3

Prereq.: TE 400, may be taken concurrently, and senior standing. Team work or individual project of study, design and/or research a project related to technology education. Final reports submitted to the department for archiving. Oral presentations and electronic portfolio are required. Three hours lecture and two hours laboratory, course meets five hours per week.

Technology Management

TM 190 Introduction to Quality Assurance 3

Overview of the tools and techniques required in contemporary quality systems. Principles of world-class quality assurance, team building, change management, problem solving, and continuous improvement will be presented. Fall.

TM 310 Industrial Safety 3

Theory of industrial safety with emphasis upon fundamental concepts in the industrial environment. Emphasis will be placed on the psychological, sociological, and physiological aspects of industrial safety.

TM 359 Plant Layout 3

Covers the complete layout function as practiced in modern industry. A detailed analysis is made of the procedures used in placing equipment, organizing efficient machine-operator patterns, and servicing of machines. Considerable time is devoted to practical work on actual layout problems, including integrated production lines, using such tools as layout templates, three-dimensional models, man-machine charts, and process flow charts. The relationship of work standards, methods and layout inspection, production control, and maintenance is also discussed. Fall.

TM 360 Production Systems 3

An introduction to the design, planning, management and control of production systems. Topics include: capacity planning, material management, plant layout, scheduling and production information systems.

TM 362 Leadership Skills for Supervisors 3

Designed as a bridge between technical courses and the art of supervising people. Potential line supervisors will develop specific abilities in applying leadership principles to everyday work situations through creative class participation in industrial case studies. Techniques of getting-the-job-done through people, include motivation, delegation, discipline, teamwork, decision making, communications, and objectives-planning techniques are also covered.

TM 400 Senior Project 3

The selection of a problem in one area or facet of technology and the preparation of a term report. Areas will include planning, supervision, construction techniques, design innovations, and labor relations. On demand.

TM 401 Industrial Internship 3

Prereq.: Completion of 75 credits or permission of department chair. Provides students with a supervised opportunity to work in an industrial environment directly related to their program. Written technical reports and program assessments are required. Applications obtained from the department chair. Graded on a pass-fail basis.

TM 402 Topics in Technology 1 TO 3

Prereq.: Permission of the department chair. An individualized inquiry of comprehensive study into a selected technical area. The student may elect to examine processes, products, or developmental aspects of modern industry. Open only to Industrial Technology majors. Course may be repeated for a maximum of 6 credits for different topics. [GR]

TM 411 Industrial Hygiene 3

Lectures and laboratory exercises covering evaluation and control of exposure to dust, fumes, mist, vapors, gases, radiation, noise, and abnormal temperatures. Fall. [GR]

TM 414 Accident Investigation & Loss Control 3

Loss control philosophy and techniques and investigation strategies. Background information and specific techniques to develop and implement an effective company-wide and on-site loss control program, personnel responsibilities and total safety program. Spring. [GR]

TM 415 Fire Protection & Prevention 3

Measures related to safeguarding human life and preservation of property in prevention, detection, extinguishing fires. Spring. [GR]

TM 432 Worker/Supervisor Relations 3

To develop the role of worker-supervisor relationships in manufacturing industries by covering such topics as productivity, supervision within contract guides, union/non-union manufacturing conflicts, Method/Time Study implementation. Spring. [GR]

TM 456 HAZWHOPPER & Hazardous Material Management 3

Study of environmental regulations and their impact on industrial operations. Emphasis is on application of statutes, regulations and information sources concerning hazardous materials, waste handling and technical decisions pertinent to environmental and safety issues. Spring. [GR]

TM 458 Productivity Improvement 3

Course deals scientifically with analytical and creative problems affecting time. It covers the principles of methods, design, and work measurement. The student acquires skill in using motion study techniques and learns how to establish standards. Applications to product design, machine and tool design, process planning, production scheduling, plant layout, budgeting, sales prices, manpower requirements, wage incentives, and methods of improvements are studied. Spring. [GR]

TM 464 Six Sigma Quality 3

Prereq.: STAT 104 or permission of department chair. Application of statistical techniques to meet the needs of continuous quality improvement in the industrial environment. Topics include variation, control and capacity, SPC for short run, and advanced process control. Emphasis on developing a continuous quality improvement strategy through supplier certification standards. Fall. [GR]

TM 480 Robotics 3

Overview of the industrial robot. Introduces the student to the science of flexible automata. Emphasizes features, capabilities, programming, selection and applications of industrial robots. [GR]

TM 490 Advanced Six Sigma Quality 3

Prereq.: TM464. Planning techniques of Failure Mode and Effects Analysis (FMEA), Quality Function Deployment (QFD), and Design of Experiments (DOE) will be presented. Spring. [GR]

Theatre

TH 101 Performance Practicum 1

Provides an hour per week for students to coordinate production activities for all theatre department shows. These activities might include backstage work, publicity, performance or direction. This hour will also include regular workshops on topics relevant to the theatre industry. Course to be repeated 6 times for majors, 3 times for minors.

TH 110 Introduction to Theatre 3

Introduction to theatre as a social institution. Students are required to attend Theatre Department productions during Fall and Spring semesters. CSUS Common Course. Study Area I

TH 111 Stagecraft 0 OR 3

Constructing and rigging scenery for different stages. Two lectures and average of two hours laboratory work per week. Study Area I

TH 115 Play Production 1

Open to all students who enjoy working on plays. Students may elect to work in stagecraft, lighting, sound, scene painting or properties, costuming, front-of-house management, or performance. An average of three hours laboratory work per week is required. May be repeated for maximum of 6 credits.

TH 117 Lighting 3

Lighting techniques in modern theatre practice. Two lectures per week. Study Area I

TH 121 Costuming 3

Brief history of costume and constructing costumes. Introduction to design principles. Two lectures and average of two hours laboratory work per week. Study Area I

TH 126 Makeup I 2

Laboratory course in stage makeup. Crew assignments on theatre productions are normally required. One two-hour session per week. Fall. Study Area I

TH 135 Speaking-Voice Development 3

Development of a more relaxed and vibrant speaking voice in dramatic performance through analysis of each student's non-clinical voice-use problems followed by drills and body-voice exercises to free body, breath, and vocal tract. Spring. Study Area I

TH 143 Theatre Games and Improvisations 3

Theatre games and improvisations to build concentration, relaxation, imagination, and the ability to react, leading to heightened awareness and confidence in both exercises and very brief scenes. Exploration of the theatrical moment. Study Area I

TH 145 Acting I 3

Concentration, relaxation, and freeing the imagination, body, and voice. Improvisational exercises for exploration and discovery in relation to acting fundamentals. Students are required to audition for main stage productions, if only for the audition experience. Study Area I

TH 146 Introduction to High Impact Theatre 3

Introduction to theatre techniques which promote personal, social and/or political transformation, with special emphasis on the teachings of

Augusto Boal. Spring. Study Area I

TH 148 Studio Performance I 2

Practical scene and monologue workshop for beginning performance students, focusing on work from contemporary plays. Fall. Study Area I

TH 165 Improvisation for the Classroom 3

Using basic improvisation exercises in educational settings. Spring.

TH 211 Rendering and Drawing for the Stage 3

Prereq.: TH 111 and 121. Studio course covering the various media for drawing and rendering stage and costume designs. The emphasis will be in developing student skills in drawing and rendering with watercolor, gouache, pen and ink. Irregular.

TH 213 Scene Painting I 3

Studio course in the techniques of painting scenery for the stage. Irregular.

TH 217 Sceno-Graphic Techniques 3

Studio course in various methods of graphic presentations of stage sets and designs, including measurements and specifications, drafting, model making and CAD drawing techniques. Spring. (E)

TH 222 History of Fashion 3

Study of the history of dress stressing the influences of culture upon fashion and original period research for the theatre. Spring. (E) Study Area I []

TH 235 Movement for Performers 3

Introduction to physical skills required of stage performers and how to synthesize that with textual analysis and voice work. Fall. (O)

TH 246 Acting II 3

Prereq.: TH 135 and TH 145. Continuation of TH 145. Emphasis on basic techniques of acting, including introduction to scene study and characterization. Fall.

TH 251 Stage Management 2

Prereq.: TH 111 and 253 or permission of instructor. Study of function, duties, and methods of operation of the stage manager. Includes the development and completion of a working prompt book, analysis of production contracts and technical riders, and study of the Actor's Equity contracts.

TH 253 Script Analysis for the Theatre 3

Reading and analysis of plays from various periods and countries. Focuses on text analysis from view point of theatre artists: director, actor, designer. Fall. Study Area I

TH 316 Scene Design 3

Prereq.: TH 111 and 217 and departmental permission. Designing scenery for various kinds of stages and plays. Work on ground plans and elevations, perspective drawing, and finished design. Fall. (E)

TH 318 Lighting Design 3

Prereq.: TH 111, 117. Lighting design and layout for the proscenium, open, and arena stages. Special emphasis on design problems, equipment and control systems. Spring. (O)

TH 327 Makeup II 1

Prereq.: TH 126 or prior permission of instructor. Advanced makeup projects with attention to mask building and prosthesis. Open to Theatre majors only. Fall. (E)

TH 330 Design Tutorial 1

Prereq.: Major or minor in Theatre and permission of instructor. Tutorial to solve skill problems through individual lessons and coaching with design major preparing to fulfill project requirements. May be repeated for a total of six credits.

TH 332 Costume Design 3

Prereq.: TH 121, 222 and permission of instructor. Designing costumes for various styles of plays. Work on design renderings and patterns for construction of costumes. Spring. (O)

TH 333 Period Styles 3

An exploration of period styles through examination of stylistic elements from Egyptian through current day. Styles of art, architecture, dance, theatre, music, as well as trends in culture will be studied for their effect upon artistic form. Irregular.

TH 334 Costume Construction 3

Prereq.: TH 121 or permission of instructor. Studio course in methods of constructing theatrical costumes including flat patterning, draping and tailoring in the practical creation of both historical and contemporary garments. Irregular.

TH 338 Advanced Voice Development 3

Prereq.: TH 135. Expanding and developing range, flexibility and vibrancy of the speaking voice in dramatic performance. Development of effective articulation. Fall.

TH 347 Acting III 3

Prereq.: TH 338, 246 or permission of instructor. Performance considerations in scene study and character development, as well as self-scripted pieces. Two lectures and one two-hour lab per week. Spring.

TH 348 Performance Studio II 2

Prereq.: TH 148, 235, and 246. Continuation of TH 148 for advanced acting students. A practical scene and monologue workshop, with emphasis on classical and non-realistic texts. Fall. (O)

TH 352 Directing for the Stage 3

Prereq.: TH 253. Principles of stage directing and practice. Emphasis on modern methods of directing and the use of its main elements such as space, time, sound, image and the actor. Spring. (O)

TH 375 History of Theatre I 3

Theatre from Classical Greece to 18th century, including physical theatre, audiences, acting style and other elements of production. Spring. (E)

TH 376 History of Theatre II 3

Theatre from 18th century to present day, including physical theatre, audiences, acting style, and other elements of production. Representative plays from standpoint of performance. Fall.

TH 447 Acting IV 3

Prereq.: TH 347 and departmental permission. Performance considerations in scene study and role development, with emphasis on plays of varying styles and different periods. Fall. (O) [GR]

TH 456 Shakespearean Production 3

Prereq.: TH 246 and 253 and 347, or permission of instructor. Analysis of selected plays from perspective of actor and director. Students act in and stage scenes as major requirements. Irregular. [GR]

TH 465 Creative Dramatics for Children 3

Trains teachers to develop the imagination, creativity, and communication skills of children ages 5 through 12. Includes pantomime, theatre games, improvisation, and formal theatre experience. Spring. [GR]

TH 471 Studies in Technical Theatre 3

Prereq.: Permission of instructor. Selected area of study in technical theatre not covered in other courses. Topic varies. May be repeated for up to 6 credits. Irregular.

TH 472 Studies in Acting 3

Prereq.: TH 235 and 246; or permission of instructor. Selected area of study in acting not covered in other courses. Topic varies. May be repeated with different topics for credit. Irregular.

TH 473 Studies in High Impact Theatre 3

Prereq.: TH 146 or permission of instructor. Selected area of study in high impact theatre not covered in other courses. Topic varies. May be repeated with different topic for up to 6 credits. Irregular.

TH 474 Studies in NY Theatre Workshop 3

Prereq.: Permission of instructor. Selected area of study in acting/production not covered in other courses. Topic varies. May be repeated for up to 6 credits. Irregular.

TH 475 Studies in London Theatre 3

Prereq.: Permission of instructor. Selected area of study in performance/production not covered in other courses. Topic varies. May be repeated up to 6 credits. Irregular.

TH 477 Contemporary U.S. Theatre 3

Prereq.: TH 347. Survey of contemporary theatre in the United States. Topics include artistic trends, theatre education, multiculturalism, new plays and professional preparation. May include field trips (ticket charge required), guest speakers and research.

TH 481 Projects: Scenery 3

Prereq.: TH 316 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff. [GR]

TH 482 Projects: Costuming 3

Prereq.: TH 332 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff. [GR]

TH 483 Projects: Acting A 1

Prereq.: TH 347 and junior standing and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff. [GR]

TH 484 Projects: Acting B 1

Prereq.: TH 483 and departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff.

[GR]

TH 485 Projects: Lighting 3

Prereq.: TH 318 or permission of instructor. Individual lighting project in reading, research, production and/or design under the guidance of a member of the theatre staff. May be repeated for up to 6 credits. On demand.

TH 486 Project: Sound 3

Prereq.: Permission of instructor. Individual sound projects in reading, research, or production under guidance of member of Theatre staff. May be repeated for up to 6 credits.

TH 487 Projects: Research 3

Prereq.: TH 374 or departmental permission. Individual projects in reading, research, or production under guidance of member of theatre staff. [GR]

TH 488 Projects: Directing 3

Prereq.: TH 352 and departmental permission. Individual direction of student production under faculty supervision. [GR]

TH 489 Studies in Theatre/Drama 3

Prereq.: Permission of instructor. Selected area of theatre and/or drama not covered in other courses. Topic varies. May be repeated for credit. Irregular. [GR]

TH 490 Summer Theatre Workshop 3

Prereq.: Permission of instructor. Students work with experienced directors in a summer theatre production workshop learning the craft of acting and performing, culminating in a public performance. May be repeated for a maximum of 6 credits. Summer. [GR]

TH 491 Projects: Technical Direction 3

Prereq.: TH 316 or permission of instructor. Individual technical direction project in reading, research, engineering, and/or technical direction of a production under the guidance of a member of the theatre staff. May be repeated for up to 6 credits. On demand.

TH 492 Projects: Theatre Computer Technology 3

Prereq.: Permission of instructor. Individual theatre computer technology project in reading, research, engineering, and/or design and execution of production under the guidance of a member of the theatre staff. May be repeated for up to 6 credits. On demand.

TH 493 Projects: Stage Management 3

Prereq.: TH 251 or permission of instructor. Individual stage management project in reading, research, and/or stage management of a production under the guidance of a member of the theatre staff. May be repeated for up to 6 credits. On demand.

TH 495 Theatre Internship 3 TO 6

Prereq.: Permission of department. Substantial work in approved area/regional theatre(s) offering experience or research opportunities unavailable on campus. May be repeated for a total of 12 credits. On demand. [GR]

Tourism & Hospitality Studies

THS 300 The Hospitality Industry 3

Prereq.: GEOG 290. Examines the nature of various segments of the tourism-hospitality industry including lodging, restaurants, meetings, conventions, and entertainment. Emphasis on issues and trends facing this industry.

THS 410 Tourism & Hospitality Operations 3

Prereq.: THS 300. Examination of the operational dimensions of the spectrum of tourism and hospitality-oriented attractions and services. This may include topics such as gaming operations, occupancy analysis, Star reports, and tour operations. Spring.

THS 430 Internship in Tourism and Hospitality 3

Prereq.: Permission of program director. Students will work in an environment directly related to their specific interest under the guidance of a faculty member. Written reports and a supervisor evaluation are required. On demand.

THS 435 Independent Study in Tourism and Hospitality 3

Prereq.: Permission of program director. Examines individually planned specific topics within the tourism/hospitality industry. Results can include detailed research paper or project paper. On demand.

THS 450 Hotel and Lodging Practicum 3

Prereq.: THS 300. Combines detailed analysis of issues and trends affecting this sector of the industry with a real-world project supervised by the instructor and the host organization. Irregular.

THS 455 Conventions and Meeting Planning Practicum 3

Prereq.: THS 300. Combines detailed analysis of issues and trends affecting this sector of the industry with a real-world project supervised by the instructor and the host organization. Irregular.

THS 490 Current Topics in Tourism & Hospitality 3

Prereq.: THS 300. Analysis and evaluation of current topics and issues that confront the tourism/hospitality industry. Course may include on-site facility visits and guest lectures from industry professionals. May be repeated for up to 6 credits. Spring.

Vocational-Technical Education

Note: Courses designed to develop professional competence; for students seeking certification in Vocational-Technical Education and special studies majors with a specialization in Vocational-Technical Education.

VTE 113 Introduction to Teaching Vocational-Technical Education 4

Introduction and application of current learning theories, Connecticut teaching standards, motivational theories, classroom management, assessment techniques, laboratory safety procedures, and basic writing of lesson plans and behavioral objectives as applied to vocational technical education. Fall, Spring, Summer.

VTE 116 Teaching Vocational-Technical Education 2

Students develop sample planning units and present prepared lessons unique to vocational technical education that include theory, demonstration, and teaching strategies. Development of portfolios based on the BEST program will be integrated into the course. Fall, Spring, Summer.

VTE 328 Shop Organization and Management 3

Physical aspects of vocational schools and shops. Purchase and inventory of supplies, surplusing of equipment, selection and installation of equipment, and development of desirable shop layouts. The basic philosophies and practices of exploratory work offered and the specialized training which follows. Laboratory safety, public relations, use of instructional aids, and development of programs for special groups. Fall.

VTE 400 Evaluating Student Achievement in Vocational-Technical Education 3

Prereq.: VTE 113. Procedures for evaluating student achievement of instructional objectives with application in vocational subjects that is reflective of BEST Portfolios. Spring. [GR]

VTE 415 Principles of Career and Technical Education 3

An introduction to the principles and philosophy of vocational education and its impact on society. A brief historical development of career and technical education, supportive legislation, characteristics of the various program fields, delivery systems, and current issues and problems. [GR]

VTE 421 Occupational Specialization 25

Award of academic credit for occupational experience. Candidates must demonstrate technical knowledge and manipulative skills by passing a written and performance examination. Open to any vocational-technical instructor enrolled in the baccalaureate program. On demand.

VTE 450 Principles and Organizations of Cooperative Work Education 3

The development and organization of work experience programs at the secondary school level. Examines those activities necessary to establish, maintain, and improve cooperative work education programs. Fall. [GR]

VTE 455 Labor Market Trends and Student Job Readiness 3

Analysis of factors influencing the work placement of cooperative work education students. Special attention given to the study of present needs as well as anticipated trends in Connecticut's labor market, and the development of a curriculum to establish job readiness skills. Spring. [GR]

VTE 472 Strategies for Improving Student Achievement: CAPT 3

Examines each section of the CAPT, reviews what is assessed on the CAPT, and examines how and why it is assessed. Students will develop a portfolio of CAPT-like assessments related to their areas of VTE instruction. Course cannot be used to meet the requirements in a CCSU teacher certification program. On demand.

VTE 480 Curriculum Development for Trade Department Heads 3

Curriculum development for trade department heads at Connecticut technical high schools.

VTE 482 Instructional Supervision and School Administration for Trade Department Heads 3

Instructional supervision and school administration for trade department heads in the Connecticut technical high school system.

VTE 490 Topics in Vocational-Technical Education 1 TO 3

Special purpose programs designed to meet the needs of selected groups of vocational teachers or directed independent studies for individual students. Provides a mechanism that encourages the vocational instructor to elect, with the guidance of University faculty, job-specific and short-term selective experiences to insure the instructor's technical expertise. May be repeated on different topics to a maximum of 6 credits. On demand. [GR]

Women, Gender, & Sexuality Studies

WGSS 200 Introduction to Women, Gender and Sexuality Studies 3

Focus on issues concerning women, gender, and sexuality. Examines these issues in societies, political institutions, education, the arts, medicine, science, and the family. No credit given to students with credit for WS 200. Spring. Study Area III

WGSS 215 Introduction to Women Writers 3

Introduction to women writers of the world, primarily in the eighteenth, nineteenth, and twentieth centuries. Cross listed with ENG 215. No credit given to students with credit for ENG 215 or WS 215.

WGSS 222 Philosophy and Gender 3

Cross listed with PHIL 222

WGSS 240 The Sociology of Gender 3

Gender as social learning, social organization, and social structure. The gendered nature of friendships, sexuality, conversation, power and violence. Interpersonal institutional sexism as it affects women and men. Issues of inequalities in work, education, politics and health. Women's and men's movements. No credit will be given to students with credit for SOC 240 or WS 240. Irregular. Study Area III

WGSS 241 Women and American Law 3

Cross Listed with PS 241. See PS 241 for detailed description. No credit given to students with credit for PHIL 241.

WGSS 288 Topics in Women, Gender, Sexuality Studies 3

Topics in an area germane to women's studies on an interdisciplinary, per semester, basis. No credit will be given to students with credit for WS 288.

WGSS 330 History of Women in the US, 1620-1865 3

Cross listed with HIST 330. See HIST 330 for detailed description. No credit given to students with credit for HIST 330.

WGSS 331 History of Women in the United States, 1865-present. 3

Reconstruction to the present with special emphasis on how race, class, and ethnicity shaped women's experiences. Cross listed with HIST 331. No credit will be given to students with credit for WS 331 or HIST 331. Spring.

WGSS 334 Women of Medieval Europe 3

Cross listed with HIST 334. See HIST 334 for detailed description. No credit given to students with credit for HIST 334. Fall. [I]

WGSS 335 Women, Marriage, and Family in Early Modern Europe 3

Impact of social, economic, and ideological changes on gender roles and family structure in European society during the Renaissance, Reformation, and post-Reformation period 1400-1700. Cross listed with HIST 335 No credit will be given to students with credit WS 335 or HIST 335. Spring. [I]

WGSS 350 Men and Women in Different Cultures 3

Cross-cultural, historical overview of gender differences. Consideration of gender biases in social science research. Students will examine relations between men and women in different societies to better understand such relationships in their own lives. Cross listed with ANTH 350. No credit will be given to students with credit for ANTH 350, WGSS 350, or WS 350. Spring.

WGSS 390 Topics in Women, Gender, and Sexuality Studies 3

Prereq.: WGSS 200. Intermediate course exploring specific areas of inquiry and research in women, gender and sexuality studies. Irregular.

WGSS 400 Feminist Theory 3

Prereq.: WGSS (was WS) 200 or permission of instructor. Examination of central theoretical and critical concepts, ideas and traditions in the development of feminist theory. NOTE: No credit will be given to students with credit for WS 400. Spring. [GR]

WGSS 430 Internship in Women, Gender, and Sexuality Studies 3

Prereq.: WGSS 200 (formerly WS 200). Students will be placed with an appropriate off-campus agency and will be required to work there from 6 to 8 hours per week. The course and placement are structured to each student's needs. Note: No credit will be given to students with credit for WS 430.

WGSS 435 Images of Gender in the Media 3

Examines media constructions and representations of femininity and masculinity, Focus on popular forms of media including television, film, and advertising. Cross listed with COMM 435. No credit given to students with credit for WS 435 or COMM 435. Spring.

WGSS 448 Psychology of Women 3

Review of research and theories pertaining to the psychology of being female in the development of cognitive, emotional, motivational, and social behavior is emphasized. Psycho-social implications and consequences of changing sex roles will be examined. Cross listed with PSY 448. No credit will be given to students with credit for WS 448 or PSY 448.

WGSS 469 Readings in Women, Gender, and Sexuality Studies 3

Prereq.: WGSS 200 (formerly WS 200) and permission of instructor. Graduate students must have permission of instructor. Independent study in women, gender, and sexuality studies of special interest to students under the supervision of one or more affiliated woman, gender and sexuality studies faculty members. NOTE: No credit will be given to students with credit for WS 469. [GR]

Word Processing

WP 204 Introduction to Word Processing 1

Introduction to a popular word processing software package. Includes document creation, editing, formatting, printing, archiving, and some specialized software features. Irregular.

CAROL A. AMMON SCHOOL OF ARTS & SCIENCES

Susan E. Pease, *Dean*

Richard L. Roth, *Associate Dean*

Mary Horan, *Assistant Dean*

Shelly Jones, *Assistant to the Dean*

Mary Anne Nunn, *Assistant to the Dean*

Brian Sommers, *Assistant to the Dean*

Robert Wolff, *Assistant to the Dean*

Phone: 860-832-2600

Fax: 860-832-2601

Website: www.artsci.ccsu.edu

The Carol A. Ammon School of Arts and Sciences offers programs leading to the BA degree, the BS degree, and the BFA degree. These programs are designed to provide a broad liberal education; the subject matter background for specific careers, including teaching; and the preparation for graduate work in a number of academic fields and professions, including law and medicine.

The programs in the Carol A. Ammon School of Arts and Sciences include the fine arts, the humanities, mathematics, computer science, the natural sciences and the behavioral and social sciences. Some programs are designated "certifiable for teaching." These programs all have additional requirements which are found in the catalog descriptions listed under the School of Education and Professional Studies.

When planning for majors and minors, students must consult with department chairs or program directors and be assigned a faculty advisor.

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[Biology](#)

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[Cooperative Programs](#)

Anthropology

Faculty

M. A. Park, *Chair*; A. E. Adams, K. L. Feder, D. A. Kideckel, W. Perry, E. N. Phillips (*Dept. phone: 860-832-2610, 2611, or 2966*)

Department Overview

Anthropology means "the study of people." It assumes that generalizing about human life takes an integrated study of human biology and culture, past and present, and simple and complex lifeways. Anthropology is comprised of four sub-fields. Cultural anthropology describes and explains variation in human cultural and social types. Biological anthropology explains the physical nature and development of humankind. Archaeology considers past human life and how societies grow, change, and become extinct. Linguistics examines human communication processes.

The anthropology major at the University provides students with a broad social and behavioral science background and prepares the student for a range of careers, from public service to marketing and international management. The department also offers minors in cultural anthropology, archaeology, practicing anthropology, and biological anthropology. These programs give the student a holistic and cross-cultural perspective to complement most majors.

The Department of Anthropology has a number of special programs and resources. An annual summer archaeological field school provides experience in archaeological excavation and analysis. The microfiche and on-line human relations area files in the Burritt Library Serials department is an easy-to-use system for cross-cultural research. There is also an extensive collection of human skeletal materials and fossil casts for education in biological anthropology. Extensive internship opportunities and summer field schools in cultural anthropology are also available.

Programs

[Major in Anthropology, BA](#) (39 credits)

[Minor in Anthropology](#) (18 credits)

[Minor in Archaeology](#) (24 credits)

[Minor in Biological Anthropology](#) (18 credits)

[Minor in Cross-Cultural Analysis](#) (18 credits)

[Minor in Practicing Anthropology](#) (18 credits)

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Art

Faculty

C. Marshall, *Chair*; M. Alewitz, C. Broadus-Garcia, J. Butler, J. Buxton, S. O. Fafunwa-Ndibe, S. Gallagher, V. Garcia, E. Langhorne, R. Siporin, M. Strathy, R. Todd (*Dept. phone: 860-832-2620; website: www.art.ccsu.edu*)

Department Overview

The Department of Art offers two degree programs, a BS Ed in art education for students who wish to pursue a career in teaching art and a BA in art, which provides students with options in studio areas, such as ceramics, design, illustration, painting, photography, printmaking, and sculpture, as well as art history. Study options also exist in new media arts, mural painting, and other new genres. Both conceptual and technical excellence is stressed within a curriculum that encourages diverse forms of creative expression. Study plans are developed on an individual basis consistent with the goals identified by the student and advisor. This allows students the pursuit of diverse interests that match the individual. Recent graduates have begun successful careers as art teachers, and practicing fine and commercial artists. Graduates from our BA program have been accepted in nationally known MFA programs, and our BS in art education alumni are prominent art education leaders throughout the state.

The department houses the Samuel S. T. Chen Fine Arts Center, a gallery exhibiting works by nationally and internationally recognized artists, and providing a venue for student and faculty exhibits. The gallery also provides opportunities to study curatorship, leading to career possibilities in museum studies. Options abound for internships with business and industry, community-based organizations, museums, galleries, and schools.

Programs

Major in Art, BA (60 credits)

Major in Art Education, BS Ed (Certifiable for K-12 teaching, 45 credits)

Minor in Art (18 credits)

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Biology

Faculty

J. N. Jarrett, *Chair*; D. R. Carter, T. M. Doan, S. L. Halkin, M. E. Jackson, J. R. King, J. L. Krans, T. Mione, B.J. Nicholson, P. Osei, C. A. Penniman, R. E. Rollin, D. A. Spector (*Dept. phone: 860-832-2645*)

Department Overview

The Department of Biology has full-time faculty representing the major specializations within the broad field of biology. Copernicus Hall houses laboratories for introductory and advanced undergraduate and graduate courses and research in biology.

The department has a wide range of modern research equipment in laboratories designed for class and/or individual research studies. Specialized facilities, available for faculty and student instruction and research, include a greenhouse, herbarium, molecular genetics research laboratory, controlled environment room, computer laboratory, experimental gardens, and growth chambers.

Through the academic and extracurricular opportunities which the department offers, students are prepared to understand the living world and to enter various careers in biology.

Programs

Major in Biology, BS (Non-teaching)

Major in Biology, BS (Certifiable for teaching grades 7-12, 32-34 credits in biology)

Minor in Biology (Certifiable for secondary teaching)

Major in General Science with Specialization in Biology, BS (Certifiable for elementary education, 39-42 credits)

Major in General Science with Specialization in Environmental Interpretation, BS (53-57 credits)

Minor in Biology (Non-teaching, 20 credits)

Minor in Gerontology

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Chemistry & Biochemistry

Faculty

T. R. Burkholder, *Acting Chair Fall 2011*; J. V. Arena, G. A. Crundwell, N. M. Glagovich, C. A. Jones, S. P. Watton, B. L. Westcott, Jr.; Staff: H. Galli, Science Technical Specialist (Dept. phone: 860-832-2675)

Department Overview

The Department of Chemistry and Biochemistry is committed to excellence in undergraduate instruction and to counseling students to help reach their personal and professional goals. The faculty have a variety of research interests and encourage student involvement in research projects. The department has been approved by the American Chemical Society (ACS) Committee on Professional Training.

The Department of Chemistry and Biochemistry provides undergraduate and graduate courses in the five major areas of chemistry (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry). The department offers the following BS degrees: chemistry, certified by the American Chemical Society; an interdisciplinary degree in biochemistry (administered jointly with the Department of Biomolecular Sciences); and a degree in chemistry certifiable for secondary teaching.

The department facilities are located in Copernicus Hall and include five instructional laboratories, three research laboratories, and two major instrument rooms. All research and many teaching laboratories are equipped with networked computers. Four large computer facilities are available for chemistry majors; all are equipped with state-of-the-art chemistry software packages, including chemical drawing and molecular modeling software.

Chemistry students are introduced to the major research instruments typically found in academic and industrial laboratories, including gas chromatograph/mass spectrometer; 300 MHz Fourier transform nuclear magnetic resonance spectrometer; two Fourier transform infrared spectrophotometers; two UV/visible spectrophotometers; three high-performance liquid chromatographs; an atomic absorption spectrophotometer; a spectrofluorometer; an electrochemical analyzer; a petrographic microscope; three stand-alone gas chromatographs; a polarimeter; a single crystal x-ray diffractometer capable of powder, fiber, and low temperature data collection; and additional instrumentation. For more information, interested students should visit the department's website at www.chemistry.ccsu.edu or contact the department's secretary, Catherine Olson-Garuti, at 860-832-2675.

Programs

[Major in Chemistry, BS](#)

[Major in Biochemistry, BS](#)

[Major in Chemistry, BS](#) (Certifiable for secondary teaching, 36 credits)

[Minor in Chemistry](#) (Non-teaching, 21 credits)

[Minor in Chemistry](#) (Certifiable for secondary teaching)

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Communication

Faculty

G. Fitzgerald, *Chair*; J. C. DelAma, R. M. Fischbach, Y. Ju, S. Mendez-Mendez, C. Pudlinski, K. Ritzenhoff, J. Teitler, C. B. Tyson, C. White (*Dept. phone: 860-832-2690*)

Department Overview

The Department of Communication offers courses leading to the bachelor's degree that are designed to challenge students interested in the study of human communication. Communication, broadly conceived, is the purposeful exchange of symbolic information. Communication viewed as human behavior can be examined both in terms of its process and its outcomes and effects. The program of study defines a range of communication problems, determines the appropriate method of inquiry, and searches for answers to the important questions involving the role of communication in individual relationships, in societal settings, in corporate structures, and in global interdependence.

Programs

[Major in Communication, BA](#)

[Minor in Communication](#) (21 credits)

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Computer Science

Faculty

B. Kjell, *Chair*; F. Abdollahzadeh, J. M. Calvert, S. Kurkovsky, Z. Markov, I. Pevac, N. Zlatareva (*Dept. phone: 860-832-2710*)

Department Overview

The Department of Computer Science offers a full range of courses for students who plan to enter computing careers in business or industry, or who plan to enter graduate school. The department offers an honors and an alternative program of study. Both programs lead to a BS degree in computer science. Computer science majors take courses covering program design, data structures, assembly language programming, digital design, and systems programming. Advanced courses include artificial intelligence, database design, networking, graphics, software engineering, and Web-centric computing. Computer science majors may participate in the Cooperative Education program. This program, open to juniors and seniors, allows students to receive academic credit for work in an industrial environment.

The University's computing and networking facilities provide students with access to specialized software packages, streaming video, and Web-based teaching and learning.

Programs

Major in Computer Science, BS (Honors) (Non-Teaching; CAC/ABET-accredited, 64 credits)

Major in Computer Science, BS (Alternative, Non-teaching, 38 credits)

Minor in Computer Science (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Criminology & Criminal Justice

Faculty

R. Tafrate, *Chair*; K. Bantley, S. Cox, J. Hedlund, A. Hyman-Gregory, S. Koski, D. Mitchell, S. Ratansi, J. Schnobrich-Davis, R. Simmons (*Dept. phone: 860-832-3005*)

Department Overview

The academic field of criminal justice is interdisciplinary and involves the study of the definition of crime, the causes and control of criminal behavior, and the operation of the criminal justice system (i.e., police, courts, and corrections). The study of criminal justice is both theoretical and practical in nature and emphasizes theory, policy, planning, and evaluation. Through classroom and field experience, students are prepared for responsible positions of service in law enforcement, the courts, corrections, and youth service agencies.

Programs

Major in Criminology, BA (39 credits)

Minor in Criminal Justice (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Design (Graphic/Information)

Faculty

E. Thornton, *Chair*; W. Wang, K. Wlodarska (*Dept. phone: 860-832-2557*)

Department Overview

The BA degree in graphic/information design provides professional studies in the areas of graphic design, website design, interactive multimedia design, information design and digital, and 3-D imaging.

The department provides an academic structure for the advancement of graphic and information design instruction and degrees at both the undergraduate and graduate level. The Department of Design (Graphic/Information) is separate from the Departments of Art and of Computer Electronics and Graphics Technology. The faculty and staff are comprised of members with academic background and professional experience in graphic design, fine art, advertising, illustration, information design, communications, marketing, computer science, 3-D imaging, website design, and interactive multimedia design. The department maintains a state-of-the-art print center and laboratories. Upper-level students may be selected (by portfolio) for participation in the following:

- Design Internship experience with graphic design, advertising, publishing, website or multimedia design companies;
- Central Design, student operated full service graphic design studio; and
- International Design Student Exchange.

Graduates of the department are highly successful, working as designers and art directors with nationally known graphic design firms, advertising agencies, corporate design and communication departments, broadcasters, publishers, and website design houses, as well as multimedia and 3-D/animation studios.

Program

Program Admission/Requirements

First-year students and all incoming students will be advised by the Department of Design (Graphic/Information) as pre-graphic/information design majors prior to full program admission.

Acceptance into the University and participation in the pre-graphic/information design program does not guarantee acceptance into the graphic/information design major. Acceptance into the GID major is competitive and is limited by the number of students who can be accommodated. Students seeking full admission to the BA in graphic/information design degree program must meet the following qualifications:

- Complete 9 credits at CCSU;
- Overall GPA of 2.50 strongly recommended. Student must be in good academic standing; and
- A score of 85 or better on the comprehensive assessment administered in DES 122 Fundamentals of Graphic/Information Design. DES 122 may be repeated only with the permission of the department chair.

These criteria will apply to students admitted to the University in spring 2004 or later and students who change their major to Pre-GID in spring 2004 or later.

Note: Students enrolled in the following courses will be assessed a \$65 design lab fee: DES 222, 225, 322, 325, 326, 425, 436, 438, 439, 465, 498, 499, 503, 504, 597, and 598. Contact the department for additional information.

Note: Only students who have been admitted to the major may request transferred DES credit be substituted for "majors only" course work. Equivalency will be determined by individual course portfolio review.

Note: Registration for Graphic/Information Design II (DES 322) requires a grade of "B" or higher in Graphic/Information Design I (DES 222) in addition to the successful completion of other noted prerequisites.

Note: Students who wish to register for DES 122 a second time must submit a written request and support materials for consideration by the department chair during the semester prior to the semester when DES 122 will next be offered. These materials must include documented evidence of additional successful study in graphic design and/or attendance and participation in design-related professional conferences or workshops. Documented evidence of at least 2-3 successful efforts will be required. Please note that submitting the request and supporting materials does not guarantee permission to retake DES 122.

Major in Graphic/Information Design, BA (36 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Economics

Faculty

C. Liard-Muriente, *Chair*; P. Dhar, N. Mijid, B. J. Osoba (*Dept. phone: 860-832-2725*)

Department Overview

The Economics Department offers courses leading to the bachelor's degree. The Department has a commitment to prepare students to be thoughtful, responsible, successful and involved citizens in a rapidly changing world. The Department also aspires to increase understanding of the (1) significance that Heterodox Approaches play in Economics and (2) the interconnectedness of the social and behavioral sciences. The Economics major offers students the opportunity to explore different views and approaches to economic questions and policies, allowing them to develop critical thinking skills. We provide our students with the insight into what motivates individuals to behave the way they do and how they interact with each other.

Programs

Major in Economics, BA (30 credits)

Minor in Economics (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

English

Faculty

S. Cohen, *Chair*; S. Barnett, B. Barr, C. Barrington, A. Cannella, D. Cappella, M. Ciscel, M. Collins, R. Dowling, C. Doyle, R. Dunne, B. Folker, J. Geller, G. Gigliotti, S. N. Gilmore, H. Hartwig, T. Hazuka, J. A. Heitner, B. A. Johnson, J. Jones, P. Karpuk, S. Lee, E. Leonidas, V. B. Martin, M. Mentzer, M. A. Nunn, S. D. Ostrowski, A. Pozorski, R. Schipke, R. Shankar, K. Sugg, H. Urbanski, L. Zidani-Eroglu (*Dept. phone: 860-832-2740*)

General Prerequisite: ENG 110 or an equivalent is a prerequisite for all other English courses, except ENG 099, ESL 108, ESL 109. Students majoring in English or Journalism or minoring in English, Journalism, Cinema Studies, Writing, or Creative Writing must earn a grade of C- or better in ENG 110 before taking additional ENG, CINE, or JRN courses.

Programs

Major in English, BA (42 credits)

Major in Journalism, BA (40 credits)

Major in English, BS (Certifiable for secondary education, 39 credits)

Major in English, BS (Certifiable for elementary education, 39 credits)

Minor in English (18 credits)

Minor in Writing (18 credits)

Minor in Writing for Teachers (for secondary education English majors only, 18 credits)

Minor in Journalism (21 credits)

Minor in Cinema Studies (18 credits)

Minor in Creative Writing (18 credits)

Minor in Descriptive Linguistics (21 credits)

Minor in TESOL (For students completing elementary or secondary certificates, 21 credits)

Minor in Language and Computation (24 credits)

Complementary Subject Matter Area in English/Linguistics (18 credits)

Complementary Subject Matter Area in English/Writing (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Geography

Faculty

X. Shen, *Chair*; R. W. Benfield, C. Button, D. Dornan, J. E. Harmon, P. A. K. Kyem, C. Pope, B. J. Sommers, D. Truly (*Dept. phone: 860-832-2785*)

Department Overview

The Department of Geography is concerned with the science of location. Geography faculty teach students to use maps, air photos, computers, and information about places to understand how people use the land they live on and what makes that land different from other areas. Geography students learn about the nature of places, human impacts on environment, and the proper use of the land. Career opportunities include travel and tourism; environmental protection; urban, regional, and transportation planning; map making; area studies; regional economic development and location analysis; Geographic Information System (GIS); and computer applications. The department also provides internships for students in a variety of town, regional, state, and private agencies, and offers consulting services, workshops, and short courses as part of its outreach program.

Programs

Major in Geography: 39 credits in one of the specializations in geography.

[Major in Geography with Specialization in Environmental Geography, BA](#)

[Major in Geography with Specialization in Geographic Information Science, BA](#)

[Major in Geography with Specialization in Tourism, BA](#)

[Major in Geography with Specialization in General/Regional Geography, BA](#)

[Major in Geography with Specialization in Planning, BA](#) (39 credits)

[Minor in Geography with Specialization in Planning](#) (18 credits)

[Minor in Environmental Geography](#) (18 credits)

[Minor in Geographic Information Sciences](#) (18 credits)

[Minor in Geography](#) (18 credits)

[Minor in Tourism](#) (18 credits)

[Major in Social Science with Minor in Geography, BS](#) (Certifiable in social studies, 54 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

History

Faculty

G. Sunshine, *Chair*; J. Bergman, M. B. Biskupski, G. T. Emeagw ali, L. Glaser, B. Greenfield, K. Hermes, M. Jones, E. Kapetanopoulos, M. Mahony, H. Munro Prescott, M. Specter, J. Tully, M. Warshauer, L. Williams, R. Wolff (*Dept. phone: 860-832-2800*)

Programs

Major in History, BA (39 credits)

Major in History, BS (Certifiable for secondary teaching of history and social studies, 57 credits)

Major in History, BS (Certifiable for elementary education, 39 credits)

Minor in History (18 credits)

Minor in Public History (18 credits)

Minor in Polish Studies (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Mathematical Sciences

Faculty

J. McGowan, *Chair*; F. Bensics, R. Bilisoly, N. Castaneda, Y. Chen, R. Crouse, D. Dzuida, I. Gotchev, S. L. Gould, P. Halloran, C. Jin, S. Jones, R. S. Kalder, D. T. Larose, F. Latour, S. Lesik, E. Makover, A. Miller, D. S. Miller, M. Mitchell, O. Perdomo, L. Recoder-Núñez, T. Roman, K. Saha, R. Schwell, C. D. Smith, R. Vogeler, C. Waiveris (*Dept. phone: 860-832-2835*)

Department Overview

The Department of Mathematical Sciences has 30 full-time faculty members with expertise in mathematics, mathematics education, developmental mathematics, actuarial science, statistics, data mining, and mathematical physics. Our programs prepare students for teaching, business, industry, and research. In addition, we provide students in the Schools of Engineering and Technology, Business, and Educational and Professional Studies, as well as in other departments within the Carol A. Ammon School of Arts and Sciences, with the mathematics and statistics courses needed for success in their fields.

Programs

Major in Mathematics, BA (38 credits)

Major in Mathematics with Specialization in Actuarial Science, BA (58 credits)

Major in Mathematics with Specialization in Statistics, BA (58 credits)

Major in Mathematics, BS (Certifiable for secondary teaching, 48 credits)

Major in Mathematics, BS (Certifiable for elementary teaching, 33 credits)

Minor in Mathematics (For students completing secondary certificates, 19 credits)

Minor in Mathematics (Non-teaching, 20 credits)

Minor in Statistics (21 credits)

Certification in Elementary Education, Primary Subject Matter Area in Mathematics (24-26 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Major in Anthropology, BA (39 credits)

ANTH 150	Introduction to Archaeology	3
ANTH 160	Introduction to Biological Anthropology	3
ANTH 170	Introduction to Cultural Anthropology	3
ANTH 335	Theories of Human Evolution and Behavior	3
ANTH 340	Theories of Culture	3
ANTH 374	Field Research Methods	3
ANTH 375	Anthropological Data Analysis	3
ANTH 490	Senior Thesis	3

and 3 credits from the following:

ANTH 401	City Life and Culture	3
ANTH 416	Archaeology of Africa	3
ANTH 418	New England Prehistory	3
ANTH 420	African Diaspora Archaeology	3
ANTH 422	Native Americans	3
ANTH 424	Peoples and Cultures of Africa	3
ANTH 426	People and Cultures of Eastern Europe	3
ANTH 428	Cultures of Latin America	3

and one course from the following:

ANTH 433	Independent Study in Anthropology	1-3
ANTH 437	Internship in Anthropology	3
ANTH 451	Field School in Cultural Anthropology	3-6

and 9 credits from elective courses in anthropology, with all of the electives at the 300 level or higher. A minor is required for this major.

Minor in Anthropology (18 credits)

ANTH 140 Introduction to Anthropology 3

and 15 credits in anthropology.

Individual programs will differ according to the particular needs of the student and must be developed jointly with the student's advisor.

Minor in Archaeology (24 credits)

ANTH 150	Introduction to Archaeology	3
ANTH 215	Before History	3
ANTH 324	Archaeology of the State	3
ANTH 450	Archaeological Field School	3-6

and 12 credits from the following:

ANTH 210	The Ancient World	3
ANTH 230	North American Prehistory	3
ANTH 322	Historical Archaeology	3
ANTH 323	Urban Archaeology	3
ANTH 329	Experimental Archaeology	3
ANTH 416	Archaeology of Africa	3
ANTH 418	New England Prehistory	3
ANTH 420	African Diaspora Archaeology	3

For students majoring in anthropology, 6 credits of this minor may be applied to the major.

Minor in Biological Anthropology (18 credits)

ANTH 160	Introduction to Biological Anthropology	3
ANTH 245	Laboratory in Biological Anthropology	3
ANTH 335	Theories of Human Evolution and Behavior	3
ANTH 365	The Anthropology of Human Differences	3
ANTH 425	Human Ecology	3
Minor-related elective		3

For students majoring in anthropology, 3 credits of this minor may be applied to the major.

Minor in Cross-Cultural Analysis (18 credits)

ANTH 170	Introduction to Cultural Anthropology	3
ANTH 200	Dimensions of Diversity and Inequality	3
ANTH 340	Theories of Culture	3

and 6 credits from the following:

ANTH 352	Ethnicity and Ethnic Identity	3
ANTH 422	Native Americans	3
ANTH 424	Peoples and Cultures of Africa	3
ANTH 426	People and Cultures of Eastern Europe	3
ANTH 428	Cultures of Latin America	3
ANTH 475	Topics in Anthropology	3

and, if devoted to a specific world area, one additional course approved by an advisor

For students also majoring in anthropology, 3 credits of this minor may be applied to the major.

Minor in Practicing Anthropology (18 credits)

ANTH 170	Introduction to Cultural Anthropology	3
ANTH 200	Dimensions of Diversity and Inequality	3
ANTH 270	Applying Anthropology	3
ANTH 374	Field Research Methods	3
ANTH 401	City Life and Culture	3
ANTH 437	Internship in Anthropology	3

For students majoring in anthropology, 3 credits of this minor may be applied to the major.

Major in Art, BA (60 credits)

ART 112	History of Art I	3
ART 113	History of Art II	3
ART 120	Design I	3
ART 124	Three-Dimensional Design	3
ART 130	Draw ing I	3
ART 216	Modern Art	3
ART 261	Sculpture	3
ART 230	Draw ing II	3

Individual Planned Program of Study (18 credits)

To be developed in conjunction w ith departmental advisor and includes a minimum of 9 sequential credits in one area. Art majors must complete 15 credits in courses at the 300-level or above.

Directed Electives or a Minor in a field outside of the Department of Art (18 credits)

Major-related electives, selected in consultation w ith advisor, or a minor in another department

Capstone (3 credits)

ART 499	Capstone in Art	3
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Portfolio Requirement

All art majors must submit a portfolio of w orks for consideration by the art faculty. Students w hose portfolios do not meet standards w ill be required to take supplemental courses. No student w ill be allow ed to proceed on to a 300-level (or higher) studio course w ithout a successful portfolio review .

Major in Art Education, BS Ed (Certifiable for K-12 teaching, 45 credits)**Art Education Core** (36 credits)

ART 112	History of Art I	3
ART 113	History of Art II	3
ART 120	Design I	3
ART 124	Three-Dimensional Design	3
ART 130	Drawing I	3
ART 230	Drawing II	3
ART 240	Printmaking I	3
ART 252	Painting I	3
ART 260	Ceramics I	3
ART 261	Sculpture I	3
ART 263	Crafts I	3

and one additional three-credit art history course

Studio Specialization Area

9 credits in one media area are required; 3 credits from the required studio core can be used as a beginning studio specialization course

Directed Electives

3 credits, as necessary to meet program requirements, chosen in consultation with advisor

No minor is required for BS in art education students.

Students interested in art education should also read "Professional Program for Teacher Certification" in the School of Education and Professional Studies section on page 83 of this catalog.

A portfolio review is required of all BS in art education majors.

Portfolio Requirement

All art majors must submit a portfolio of works for consideration by the art faculty. Students whose portfolios do not meet standards will be required to take supplemental courses. No student will be allowed to proceed on to a 300-level (or higher) studio course without a successful portfolio review.

Major in Chemistry, BS*(Accredited by the American Chemical Society)*

This program is designed for students wishing to go on to graduate-level studies in chemistry, or those who expect to enter professional chemistry at the bachelor's level.

Chemistry Core (47 credits)

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Lab	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Lab	1
CHEM 301	Analytical Chemistry	4
CHEM 316	Spectrometric Identification of Organic Compounds	3
CHEM 321	Physical Chemistry of Thermodynamics & Kinetics	3
CHEM 322	Physical Chemistry of Quantum & Statistical Mechanics	3
CHEM 323	Physical Chemistry Lab	1
CHEM 354	Biochemistry	3
CHEM 402	Instrumental Methods in Analytical Chemistry	4
CHEM 432	Chemistry Seminar	2
CHEM 455	Biochemistry Lab	1
CHEM 460	Inorganic Symmetry & Spectroscopy	3
CHEM 461	Descriptive Inorganic Chemistry	3
CHEM 462	Inorganic Chemistry Lab	1

Related Requirements

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
MATH 152	Calculus I	3
MATH 221	Calculus II	3

The student must also complete one additional course from the following approved list:

MATH 218	Discrete Mathematics	4
MATH 222	Calculus III	4
MATH 226	Linear Algebra and Probability for Engineers	4
MATH 228	Introduction to Linear Algebra	4
CS 151	Computer Science I	3

A minor is not required for this major.

Major in Biochemistry, BS (Non-teaching, 57-60 credits)**Core Requirements** (35 credits)

BMS 102	Introduction to Biomolecular Science	3
BMS 103	Introduction to Biomolecular Science Laboratory	1
BMS 190	Introduction to Research I	0.5
BMS 201	Principles of Cell and Molecular Biology	4
BMS 290	Introduction to Research II	0.5
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Laboratory	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Laboratory	1
CHEM 301	Analytical Chemistry	4
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Laboratory	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Laboratory	1
CHEM 316	Spectrometric Identification of Organic Compounds	3
CHEM 320	Biophysical Chemistry	3

Directed Electives (13-16 credits)

One course chosen from:

BMS 306	Genetics	4
BMS 307	Genomics	4
BMS 311	Cell Biology	4
BMS 316	Microbiology	4

and 6-8 additional credits chosen from the 300-level BMS courses listed above or from the following:

BMS 415	Advanced Exploration in Cell, Molecular, and Physiological Biology	3
BMS 490	Topics in Biomolecular Sciences	3
BMS 495	Capstone in Molecular Biology	4
BIO 416	Immunology	3
BIO 449	Plant Physiology	3
BIO 450	Investigations in Plant Physiology	1

and 3-4 additional credits in chemistry from the following:

CHEM 402	Instrumental Methods in Analytical Chemistry	4
CHEM 406	Environmental Chemistry	3
CHEM 456	Toxicology	3
CHEM 459	Bioinorganic Chemistry	3
CHEM 485	Topics in Chemistry	3

BMS 562	Developmental Biology	3
BMS 570	Advanced Genetics	3
CHEM 551	Topics in Biochemistry	3

Major in Chemistry, BS (Certifiable for secondary teaching, 36 credits)

This program is designed for those students seeking state certification for teaching chemistry at the secondary level, and includes a student-teaching component in the senior year at an area school.

Chemistry Core (34 credits)

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Lab	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Lab	1
CHEM 301	Analytical Chemistry	4
CHEM 321	Physical Chemistry of Thermodynamics & Kinetics	3
CHEM 322	Physical Chemistry of Quantum & Statistical Mechanics	3
CHEM 323	Physical Chemistry Lab	1
CHEM 402	Instrumental Methods in Analytical Chemistry	4
CHEM 461	Descriptive Inorganic Chemistry	3

Related Requirements

BIO 121	General Biology I	4
or		
BMS 102	Introduction to Biomolecular Science	3
and		
BMS 190	Introduction to Research I	0.5
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
SCI 420	History of Nature and Science	3
MATH 152	Calculus I	3
MATH 221	Calculus II	3
Science electives approved by the chair		3

30 credits also must come from the following courses, which require prior acceptance into the Professional Program in the School of Education and Professional Studies:

SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDTE 316	Principles of Learning: Sec/K-12	4
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
RDG 440	Literacy in Secondary School	3
SCI 416	Educational Technology in Secondary Science	1
SCI 417	Teaching of Science in the Secondary School	3
SCI 419	Student Teaching Seminar	1

For students contemplating graduate work, a year of German or Russian is recommended. Students who major in chemistry are not required to complete a minor, but are urged to minor in general science.

Minor in Chemistry (Non-teaching, 21 credits)

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Lab	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Lab	1
CHEM 301	Analytical Chemistry	4

and one chemistry elective selected from courses numbered 300 or above.

Minor in Chemistry (Certifiable for secondary teaching)

20 credits in chemistry if the student majors in biology, biomolecular sciences, physics, or earth science

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Lab	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Lab	1
CHEM 301	Analytical Chemistry	4

Related Requirements

PHYS 121	General Physics I	4
PHYS 122	General Physics II	4
BIO 121	General Biology I	4
or		
BMS 102	Introduction to Biomolecular Science	3
and		
BMS 190	Introduction to Research I	0.5
SCI 417	Teaching of Science in the Secondary School	3
MATH 121	Pre-Calculus Mathematics	3
or		
MATH 119	Pre-Calculus with Trigonometry	4

For other majors, a certifiable minor in chemistry requires 30 credits planned with the approval of the chair of the Department of Chemistry and Biochemistry.

Major in Communication, BA

39 credits in the department and related courses, including 9 credits of required courses within an emphasis area, 18 credits of departmental electives, and 12 credits of core requirements

COMM 140	Public Speaking	3
COMM 230	Introduction to Mass Media	3
COMM 240	Survey of the Field of Communication	3
and		
COMM 301	Critical Thinking	3
or		
COMM 302	Problem-Solving and Decision Making	3

As part of their 39 credit major, students must take a total of 21 credits from 300/400-level courses, with a minimum of 9 credits from 400-level courses.

Courses are grouped according to certain emphases within the broad field of communication, allowing the student the choice of an emphasis that is compatible with his or her aims and interests. These emphases are:

- Media production and performance (for students interested in non-journalistic careers in radio, television, or film);
- Media studies (for students who want to gain a better understanding of the systems and institutions distributing mediated information in society);
- Promotion/public relations (for students who wish to develop communication skills for commercial, as well as non-commercial, employment in publicity, promotions, sales and corporate communication, and community services); and
- Organizational communication (for students interested in pursuing consulting or in serving as managers for private and public institutions). In addition to these educational and occupational opportunities, a student might choose to pursue directions which could lead to an advanced degree in communication.

In addition to the 12 credit core, each track has the following selected requirements:

Media Production and Performance Track**Required courses (9 credits)**

COMM 405	Principles and Processes of Mass Communication	3
COMM 330	Digital Film and Television Production	3
COMM 336	Media Literacy	3
or		
COMM 338	Analysis of News	3

Directed Electives

18 credits, of which at least 6 credits must be from a list of selected media production and performance courses.

Media Studies Track**Required courses (9 credits)**

COMM 405	Principles and Processes of Mass Communications	3
COMM 330	Digital Film and Television Production	3
COMM 336	Media Literacy	3
or		
COMM 338	Analysis of News	3

Directed Electives

18 credits, of which at least 6 credits must be from a list of selected media studies courses.

Public Relations/Promotions Track**Required courses** (9 credits)

COMM 215	Introduction to Interpersonal Communication	3
COMM 234	Introduction to Public Relations	3
COMM 443	Communication and Social Influence	3

Directed Electives

18 credits, of which at least 6 credits must be from a list of selected public relations courses).

Organizational Communication Track**Required courses** (9 credits)

COMM 215	Introduction to Interpersonal Communication	3
COMM 253	Introduction to Organizational Communication	3
COMM 453	Organizational Communication	3

Directed Electives

18 credits, of which at least 6 credits must be from a list of selected organizational communication courses.

Students should obtain a Curriculum Guide Sheet from the Department of Communication to determine the appropriate departmental electives for their emphasis area.

The Department of Communication maintains a policy for continuation in the major. Communication majors must complete COMM 140 and COMM 240 (with a C- or better) before they reach 60 credits. Majors must maintain an overall GPA of 2.00 or better to stay in the major.

Curriculum Guide Sheets listing required and recommended courses for each emphasis are available in the department. A maximum of 6 credits in related courses from outside the department (also listed on Curriculum Guide Sheets) may be counted toward the major. The student may also request to use up to 6 credits of related coursework outside of the major that are not listed on the Curriculum Guide Sheets. In such cases, students should obtain permission from their advisor and department chair as well as complete a course substitution form. Furthermore, *completion of a minor in a related field of study in another department at the University is required.* Students should complete a Program Change form as soon as possible to declare their minor.

Minor in Communication (21 credits)

COMM 115	Fundamentals of Communication	3
or		
COMM 140	Public Speaking	3
COMM 215	Introduction to Interpersonal Communication	3
COMM 230	Introduction to Mass Media	3

and 12 credits in communication courses, 6 of which must be numbered 300 or 400

Students may not count both COMM 115 and COMM 140 towards the minor.

Major in Computer Science, BS (Honors) (Non-Teaching; CAC/ABET-accredited, 64 credits)**CORE COURSES** (24 semester hours):

CS 151	Computer Science I	3
CS 152	Computer Science II	3
CS 153	Computer Science III	3
CS 253	Data and File Structures	3
CS 254	Computer Organization and Assembly Language Programming	3
CS 354	Digital Systems Design	3
CS 355	Introduction to Systems Programming	3
CS 385	Computer Architecture	3

ADVANCED ELECTIVES (12 semester hours) choice of 12 hours from:

CS 407	Advanced Topics in Computer Science	1-3
CS 410	Introduction to Software Engineering	3
CS 423	Computer Graphics	3
CS 425	Image Processing	3
CS 460	Database Concepts	3
CS 462	Artificial Intelligence	3
CS 463	Algorithms	3
CS 464	Programming Languages	3
CS 465	Compiler Design	3
CS 473	Simulation Techniques	3
CS 481	Operating Systems Design	3
CS 483	Theory of Computation	3
CS 490	Computer Communications Networks & Distributing Processing	3
CS 491	Wireless Communication Networks	3
CS 492	Computer Security	3
CS 495	Legal, Social, Ethical, and Economic Issues in Computing	3

AUXILIARY ELECTIVES (4 semester hours) selected from the Advanced Electives or from the following:

Additional courses selected from the advanced directed electives listed above or from the following:

CS 290	Topics in Computer Science	1-3
CS 300	Computer Science Work Experience I	3
CS 301	Computer Science Work Experience II	3
CS 398	Independent Study in Computer Science	1-3
CS 498	Senior Project	1-3
CS 499	Seminar in Computer Science	3

MATH/STATISTICS (15 semester hours)

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4

STAT 315	Mathematical Statistics I	3
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SCIENCE/QUANTITATIVE (15 semester hours) A choice of one of the following sequences (8 hours):

BIO 121	General Biology I	4
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BIO 122	General Biology II	4
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or

CHEM 161	General Chemistry I	3
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CHEM 162	General Chemistry I Lab	1
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CHEM 163	General Chemistry II	3
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CHEM 164	General Chemistry II Lab	1
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or

ESCI 121	Physical Geology	4
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ESCI 122	Historical Geology	4
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or

PHYS 125	University Physics I	4
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PHYS 126	University Physics II	4
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PHILOSOPHY (3 semester hours): PHIL 245 (3) or PHIL 242 (3)

Computer science honors program majors are not required to complete a minor. Students in this honors program are required to take a proficiency test specified by the department during their senior year.

Major in Computer Science, BS (Alternative, Non-teaching, 38 credits)

This alternative major may be completed in as few as four semesters. A minor is required for this major.

30 credits of computer science courses, including:

CS 151	Computer Science I	3
CS 152	Computer Science II	3
CS 153	Computer Science III	3
CS 253	Data and File Structures	3
CS 254	Computer Organization and Assembly Language Programming	3

and 15 credits of computer science courses numbered CS 210 or higher.

8 credits in mathematics:

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4

Minor in Computer Science (18 credits)

CS 151	Computer Science I	3
CS 152	Computer Science II	3
CS 153	Computer Science III	3
CS 253	Data and File Structures	3

and 6 credits of computer science courses numbered CS 210 or higher.

Major in Criminology, BA (39 credits)

CRM 110 Introduction to the Criminal Justice System 3

CRM 230 Law Enforcement And Society 3

CRM 231 Criminal Procedure and the Courts 3

CRM 238 Corrections 3

CRM 260 Criminology 3

CRM 322 Research Methods in Criminal Justice 3

and

3 credits of a 200-level CRM elective; 9 credits of 300-level electives; 9 credits of 400-level CRM electives

Related Requirements:

PHIL 144 Moral Issues 3 (with a grade of C- or higher)

and

STAT 104 Elementary Statistics 3 (with a grade of C- or higher)

or

STAT 200 Business Statistics 3 (with a grade of C- or higher)

or

STAT 215 Statistics for Behavioral Sciences I 3 (with a grade of C- or higher)

Minor in Criminal Justice (18 credits)

CRM 110	Introduction to the Criminal Justice System	3
CRM 230	Law Enforcement & Society	3
CRM 231	Criminal Procedure and the Courts	3
CRM 238	Corrections	3
CRM 260	Criminology	3
and one elective		3

Major in Graphic/Information Design, BA (36 credits)

DES 222	Graphic/Information Design I	3
DES 225	History & Design of Typography	3
DES 322	Graphic/Information Design II	3
DES 325	Digital Imaging for Design I	3
DES 326	Digital Imaging for Design II	3
DES 419	History of Design	3
DES 425	Three-Dimensional Imaging for Graphic/Information Design	3
DES 436	Graphic/Information Design III	3
DES 438	Graphic/Information Design IV	3
DES 499	Computer Applications for Graphic/Information Design	3
MKT 306	Advertising and Promotion	3
CS 495	Legal, Social, Ethical, and Economic Issues in Computing	3
ART 110	Introduction to Art History	3
ART 130	Drawing I	3
ART 224	Illustration I	3
COMM 230	Introduction to Mass Media	3
MKT 295	Fundamentals of Marketing	3

Note: Students must complete a standard minor or 18 credits of major-related courses as approved by advisor. Students are limited to 6 credits of design-designated coursework per semester without approval of advisor and department chair.

Major in Economics, BA (30 credits)

ECON 200	Principles of Economics I	3
ECON 201	Principles of Economics II	3
ECON 300	Macroeconomics	3
ECON 305	Microeconomics	3
ECON 310	Mathematical Economics I	3

And 15 credits of electives, including:

GEOG 244	Economic Geography	3
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In addition, students must take the following:

MATH 125	Applied Calculus	3
STAT 104	Elementary Statistics	3
PHIL 220	Introduction to Logic	3
or		
MIS 201	Introduction to Management Information Systems	3

Minor in Economics (18 credits)

ECON 200	Principles of Economics I	3
ECON 201	Principles of Economics II	3
Economics electives		12

Note: GEOG 244 may be credited toward the minor for students completing elementary and secondary certificates.

Major in English, BA (42 credits)

ENG 298	Introduction to Literary Studies	3
ENG 205	Survey of British Literature: Middle Ages to the 18 th Century	3
ENG 210	Survey of American Literature: Pre-Civil War	3
ENG 203	Survey of World Literature: Ancient to Early Modern	3
	or	
ENG 204	Survey of World Literature: 17 th Century to the Present	3

3 credits from the following:

ENG 203	Survey of World Literature: Ancient to Early Modern	3
ENG 204	Survey of World Literature: 17 th Century to the Present	3
ENG 206	Survey of British Literature: Romanticism to the Present	3
ENG 211	Survey of American Literature: Civil War to the Present	3

and 3 credits from the following:

LING 200	Introduction to Linguistics	3
LING 230	The Study of Language	3
LING 400	Linguistics Analysis	3
LING 430	Studies in Linguistics & the English Language	3
LING 431	The History of the English Language	3

In addition, 24 credits on the 300-400 level* as follows:

9 credits in British literature, at least one in a period preceding 1798 and at least one in a period following 1798; 6 credits in American literature, one in a period preceding 1865 and one in a period following 1865; 3 credits in world literature; and 6 credits of 300/400-level English literature or film electives.

A minor is required for this major.

*There is one exception to the statement that the remaining credits must be on the 300/400 level. ENG 220 may be taken as fulfillment of the appropriate period or elective requirement. All studies courses (ENG 448, 458, 449, and 488) may be taken twice under different topics. Further substitutions within area requirements are permitted only with prior approval of the advisor and the department chair. Writing courses cannot be counted as electives in the major.

Major in Journalism, BA (40 credits)

The BA in Journalism is a 40-credit program that prepares students for entry into journalism and related fields where information-gathering, writing, editing, and awareness of public affairs are important. Students choose one of two tracks, print or broadcast, but all students receive training in multimedia reporting. All students must declare a minor in Arts and Sciences, excluding Communication. Resources such as the Robert Vance Endowed Chair in Journalism and Mass Communication allow the program to bring in visiting professionals on a regular basis to supplement the curriculum. A PORTFOLIO IS REQUIRED. For more information, contact Dr. Vivian B. Martin, program coordinator, 832-2776, martinv@ccsu.edu.

Plan of Study

Journalism (JRN) courses:

200, 235, 237, 336, 370, 371, 380, 381, 383, 384, 385, 400, 410, 412, 416, 418, 420, 490, 491, 495

Communication (COMM):

230, 231, 255, 330, 335, 420, 427, 428, 480, 495

English (ENG):

382

1. Common Core (22 credits)

Students must take JRN 200, 235, 236, 237, 383, 384, 412, and three credits from the following: JRN 370, 400, 410, 420.

JRN 200: Introduction to Journalism (Prereq. ENG 110) 3 credits

JRN 235: News Writing and Reporting I 3 credits

JRN 237: Introduction to the Profession 1 credit (preferably taken concurrently with JRN 235 or 236)

JRN 336: Journalism II 3 credits

JRN 383: Responsibilities of Journalism 3 credits

JRN 384: Journalism History 3 credits

JRN 412: Editing 3 credits

One of the following:

JRN 370: Today's News in Context

JRN 400: Journalism Theory

JRN 410 : Public Opinion

JRN 420: Political Economy and Media

2. Two Sequences: Print and Broadcast, 18 credits each.

Print sequence: 18 credits

a. Required: JRN 385: Web Journalism, and two courses from the following:

JRN 371: Reporting Cultural Diversity

JRN 380: Feature Writing

JRN 381: Editorial Writing

JRN 416: Magazine Writing

ENG 382: Travel Writing

JRN 418: Studies in Journalism (students may take 418 twice provided the courses are on different topics)

b. Nine credits of directed electives chosen in consultation with a faculty advisor. These electives may include courses in Journalism not used to fulfill other requirements, including JRN 491 (Campus Newspaper Critique) and JRN 495 (Internship), or courses in other departments and schools at CCSU. Three of the nine credits must be in a visual medium in or related to journalism (video, photojournalism, design). Students are encouraged to choose courses that will allow them to build an area of expertise that will help their future work in journalism and related media fields.

Broadcast sequence: 18 credits

a. Required:

JRN 340: Introduction to Broadcast News

COMM 330: Digital Film and Television Production I

COMM 427: Digital Film and Television Production II

COMM 230: Introduction to Mass Media

Or

COMM 255: Visual Communication

b. Nine credits of directed electives chosen in consultation with a faculty advisor. Students may choose three courses from those listed below or, with approval of an advisor, select other courses from Journalism, Communication, or other CCSU departments.

COMM 231: Communication Technologies

COMM 335: Communication Management

COMM 420: Principles of Digital Photography for Convergent Media

COMM 428: Digital Film and Television Production III

COMM 480: Television Documentary Production

COMM 495: Special Topics in Communication

JRN 495: Internship

Journalism Major- General Education Requirements

All majors:

1. HIST 161: American History to 1877

Or

HIST 162: American History 1877 -

2. STAT 104: Elementary Statistics

Or

STAT 215: Statistics for Behavioral Sciences I

3. PS 110: American Government

Or

PS 230 : State and Local Government

All Majors:

4. Diversity requirement. Students can meet this requirement in one of a few ways.

a. Select one of the following:

ANTH 200 Dimensions of Diversity and Inequality

Or

SOC 212: Race, Class, and Gender

Or

HIST 319: Race, Ethnicity and Migration in the US

Or

HIST 369: African American History

Or

IS 226 Intercultural Sensitivity.

b. Choose a more advanced course in consultation with an adviser

c. Take JRN 371: Reporting Cultural Diversity.

5. COMM 230 is a recommended Gen Ed elective for all JRN majors (also counts towards broadcast sequence)

Broadcast Sequence

COMM 140: Public Speaking

Major in English, BS (Certifiable for secondary education, 39 credits)

ENG 298	Introduction to Literary Studies	3
ENG 203	Survey of World Literature: Ancient to Early Modern	3
	or	
ENG 204	Survey of World Literature: 17 th Century to the Present	3
ENG 205	Survey of British Literature: Middle Ages to the 18 th Century	3
ENG 210	Survey of American Literature: Pre-Civil War	3
and 3 credits from the following:		
ENG 203	Survey of World Literature: Ancient to Early Modern	3
ENG 204	Survey of World Literature: 17 th Century to the Present	3
ENG 206	Survey of British Literature: Romanticism to the Present	3
ENG 211	Survey of American Literature: Civil War to the Present	3
ENG 402	Advanced Composition & Technology in the English Classroom	3
ENG 406	Teaching the Mechanics of Writing	3
ENG 449	Major American Authors	3
ENG 486	World Literature and Film	3
(or another appropriate 300-400 level international media and literature course)		
ENG 492	Literature for Young Adults	3
ENG 220	Shakespeare	3
	or	
ENG 461	Shakespeare: Major Comedies	3
	or	
ENG 462	Shakespeare: Major Tragedies	3

one additional 300-400-level British literature course*

and additional 300-400-level American literature course

LING 200 must be taken to fulfill Study Area III.

Professional education courses: ENG 420 (to be taken concurrently with EDSC 425) and ENG 435 (to be taken concurrently with EDSC 435) counted toward professional education. Also, SPED 315, EDTE 316, EDSC 425, EDF 415, RDG 440, EDSC 435 are required for certification.

A minor is required for this major.

*There is one exception to this statement that the remaining credits must be on the 300-400 level. ENG 220 may be taken as fulfillment of the upper division requirement in British literature. All studies courses (ENG 448, 458, 449, and 488) may be taken twice under different topics. Further substitutions within area requirements are permitted only with prior approval of the advisor and the department chair.

Major in English, BS (Certifiable for elementary education, 39 credits)**Core** (24 credits)

ENG 205	Survey of British Literature: Middle Ages to the 18th Century	3
ENG 206	Survey of British Literature: Romanticism to the Present	3
ENG 210	Survey of American Literature: Pre-Civil War	3
ENG 211	Survey of American Literature: Civil War to the Present	3
ENG 491	Children's Literature	3
ENG 492	Literature for Young Adults	3
LING 200	Introduction to Linguistics	3
LING 300	Language Acquisition	3

Composition Sequence (6 credits): either,

Expository:

ENG 202	Intermediate Composition	3
and		
ENG 401	Advanced Composition	3

or

Fiction:

ENG 371	Creative Writing: Fiction I	3
and		
ENG 372	Creative Writing: Fiction II	3

or

Poetry:

ENG 373	Creative Writing: Poetry I	3
and		
ENG 374	Creative Writing: Poetry II	3

or

Creative Nonfiction:

ENG 370	Creative Nonfiction I	3
and		
ENG 375	Creative Nonfiction II	3

or

Journalism:

JRN 200	Introduction to Journalism	3
and		
JRN 235	News Writing and Reporting I	3

or one of the following with permission of instructor/program coordinator:

JRN 380	Feature Writing	3
JRN 381	Opinion Writing	3
JRN 418	Studies in Journalism	3

Directed Electives (9 credits)

ENG 270	Dramatic Enactment	3
or		
ENG 274	Storytelling	3

and 6 credits at the 300-400 level in literature (British, American or World) or CINE, or ENG 220, selected in consultation with advisor.

SPED 315 is required for certification.

No minor is required for this major.

For Certification in Elementary Education, Primary Subject Matter Area in English* (24 credits)

ENG 205	Survey of British Literature: Middle Ages to the 18th Century	3
ENG 206	Survey of British Literature: Romanticism to the Present	3
ENG 210	Survey of American Literature: Pre-Civil War	3
ENG 211	Survey of American Literature: Civil War to the Present	3
ENG 270	Dramatic Enactment	3
or		
ENG 274	Storytelling	3
ENG 491	Children's Literature	3
LING 230	The Study of Language	3

3 elective credits at the 300-400 level in British, American or world literature, or ENG 220, selected in consultation with an advisor. See department for details.

*Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Minor in English (18 credits)

ENG 205	Survey of British Literature: Middle Ages to the 18 th Century	3
ENG 210	Survey of American Literature: Pre-Civil War	3

and 12 credits of literature electives, with at least 9 credits on the 300-400 level

Minor in Writing (18 credits)

ENG 401	Advanced Composition	3
LING 230	The Study of Language	3

Directed Electives (12 credits)

JRN 200	Introduction to Journalism	3
JRN 235	News Writing and Reporting I	3
JRN 236	News Writing and Reporting II	3
ENG 370	Creative Nonfiction I	3
ENG 371	Creative Writing: Fiction I	3
ENG 372	Creative Writing: Fiction II	3
ENG 373	Creative Writing: Poetry I	3
ENG 374	Creative Writing: Poetry II	3
ENG 375	Creative Nonfiction II	3
ENG 376	Creative Writing: Essay	3
ENG 377	Creative Writing: Playwriting	3
ENG 378	Creative Writing: Special Topics	3
JRN 380	Feature Writing	3
JRN 381	Writing Opinion	3
ENG 382	Travel Writing	3
ENG 403	Technical Writing	3
MC 207	Managerial Communications	3

Minor in Writing for Teachers (for secondary education English majors only, 18 credits)

ENG 404	Fiction for Teachers	3
ENG 405	Poetry for Teachers	3
ENG 406	Teaching the Mechanics of Writing	3

Directed Electives (9 credits)

JRN 200	Introduction to Journalism	3
JRN 235	New s Writing and Reporting I	3
ENG 236	New s Writing and Reporting II	3
ENG 370	Creative Nonfiction I	3
ENG 371	Creative Writing: Fiction I	3
ENG 372	Creative Writing: Fiction II	3
ENG 373	Creative Writing: Poetry I	3
ENG 374	Creative Writing: Poetry II	3
ENG 375	Creative Nonfiction II	3
ENG 376	Creative Writing: Essay	3
ENG 377	Creative Writing: Playw riting	3
ENG 378	Creative Writing: Special Topics	3
JRN 380	Feature Writing	3
JRN 381	Opinion Writing	3
ENG 382	Travel Writing	3
JRN 412	Editing	3
JRN 416	Magazine Writing	3
JRN 418	Studies in Journalism	3
ENG 484	Advanced Fiction Workshop	3
ENG 485	Advanced Poetry Workshop	3
ENG 494	Creative Writing: Independent Study	3
JRN 495	Internship	1-6

Note: All creative w riting and journalism courses must be taken in the prescribed sequences of those programs.

Minor in Journalism (21 credits)

JRN 200	Introduction to Journalism	3
JRN 235	New s Writing and Reporting I	3
JRN 336	Journalism II	3
JRN 383	Responsibilities of Journalism	3
or		
JRN 384	Journalism History	3

Directed Electives (9 credits)

JRN 237	Introduction to the Profession	1
JRN 370	Today's New s in Context	3
JRN 371	Reporting Cultural Diversity	3
JRN 380	Feature Writing	3
JRN 381	Opinion Writing	3
JRN 383	Responsibilities of Journalism	3
or		
JRN 384	Journalism History	3
JRN 385	Web Journalism	3
JRN 400	Journalism Theory	3
JRN 410	Public Opinion	3
JRN 412	Editing	3
JRN 416	Magazine Writing	3
JRN 418	Studies in Journalism	3
JRN 491	Campus New spaper Critique	1
JRN 495	Internship	3
ENG 382	Travel Writing	3
COMM 231	Communication Technologies	3
COMM 330	Basic Video Production	3
COMM 335	Communication Management	3
COMM 420	Principles of Digital Photography for Journalism	3
COMM 427	TV Programming and Production	3
COMM 428	Advanced TV Production	3
COMM 480	TV Documentary Production	3
COMM 495	Special Topics	3

Minor in Cinema Studies (18 credits)**Cinema Studies Requirements**

COMM 330	Digital Film and Television Production I	3
	and	
CINE 201	The Language of Film	3
	or	
CINE 220	Introduction to the History of Film (also COMM 220)	3

Production Electives

COMM 427	Digital Film and Television Production II	3
COMM 428	Digital Film and Television Production III	3
COMM 480	Television Documentary Production	3
COMM 495	Special Topics in Communication: Scriptwriting	3

Electives in Critical Studies

CINE 201	The Language of Film	3
CINE 220	Introduction to the History of Film (also COMM 220)	3
CINE 319	Filmic Narrative (also COMM 319)	3
CINE 350	Laughter, Blood, and Tears: Studies in Film Genre	3
CINE 365	Nonfiction & Documentary Cinema	3
CINE 380	Women and Film (also COMM 380)	3
CINE 382	American Cinema (also COMM 382)	3
CINE 460	Shakespeare and Film (also ENG 460)	3
CINE 465	Global Cinema (also ENG 465)	3
CINE 466	American Cinema in the 60s and 70s (also ENG 466)	3
CINE 480	Topics in Cinema Studies	3
CINE 489	Studies in Film Adaptation (also ENG 489)	3
CINE 490	Independent Study	3
COMM 495	Special Topics: Popular Film & Politics	3
HIST 476	African History through Film	3
PES 111	War & Peace through Film	3

Minor in Creative Writing (18 credits)**Poetry** (9 credits)

ENG 373	Creative Writing: Poetry I	3
ENG 374	Creative Writing: Poetry II	3
ENG 485	Advanced Poetry Workshop	3

or

Fiction (9 credits)

ENG 371	Creative Writing: Fiction I	3
ENG 372	Creative Writing: Fiction II	3
ENG 484	Advanced Fiction Workshop	3

or

Nonfiction (9 credits)

ENG 370	Creative Writing: Creative Nonfiction I	3
ENG 375	Creative Nonfiction II	3
ENG 483	Advanced Creative Nonfiction	3

Directed Electives (9 credits)*

ENG 370	Creative Writing: Creative Nonfiction I	3
ENG 371	Creative Writing: Fiction I	3
ENG 372	Creative Writing: Fiction II	3
ENG 373	Creative Writing: Poetry I	3
ENG 374	Creative Writing: Poetry II	3
ENG 375	Creative Writing: Creative Nonfiction II	3
ENG 376	Creative Writing: Essay	3
ENG 377	Creative Writing: Playwriting	3
ENG 378	Creative Writing: Special Topics	3
ENG 382	Travel Writing	3
ENG 483	Advanced Creative Nonfiction	3
ENG 484	Advanced Fiction Workshop	3
ENG 485	Advanced Poetry Workshop	3
ENG 494	Creative Writing: Independent Study	3

*A minimum of one course is required in a genre other than the selected sequence.

Note: No repetition of courses is allowed, with the exception of ENG 378 (Special Topics). Consultation with a creative writing faculty member is required for the program and selection of all courses.

Minor in Descriptive Linguistics (21 credits)

LING 200	Introduction to Linguistics	3
LING 230	The Study of Language	3
LING 300	Language Acquisition	3
LING 400	Linguistics Analysis	3

Directed Electives (9 credits)

LING 312	Introduction to Syntax	3
LING 313	Introduction to Phonetics & Phonology	3
LING 430	Studies in Linguistics & the English Language	3
LING 431	The History of the English Language	3
LING 497	Second Language Acquisition	3

Minor in TESOL (For students completing elementary or secondary certificates, 21 credits)

LING 200	Introduction to Linguistics	3
LING 230	The Study of Language	3
LING 496	TESOL Methods	3
LING 497	Second Language Acquisition	3

Directed Electives (9 credits)

LING 312	Introduction to Syntax	3
LING 313	Introduction to Phonetics & Phonology	3
LING 400	Linguistics Analysis	3
LING 430	Studies in Linguistics & the English Language	3
LING 431	The History of the English Language	3
SOC 322	Race and Ethnic Relations	3
ANTH 170	Introduction to Cultural Anthropology	3
ANTH 352	Ethnicity and Ethnic Identity	3

Minor in Language and Computation (24 credits)

LING 200	Introduction to Linguistics	3
LING 312	Introduction to Syntax	3
LING 313	Introduction to Phonetics & Phonology	3
LING 433	Introduction to Computational Linguistics	3
LING 434	Speech & Natural Languages Processing	3

Directed Electives (9 credits)

LING 300	Language Acquisition	3
LING 400	Linguistics Analysis	3
LING 430	Studies in Linguistics & the English Language	3
PSY 281	Cognitive Psychology	3
CS 290	Topics in Computer Science	1-3
CS 407	Advanced Topics in Computer Science	1-3
CS 462	Artificial Intelligence	3
CS 464	Programming Languages	3
PHIL 220	Introduction to Logic	3
PHIL 320	Modern Logic	3
MATH 218	Discrete Mathematics	4
STAT 104	Elementary Statistics	3
STAT 315	Mathematical Statistics I	3
STAT 476	Topics in Statistics	3

or a course related to the content of the minor and with the consent of an advisor.

Complementary Subject Matter Area in English/Linguistics (18 credits)*

LING 200 Introduction to Linguistics 3

LING 230 The Study of Language 3

LING 300 Language Acquisition 3

LING 430 Studies in Linguistics & the English Language 3

LING 431 The History of the English Language 3

and an approved elective or a second topic under LING 430

*Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Complementary Subject Matter Area in English/Writing (18 credits)*

ENG 202	Intermediate Composition	3
ENG 401	Advanced Composition	3
ENG 403	Technical Writing	3

and 9 credits in either journalism or creative writing

Journalism:

JRN 200	Introduction to Journalism	3
JRN 235	News Writing and Reporting I	3
JRN 336	Journalism II	3
JRN 380	Feature Writing	3
JRN 381	Opinion Writing	3
ENG 382	Travel Writing	3
JRN 416	Magazine Writing	3
JRN 418	Studies in Journalism	3

Creative Writing:

ENG 370	Creative Writing: Creative Nonfiction I	3
ENG 371	Creative Writing: Fiction I	3
ENG 372	Creative Writing: Fiction II	3
ENG 373	Creative Writing: Poetry I	3
ENG 374	Creative Writing: Poetry II	3
ENG 375	Creative Writing: Creative Nonfiction II	3
ENG 376	Creative Writing: Essay	3
ENG 377	Creative Writing: Playwriting	3
ENG 378	Creative Writing: Special Topics	

*Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Major in Geography with Specialization in Environmental Geography, BA

GEOG 110	Introduction to Geography	3
GEOG 130	Introduction to Geography Information Science	3

9 credits from the following:

GEOG 270	Geography of Hazards	3
GEOG 272	Physical Geography	3
GEOG 275	Soils and Vegetation	3
GEOG 374	Climatology	3

9 credits from the following with three of the credits at the 300 or 400 level:

GEOG 256	Maps & Map Reading	3
GEOG 266	Air Photo Interpretation	3
GEOG 276	Elementary Cartography	3
GEOG 378	Geographic Information Systems	3
GEOG 466	Remote Sensing	3
GEOG 476	Advanced Cartography	3
GEOG 478	GIS Design and Implementation	3
GEOG 479	Geographic Information Systems Applications	3

12 credits from the following:

GEOG 430	Internship in Geography	3
GEOG 433	Issues in Environment Protection	3
GEOG 445	Environmental Planning	3
GEOG 472	Topics in Physical Geography	3
GEOG 473	Geography of Natural Resources	3
GEOG 475	Geography of Energy Resources & Climate Change	3
Geography electives		3

Major in Geography with Specialization in Geographic Information Science, BA

GEOG 110	Introduction to Geography	3
or		
GEOG 120	World Regional Geography	3
GEOG 130	Introduction to Geography Information Science	3
GEOG 378	Geographic Information Systems	3
GEOG 430	Internship in Geography	3

6 credits from the follow ing:

GEOG 256	Maps & Map Reading	3
GEOG 266	Air Photo Interpretation	3
GEOG 276	Elementary Cartography	3

9 credits from the follow ing:

GEOG 442	Field Methods in Geography	3
GEOG 466	Remote Sensing	3
GEOG 476	Advanced Cartography	3
GEOG 478	GIS Design and Implementation	3
GEOG 479	Geographic Information Systems Applications	3
ETC 458	GPS Mapping for GIS	3

and 12 credits of geography electives, of w hich at least 6 must be at the 300 or 400 level

Major in Geography with Specialization in Tourism, BA

GEOG 110	Introduction to Geography	3
GEOG 120	World Regional Geography	3
GEOG 130	Introduction to Geography Information Science	3
GEOG 430	Internship in Geography	3

15 credits from the following:

GEOG 290	Geography of Tourism	3
GEOG 291	National Parks and World Heritage Sites	3
GEOG 450	Tourism Planning	3
GEOG 451	Tourism Development in Southern New England	3
GEOG 453	Recreation and Resort Planning	3
GEOG 454	Geography of Tourism Marketing	3
GEOG 455	New Directions in Tourism	3

3 credits from the following:

GEOG 330	United States and Canada	3
GEOG 434	Mexico, Central America, and the Caribbean	3
GEOG 435	Japan and Korea	3
GEOG 436	South America	3
GEOG 437	China	3
GEOG 446	Sub-Saharan Africa	3
GEOG 448	Russia and Neighboring Regions	3
GEOG 452	European Union	3
GEOG 459	Field Studies in Regional Geography	3-6

3 credits from the following:

GEOG 270	Geography of Hazards	3
GEOG 272	Physical Geography	3
GEOG 275	Soils and Vegetation	3
GEOG 374	Climatology	3
GEOG 472	Topics in Physical Geography	3
GEOG 473	Geography of Natural Resources	3
GEOG 475	Energy Resources & Climate Change	3

and 3 credits of geography electives and 3 credits of THS electives

Major in Geography with Specialization in General/Regional Geography, BA

GEOG 110	Introduction to Geography	3
or		
GEOG 120	World Regional Geography	3
GEOG 130	Introduction to Geography Information Science	3

and 15 credits of geography electives (at least 9 at the 400 level)

3 credits from the following:

GEOG 270	Geography of Hazards	3
GEOG 272	Physical Geography	3
GEOG 275	Soils and Vegetation	3
GEOG 374	Climatology	3
GEOG 433	Issues in Environmental Protection	3
GEOG 472	Topics in Physical Geography	3
GEOG 473	Geography of Natural Resources	3
GEOG 475	Energy Resources & Climate Change	3

3 credits from the following:

GEOG 220	Human Geography	3
GEOG 223	Geography of the Popular Music Industry	3
GEOG 244	Economic Geography	3
GEOG 290	Geography of Tourism	3
GEOG 291	National Parks and World Heritage Sites	3
GEOG 333	Political Geography	3
GEOG 451	Tourism Development in Southern New England	3
GEOG 453	Recreation and Resort Planning	3
GEOG 454	Geography of Tourism Marketing	3
GEOG 455	New Directions in Tourism	3
GEOG 470	Geography of Health & Disease	3

3 credits from the following:

GEOG 241	Introduction to Planning	3
GEOG 439	Urban Geography	3
GEOG 440	Rural Land Planning	3
GEOG 441	Community and Regional Planning	3
GEOG 445	Environmental Planning	3
GEOG 450	Tourism Planning	3
GEOG 483	Topics in Planning	3

3 credits from the following:

GEOG 256	Maps & Map Reading	3
GEOG 266	Air Photo Interpretation	3
GEOG 276	Elementary Cartography	3

GEOG 378	Geographic Information Systems	3
GEOG 442	Field Methods in Geography	3

6 credits from the following:

GEOG 330	United States and Canada	3
GEOG 434	Mexico, Central America, and the Caribbean	3
GEOG 435	Japan and Korea	3
GEOG 436	South America	3
GEOG 437	China	3
GEOG 446	Sub-Saharan Africa	3
GEOG 448	Russia and Neighboring Regions	3
GEOG 452	European Union	3
GEOG 459	Field Studies in Regional Geography	3-6

All elementary education students selecting this program will take GEOG 414 as one of their 3-credit electives in geography.

Acceptable substitutes for GEOG 430 will be jointly determined by student and advisor. When approved in advance by the student's advisor, up to 6 credits of cognate courses in one or two other disciplines may be applied toward the major in geography.

For certification in elementary education, students are advised to follow the general/regional program in the geography major. All elementary education students selecting geography as their single subject matter area will take GEOG 414, with this course counting as a geography elective. Please consult with the School of Education and Professional Studies concerning additional education requirements.

Major in Geography with Specialization in Planning, BA (39 credits)

GEOG 110	Introduction to Geography	3
GEOG 130	Introduction to Geography Information Science	3
GEOG 241	Introduction to Planning	3
GEOG 244	Economic Geography	3
GEOG 420	Internship in Planning	3
GEOG 439	Urban Geography	3
GEOG 441	Community & Regional Planning	3

12 credits from the following:

GEOG 433	Issues in Environmental Protection	3
GEOG 440	Rural Land Planning	3
GEOG 445	Environmental Planning	3
GEOG 450	Tourism Planning	3
GEOG 473	Geography of Natural Resources	3
GEOG 483	Topics in Planning	3
Geography electives		6
and		
STAT 104	Elementary Statistics	3
or		
STAT 215	Statistics for Behavioral Sciences I	3

Completion of a minor is required, except for elementary education students. Certain minors are especially recommended by the department, depending on the career track chosen by the student. We also encourage participation in CCSU's Cooperative Education program.

Minor in Geography with Specialization in Planning (18 credits)

GEOG 110	Introduction to Geography	3
GEOG 241	Introduction to Planning	3
GEOG 441	Community & Regional Planning	3

6 credits from GEOG 272 and/or any geographic techniques course and 3 credits from any 400-level planning course

Minor in Environmental Geography (18 credits)

GEOG 110 Introduction to Geography 3

3 credits from the following:

GEOG 256 Maps & Map Reading 3

GEOG 266 Air Photo Interpretation 3

GEOG 276 Elementary Cartography 3

GEOG 378 Geographic Information Systems 3

GEOG 442 Field Methods in Geography 3

6 credits from the following:

GEOG 270 Geography of Hazards 3

GEOG 272 Physical Geography 3

GEOG 275 Soils and Vegetation 3

GEOG 374 Climatology 3

6 credits from the following:

GEOG 433 Issues in Environmental Protection 3

GEOG 445 Environmental Planning 3

GEOG 472 Topics in Physical Geography 3

GEOG 473 Geography of Natural Resources 3

GEOG 475 Energy Resources & Climate Change 3

Minor in Geographic Information Sciences (18 credits)

GEOG 130	Introduction to Geography Information Science	3
GEOG 378	Geographic Information Systems	3
and 12 credits (at least 6 at the 300 or 400 level) from the following:		
GEOG 256	Maps & Map Reading	3
GEOG 266	Air Photo Interpretation	3
GEOG 276	Elementary Cartography	3
GEOG 466	Remote Sensing	3
GEOG 476	Advanced Cartography	3
GEOG 478	GIS Design and Implementation	3
GEOG 479	Geographic Information Systems Applications	3
ETC 458	GPS Mapping for GIS	3

Note: For geography majors, 3 additional credits of electives are required. Geography majors in the geographic information sciences track may not choose this minor.

Minor in Tourism (18 credits)

GEOG 110	Introduction to Geography	3
or		
GEOG 120	World Regional Geography	3
GEOG 290	Geography of Tourism	3

3 credits from any regional geography course

and 9 credits selected from the following:

GEOG 291	National Parks and World Heritage Sites	3
GEOG 450	Tourism Planning	3
GEOG 451	Tourism Development in Southern New England	3
GEOG 453	Recreation and Resort Planning	3
GEOG 454	Geography of Tourism Marketing	3
GEOG 455	New Directions in Tourism	3

Note: Courses used to satisfy this minor may not be used to satisfy the requirements of any major in geography. Students selecting this minor must consult with the department chair.

Major in Social Science with Minor in Geography, BS (Certifiable in social studies, 54 credits)

HIST 121	World Civilization I	3
HIST 122	World Civilization II	3
HIST 301	The Historical Imagination	3

6 credits in 300-level U.S. surveys; and 3 elective credits in non-western history

18 credits in geography, as specified by the requirements for the minor in geography

18 credits in social science from the following:

PS 104	The World's Political Systems	3
PS 110	American Government & Politics	3
ECON 200	Principles of Economics I	3
and		
ECON 201	Principles of Economics II	3
GEOG 110	Introduction to Geography	3
GEOG 120	World Regional Geography	3
ANTH 140	Introduction to Anthropology	3
SOC 110	Introductory Sociology	3

In addition, students must complete the following:

SSCI 415	Social Studies Methods at the Secondary Level	4
SSCI 421	Social Studies Student Teaching Seminar	1
SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDTE 316	Principles of Learning (Sec/K-12)	4
EDT 315	Educational Technology in the Secondary School Classroom	1
RDG 440	Literacy in Secondary School	3
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
PSY 236	Life-Span Development	3

No minor is required. Courses taken for the required 18 credits in geography above cannot be counted toward the 18 credits in social science above. All majors in social sciences must take ECON 200 and 201. All majors in social sciences must take at least one class in each of the following disciplines: history, geography, economics, anthropology, sociology, and political science.

Note: Please consult with the School of Education and Professional Studies concerning additional requirements.

Note: Geography is not a certifiable subject in Connecticut. Those who wish to teach the subject at the secondary level in the state should complete this major.

For Certification in Elementary Education, Complementary Subject Matter Area in Geography (18 credits)

Complements primary subject matter area in English at the elementary level.

GEOG 120	World Regional Geography	3
GEOG 220	Human Geography	3
GEOG 330	United States and Canada	3

3 credits from the following:

GEOG 272	Physical Geography	3
GEOG 275	Soils and Vegetation	3
GEOG 374	Climatology	3
GEOG 433	Issues in Environmental Protection	3

and 6 credits in geography electives (at least 3 of which must be at 400 level).

All education students selecting geography as a complementary subject matter area will also enroll in GEOG 414; elementary-level (1-6) education students will enroll for 3 credits and may use the course as one of the two geography electives. Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Major in History, BA (39 credits)

12 credits must include: 6 credits at the 100 or 200 level; HIST 301 (taken prior to the first 400-level history course); HIST 490 (taken after 24 credits of history courses, including HIST 301 and 6 credits of history courses at the 400-level). Of the remaining 27 credits, 6 credits must be in a non-western history course above the 100-level, 6 credits must be in European history above the 100-level, and 6 credits must be in American history above the 100-level. Finally, of the major's 39 credits, 12 credits must be completed in 400-level history courses.

Major in History, BS (Certifiable for secondary teaching of history and social studies, 57 credits)

HIST 121	World Civilization I	3
HIST 122	World Civilization II	3
HIST 301	The Historical Imagination	3

(taken prior to the first 400-level history course)

12 credits of 300-level U.S. history surveys

HIST 490	Senior Seminar	3
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(taken after 24 credits of history courses, including HIST 301 and 6 credits of history courses at the 400-level)

6 credits of European history above the 100 level

6 credits of non-western history above the 100 level. (3 of the 6 credits must appear on the state-approved non-western history course list.)

12 credits in 400-level history courses

and 12 credits in social science from the following:

PS 104	The World's Political Systems	3
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or

PS 110	American Government & Politics	3
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ECON 200	Principles of Economics I	3
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ECON 201	Principles of Economics II	3
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SOC 110	Introductory Sociology	3
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Related Requirements

ANTH 140	Introduction to Anthropology	3
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GEOG 110	Introduction to Geography	3
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or

GEOG 120	World Regional Geography	3
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For additional course requirements in education, consult with the School of Education and Professional Studies.

No minor is required of students in this major.

Major in History, BS (Certifiable for elementary education, 39 credits)

HIST 121	World Civilization I	3
HIST 122	World Civilization II	3
HIST 301	The Historical Imagination	3

(taken prior to the first 400-level history course)

9 credits of 300-level U.S. history surveys

HIST 490	Senior Seminar	3
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(taken after 24 credits of history courses, including HIST 301 and 6 credits of history courses at the 400-level)

6 credits of European history above the 100-level, 6 credits of non-western history above the 100-level (3 of the 6 credits must appear on the state-approved non-western history course list), and 12 credits in 400-level history courses

For additional course requirements in education, consult with the School of Education and Professional Studies.

Minor in History (18 credits)

18 credits of History, including HIST 301 and 6 additional credits at the 300-level and above.

Minor in Public History (18 credits)**Core** (9 credits)

HIST 301	The Historical Imagination	3
(History majors must substitute a course approved by the Public History Coordinator for HIST 301)		
HIST 302	Introduction to Public History	3
and		
HIST 403	Public History Project	3
or		
HIST 492	Public History Intern Experience	4

Directed Electives (9 credits)

HIST 395	Topics in History	3
HIST 403	Public History Project	3
HIST 404	American Material Culture	3
HIST 405	Local History and Community Development	3
HIST 455	Historical Representation in Latin America	3
HIST 492	Public History Intern Experience	3
ANTH 150	Introduction to Archaeology	3
ANTH 210	The Ancient World	3
ANTH 322	Historical Archaeology	3
ANTH 450	Archaeological Field School	3
SOC 411	Oral History for the Social Sciences	3
ART 490	Curatorship	3
ENG 370	Creative Nonfiction I	3
GEOG 241	Introduction to Planning	3
GEOG 256	Maps & Map Reading	3
GEOG 290	Geography of Tourism	3
GEOG 291	National Parks and World Heritage Sites	3

No more than 6 credits may be taken from any one discipline. Other courses may be available if they address some specific aspect of public history. Consult the Public History Coordinator for current options.

For Certification in Elementary Education, Primary Subject Matter Area in History (24 credits)

HIST 121	World Civilization I	3
HIST 122	World Civilization II	3
HIST 301	The Historical Imagination	3

9 credits of 300-level U.S. history courses; and 6 credits of non-U.S. history above the 100 level

Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Major in Mathematics with Specialization in Actuarial Science, BA (58 credits)**Core (40 credits)**

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4
MATH 222	Calculus III	4
MATH 228	Introduction to Linear Algebra	4
STAT 315	Mathematical Statistics I	3
STAT 416	Mathematical Statistics II	3
STAT 425	Loss and Frequency Distributions and Credibility Theory	3
ACTL 335	Theory of Interest	3
ACTL 465	Actuarial Models I	4
ACTL 466	Actuarial Models II	4

Directed Electives (18 credits, as approved by advisor)

ACTL 480	Topics in Actuarial Science	1-3
ACTL 481	Review -SOA/CAS Course I	3
ACTL 482	Review -SOA/CAS Course II	3
MATH 300	Mathematics Internship	3
MATH 355	Introduction to Differential Equations with Applications	4
MATH 366	Introduction to Abstract Algebra	4
MATH 377	Introduction to Real Analysis	4
AC 211	Financial Accounting	3
AC 212	Managerial Accounting	3
CS 151	Computer Science I	3
CS 152	Computer Science II	3
CS 213	Applications of Computing I	3
CS 473	Simulation Techniques	3
ECON 460	Economic Forecasting	3
FIN 295	Managerial Finance	3
FIN 301	Intermediate Managerial Finance	3
FIN 310	Principles of Investments	3
FIN 320	Financial Markets and Institutions	3
FIN 321	Insurance	3
LAW 250	Legal Environment of Business	3
MGT 295	Fundamentals of Management and Organizational Behavior	3

Note: ECON 200 and 201 are strongly recommended.

Note: No minor is required for students selecting this major.

Major in Mathematics, BA (38 credits)

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4
MATH 222	Calculus III	4
MATH 228	Introduction to Linear Algebra	4
MATH 366	Introduction to Abstract Algebra	4
MATH 377	Introduction to Real Analysis	4
MATH 450	Seminar in Proof	4

and 6 credits selected from:

MATH 250	Symbolic Computation	4
MATH 300	Mathematics Internship	3
MATH 355	Introduction to Differential Equations with Applications	4
MATH 383	College Geometry	3
MATH 398	Independent Study in Mathematics	1-3
MATH 421	History of Mathematics	3
MATH 440	Selected Topics in Mathematics	1-3
MATH 455	Introductions to Partial Differential Equations with Applications	4
MATH 468	Symbolic Logic	3
MATH 469	Number Theory	3
MATH 470	Mathematical Methods in Operations Research	3
MATH 477	Numerical Analysis	3
MATH 491	Advanced Calculus	3
STAT 315	Mathematical Statistics I	3
STAT 416	Mathematical Statistics II	3
STAT 425	Loss and Frequency Distributions and Credibility Theory	3
STAT 455	Experimental Design	3
STAT 456	Fundamentals of SAS	3
STAT 465	Nonparametric Statistics	3
STAT 476	Topics in Statistics	3
ACTL 335	Theory of Interest	3
ACTL 465	Actuarial Models I	4
ACTL 480	Topics in Actuarial Science	1-3
ACTL 481	Review -SOA/CAS Course I	3
ACTL 482	Review -SOA/CAS Course II	3

In addition, two laboratory science courses are required.

Note: CS 151 is strongly recommended.

Major in Mathematics with Specialization in Statistics, BA (58 credits)

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4
MATH 222	Calculus III	4
MATH 228	Introduction to Linear Algebra	4
MATH 366	Introduction to Abstract Algebra	4
or		
MATH 377	Introduction to Real Analysis	4
STAT 215	Statistics for Behavioral Sciences I	3
STAT 315	Mathematical Statistics I	3
STAT 416	Mathematical Statistics II	3
STAT 216	Statistics for Behavioral Sciences II	3
or		
STAT 453	Applied Statistical Inference	3

2 courses chosen from:

STAT 425	Loss and Frequency Distributions and Credibility Theory	3
STAT 455	Experimental Design	3
STAT 456	Fundamentals of SAS	3
STAT 465	Nonparametric Statistics	3
STAT 476	Topics in Statistics	3
ACTL 335	Theory of Interest	3
ACTL 465	Actuarial Models I	4
ACTL 466	Actuarial Models II	4
ACTL 481	Review -SOA/CAS Course I	3
MATH 470	Mathematical Methods in Operations Research	3

16 credits selected from the courses listed above or from the following:

MATH 300	Mathematics Internship	3
MATH 491	Advanced Calculus	3
CS 151	Computer Science I (strongly recommended)	3
CS 152	Computer Science II	3
CS 253	Data and File Structures	3
CS 473	Simulation Techniques	3
BIO 405	Ecology	4
ECON 460	Economic Forecasting	3
ECON 485	Econometrics	3
GEOG 476	Advanced Cartography	3
PSY 222	Research Methods in Psychology II	4
PSY 451	Psychological Evaluation	3

Note: No minor is required for students choosing this major.

Note: CS 151 is strongly recommended.

Major in Mathematics, BS (Certifiable for secondary teaching, 48 credits)

MATH 120	Problem Solving I	1
MATH 152	Calculus I	4
MATH 211	Clinical Experience in Mathematics Education I	1
MATH 218	Discrete Mathematics	4
MATH 220	Problem Solving II	1
MATH 221	Calculus II	4
MATH 228	Introduction to Linear Algebra	4
MATH 313	Number Systems from an Advanced View point	3
MATH 320	Problem Solving III	1
MATH 327	Curriculum & Technology in Secondary Mathematics I	3
MATH 328	Curriculum & Technology in Secondary Mathematics II	3
MATH 366	Introduction to Abstract Algebra	4
MATH 377	Introduction to Real Analysis	4
MATH 383	College Geometry	3
STAT 314	Introductory Statistics for Secondary Teachers	3

and 5 additional credits from:

MATH 222	Calculus III	4
MATH 250	Symbolic Computation	4
MATH 311	Clinical Experience in Mathematics Education II	1
MATH 344	Mathematics in Diverse Cultures	3
MATH 355	Introduction to Differential Equations with Applications	4
MATH 411	Clinical Experience in Mathematics Education III	1
MATH 421	History of Mathematics	3
MATH 440	Selected Topics in Mathematics	1-3
MATH 465	Introduction to Fractal Geometry and Chaos	3
MATH 468	Symbolic Logic	3
MATH 469	Number Theory	3
MATH 470	Mathematical Methods in Operations Research	3
MATH 477	Numerical Analysis	3
MATH 491	Advanced Calculus	3
STAT 315	Mathematical Statistics I	3
STAT 416	Mathematical Statistics II	3
STAT 453	Applied Statistical Inference	3
STAT 455	Experimental Design	3
STAT 456	Fundamentals of SAS	3
STAT 465	Nonparametric Statistics	3

In addition, students are required to take:

either

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry Lab I	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1

or

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4

and

either

CS 151	Computer Science I	3
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or

CS 213	Applications of Computing I	3
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Upon acceptance into the professional program in teacher education students are required to complete a 30-credit program consisting of:

SPED 315	Introduction to Educating Learners w ith Exceptionalities	3
EDTE 316	Principles of Learning (Sec/K-12)	4
RDG 440	Literacy in Secondary School	3
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	3
MATH 413	Teaching Mathematics in the Secondary School	4
	(taken concurrently w ith EDSC 425 and RDG 440)	
EDSC 435	Secondary Education Student Teaching	3-9
MATH 426	Student Teaching Seminar	1
	(taken concurrently w ith EDSC 435)	

No minor is required for students w ith this major.

Major in Mathematics, BS (Certifiable for elementary teaching, 33 credits)**Core** (21-22 credits)

MATH 113	Structures of Mathematics I: Number Systems	3
MATH 213	Structure of Mathematics II: Probability & Geometry	3
MATH 305	Structure of Mathematics III: Number Patterns	3
MATH 306	Structures of Mathematics IV: Development of Geometric Ideas	3
MATH 409	Mathematics through Computers	3
STAT 215	Statistics for Behavioral Sciences	3
MATH 125	Applied Calculus	3
or		
MATH 152	Calculus I	4

Directed Electives (11-12 credits)

MATH 110	Finite Mathematics	3
MATH 115	Trigonometry	3
MATH 116	Pre-Calculus Mathematics (formerly MATH 121)	3
MATH 119	Pre-Calculus with Trigonometry	4
MATH 120	Problem Solving I	1
MATH 211	Clinical Experience in Mathematics Education I	1
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4
MATH 307	Topics in Elementary Mathematics	1-3
MATH 344	Mathematics in Diverse Cultures	3
STAT 216	Statistics for Behavioral Sciences II	3

Note: Majors should consult with the School of Education and Professional Studies concerning additional education requirements.

Minor in Mathematics (For students completing secondary certificates, 19 credits)

MATH 152	Calculus I	4
MATH 218	Discrete Mathematics	4
MATH 221	Calculus II	4
MATH 228	Introduction to Linear Algebra	4
or		
MATH 366	Introduction to Abstract Algebra	4
STAT 314	Introductory Statistics for Secondary Teachers	3

Note: For certification in mathematics as a second teaching field, the state of Connecticut requires a minimum of 30 credits in mathematics and an acceptable score on the Praxis II examination.

Minor in Mathematics (Non-teaching, 20 credits)

MATH 152	Calculus I	4
MATH 221	Calculus II	4
MATH 222	Calculus III	4

and two courses selected from:

MATH 218	Discrete Mathematics	4
MATH 226	Linear Algebra and Probability for Engineers	4
MATH 228	Introduction to Linear Algebra	4
MATH 250	Symbolic Computation	4
MATH 355	Introduction to Differential Equations with Applications	4
MATH 366	Introduction to Abstract Algebra	4
MATH 377	Introduction to Real Analysis	4

Minor in Statistics (21 credits)

STAT 215	Statistics for Behavioral Sciences I	3
STAT 216	Statistics for Behavioral Sciences II	3
CS 151	Computer Science I	3

and 9 credits from the following:

MATH 110	Finite Mathematics	3
MATH 470	Mathematical Methods in Operations Research	3
STAT 455	Experimental Design	3
STAT 456	Fundamentals of SAS	3
STAT 465	Nonparametric Statistics	3
STAT 476	Topics in Statistics	3

and one course chosen from the courses listed above or from:

CS 473	Simulation Techniques	3
BIO 405	Ecology	4
ECON 460	Economic Forecasting	3
ECON 485	Econometrics	3
GEOG 476	Advanced Cartography	3
PSY 222	Research Methods in Psychology II	4
PSY 451	Psychological Evaluation	3

Note: No more than one course may be used in both the student's major program and the minor in statistics.

For Certification in Elementary Education, Primary Subject Matter Area in Mathematics (24-26 credits)

MATH 113	Structure of Mathematics I: Number Systems	3
MATH 213	Structure of Mathematics II: Probability & Geometry	3
MATH 305	Structure of Mathematics III: Number Patterns	3
MATH 306	Structure of Mathematics IV: Development of Geometric Ideas	3
MATH 409	Mathematics through Computers	3
STAT 215	Statistics for Behavioral Sciences I	3
MATH 115	Trigonometry	3
or		
MATH 119	Pre-Calculus with Trigonometry	4
MATH 125	Applied Calculus	3
or		
MATH 152	Calculus I	4

Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Major in French, BA (30 credits)

FR 125	Intermediate French I	3
FR 126	Intermediate French II	3
FR 225	Intermediate French III	3
FR 226	Intermediate French IV	3
FR 304	Introduction to French Literature	3
FR 305	Introduction to Francophone Literature	3
FR 315	Aspects of French History & Culture	3
FR 316	Contemporary France	3
Directed electives		6

Major in German, BA (30 credits)

GER 125	Intermediate German I	3
GER 126	Intermediate German II	3
GER 225	Intermediate German III	3
GER 226	Intermediate German IV	3
GER 304	Introduction to German Literature I	3
GER 305	Introduction to German Literature II	3
GER 315	German Civilization to 1800	3
GER 316	German Civilization from 1800 to Present	3
Directed electives		6

Major in Italian, BA (30 credits)

ITAL 125	Intermediate Italian I	3
ITAL 126	Intermediate Italian II	3
ITAL 225	Intermediate Italian III	3
ITAL 226	Intermediate Italian IV	3
ITAL 304	Introduction to Italian Literature I	3
ITAL 305	Introduction to Italian Literature II	3
ITAL 315	Italian Civilization to 1861	3
ITAL 316	Italian Civilization from 1861 to Present	3
Directed electives		6

Major in Spanish, BA (30 credits)

Spanish Language (12 credits)

For non-native speakers:

SPAN 125	Intermediate Spanish I	3
SPAN 126	Intermediate Spanish II	3
SPAN 225	Intermediate Spanish III	3
SPAN 226	Intermediate Spanish IV	3
or		

For native speakers:

SPAN 190	Language for Heritage Speakers of Spanish I	3
SPAN 191	Language for Heritage Speakers of Spanish II	3
SPAN 290	Hispanic Culture for Heritage Speakers of Spanish I	3
SPAN 291	Hispanic Culture for Heritage Speakers of Spanish II	3

Spanish and Spanish-American Literature and Cultures (15 credits)

15 credits from:

SPAN 300	Literary Analysis	3
SPAN 304	Literary Masterpieces to 1700: Spain	3
or		
SPAN 305	Literary Masterpieces since 1700: Spain	3
SPAN 315	Spanish Civilization	3
SPAN 316	Latin American Civilization	3
SPAN 375	Spanish American Literature I	3
or		
SPAN 376	Spanish American Literature II	3

and three credits of directed electives (selected in consultation with advisor).

For students with advanced preparation, appropriate substitutions will be made.

Specialization in Inter-University Spanish Language and Hispanic Cultures

Students must complete 12 credits at one of our Spanish-speaking partner institutions abroad during one semester. The 12 credits may be taken in language, culture and/or literature as appropriate to the student's level of proficiency and upon recommendation of student's academic advisor at CCSU. These credits may apply to the core requirements of the major.

Major in French, BS (Certifiable for secondary teaching, 36 credits)

FR 125	Intermediate French I	3
FR 126	Intermediate French II	3
FR 225	Intermediate French III	3
FR 226	Intermediate French IV	3
FR 304	Introduction to French Literature	3
FR 305	Introduction to Francophone Literature	3
FR 315	Aspects of French History & Culture	3
FR 316	Contemporary France	3
FR 335	French for Oral Presentation	3
FR 336	French Composition & Translation	3
Directed electives		6

Major in German, BS (Certifiable for secondary teaching, 36 credits)

GER 125	Intermediate German I	3
GER 126	Intermediate German II	3
GER 225	Intermediate German III	3
GER 226	Intermediate German IV	3
GER 304	Introduction to German Literature I	3
GER 305	Introduction to German Literature II	3
GER 315	German Civilization to 1800	3
GER 316	German Civilization from 1800 to Present	3
GER 335	Advanced German for Oral Expression	3
GER 336	Advanced German Composition	3
Directed electives		6

Major in Italian, BS (Certifiable for secondary teaching, 36 credits)

ITAL 125	Intermediate Italian I	3
ITAL 126	Intermediate Italian II	3
ITAL 225	Intermediate Italian III	3
ITAL 226	Intermediate Italian IV	3
ITAL 304	Introduction to Italian Literature I	3
ITAL 305	Introduction to Italian Literature II	3
ITAL 315	Italian Civilization to 1861	3
ITAL 316	Italian Civilization from 1861 to Present	3
ITAL 335	Advanced Italian for Oral Expression	3
ITAL 336	Advanced Italian Composition	3
Directed electives		6

In addition, students in the major in French, German or Italian (certifiable for secondary teaching) must take:

SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDTE 316	Principles of Learning (Sec/K-12)	4
RDG 440	Literacy in Secondary School	3
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
ML 428	Methods and Materials for Teaching World Languages at Elementary School Level	3
ML 429	Seminar in Modern Language Teaching Methods	4
ML 440	Student Teaching Seminar in Modern Languages	1
ML 490	Teaching World Languages II: Acquisition in Young Children for Teachers of World Languages	
or		
LING 300	Language Acquisition	3
EDT 315	Educational Technology in the Secondary School Classroom	1

For students with advanced preparation, appropriate substitutions will be made. No minor required.

Major in Spanish, BS (Certifiable for secondary teaching, 36 credits)**For non-native speakers:**

SPAN 125	Intermediate Spanish I	3
SPAN 126	Intermediate Spanish II	3
SPAN 225	Intermediate Spanish III	3
SPAN 226	Intermediate Spanish IV	3

or

For native speakers:

SPAN 190	Language for Heritage Speakers of Spanish I	3
SPAN 191	Language for Heritage Speakers of Spanish II	3
SPAN 290	Hispanic Culture for Heritage Speakers of Spanish I	3
SPAN 291	Hispanic Culture for Heritage Speakers of Spanish II	3

Spanish and Spanish-American Literature and Cultures (24 credits)

SPAN 300	Literary Analysis	3
SPAN 304	Introduction to Spanish Literature I	3
or		
SPAN 305	Literary Masterpieces since 1700: Spain	3
SPAN 315	Spanish Civilization	3
SPAN 316	Latin American Civilization	3
SPAN 335	Advanced Spanish for Oral Expression	3
SPAN 336	Advanced Spanish Composition	3
SPAN 375	Spanish American Literature I	3
or		
SPAN 376	Spanish American Literature II	3
Directed electives		3

Secondary Teaching Requirements (37 credits)

SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDTE 316	Principles of Learning (Sec/K-12)	4
RDG 440	Literacy in Secondary School	3
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
ML 428	Methods and Materials for Teaching World Languages at Elementary School Level	3
ML 429	Seminar in Modern Language Teaching Methods	4
ML 440	Student Teaching Seminar in Modern Languages	1
ML 490	Teaching World Languages II: Acquisition in Young Children for Teachers of World Languages	3
or		
LING 300	Language Acquisition	3
EDT 315	Educational Technology in the Secondary School Classroom	1

For students with advanced preparation, appropriate substitutions will be made. No minor required.

Specialization in Inter-University Spanish Language and Hispanic Cultures

Students must complete 12 credits at one of our Spanish-speaking partner institutions abroad during one semester. The 12 credits may be taken in language, culture and/or literature as appropriate to the student's level of proficiency and upon recommendation of student's academic advisor at CCSU. These credits may apply to the core requirements of the major.

Note: Students of this specialization are strongly encouraged to complete their study abroad component during their sophomore year.

International Studies Major

In consultation with the program advisor, students may pursue a program focusing on an area within the framework of the international studies major. For additional information, see [International and Area Studies](#).

Minor in Modern Language (18 credits)

FR 125	Intermediate French I	3
FR 126	Intermediate French II	3
FR 225	Intermediate French III	3
FR 226	Intermediate French IV	3

or

ITAL 125	Intermediate Italian I	3
ITAL 126	Intermediate Italian II	3
ITAL 225	Intermediate Italian III	3
ITAL 226	Intermediate Italian IV	3

or

GER 125	Intermediate German I	3
GER 126	Intermediate German II	3
GER 225	Intermediate German III	3
GER 226	Intermediate German IV	3

or

For non-native speakers:

SPAN 125	Intermediate Spanish I	3
SPAN 126	Intermediate Spanish II	3
SPAN 225	Intermediate Spanish III	3
SPAN 226	Intermediate Spanish IV	3

or

For native speakers:

SPAN 190	Language for Heritage Speakers of Spanish I	3
SPAN 191	Language for Heritage Speakers of Spanish II	3
SPAN 290	Hispanic Culture for Heritage Speakers of Spanish I	3
SPAN 291	Hispanic Culture for Heritage Speakers of Spanish II	3

In Chinese, the required courses are:

CHIN 111	Elementary Chinese I	3
CHIN 112	Elementary Chinese II	3
CHIN 125	Intermediate Chinese I	3
CHIN 126	Intermediate Chinese II	3
Directed Electives		6

In Japanese, students must take:

JAPN 125	Intermediate Japanese I	3
JAPN 126	Intermediate Japanese II	3
JAPN 225	Intermediate Japanese III	3
JAPN 226	Intermediate Japanese IV	3

and 6 credits from the following:

JAPN 335	Advanced Composition and Diction	3
JAPN 336	Advanced Structure and Idiom	3
HIST 354	History of Modern Japan	3
GEOG 435	Japan and Korea	3

All students in the minor must also take 6 credits of directed electives.

Major in Music, BA (60 credits)**Core (25 credits)**

MUS 114	Introduction to Music Technology	1
MUS 115	Aural Skills I	1
MUS 116	Aural Skills II	1
MUS 121	Music Theory I	2
MUS 122	Music Theory II	2
MUS 211	Ethnomusicology	3
MUS 215	Aural Skills III	1
MUS 216	Aural Skills IV	1
MUS 221	Music Theory III	2
MUS 222	Music Theory IV	2
MUS 235	Music History I	3
MUS 236	Music History II	3
MUS 335	Music History III	3

Specializations (35 credits)**Specialization in Performance**

Seven semesters of:

MUS 178	Applied Music for Majors	2
MUS 278	Applied Music for Majors II	2
MUS 378	Applied Music for Majors III	2
MUS 478	Applied Music for Majors IV	2

10 credits from the following:

MUS 140	Ensemble	1
or		
MUS 141	Chorus	1
or		
MUS 142	Band	1
or		
MUS 143	Sinfonietta	1
MUS 367	Choral Conducting	2
MUS 380	Advanced Notation, Sequencing, and Sound Synthesis	2
or		
MUS 401	Topics in Music	3
MUS 400	Project in Music	4
MUS 404	Topics in Performance	3

Specialization in Theory and Composition

Seven semesters of:

MUS 178	Applied Music for Majors	2
MUS 278	Applied Music for Majors II	2
MUS 378	Applied Music for Majors III	2
MUS 478	Applied Music for Majors IV	2

Two to six semesters of:

MUS 141	Chorus	1
or		

MUS 142	Band	1
or		
MUS 143	Sinfonietta	1

Up to 4 semesters of:

MUS 147	Jazz Ensembles	1
MUS 295	Beginning Composition	2
MUS 367	Choral Conducting	2
MUS 380	Advanced Notation, Sequencing, and Sound Synthesis	2
MUS 390	Orchestration	2
MUS 395	Composition	3
or		
MUS 405	Topics in Composers	3
MUS 400	Project in Music	4

Specialization in Jazz Studies

Seven semesters of:

MUS 178	Applied Music for Majors	2
MUS 278	Applied Music for Majors II	2
MUS 378	Applied Music for Majors III	2
MUS 478	Applied Music for Majors IV	2

Eight semesters of:

MUS 147	Jazz Ensembles	8
MUS 213	Jazz Styles and Chronology	3
MUS 273	Jazz Improvisation I	2
MUS 274	Jazz Improvisation II	2
MUS 380	Advanced Notation, Sequencing, and Sound Synthesis	2
MUS 400	Project in Music	4

Specialization in General Studies

MUS 250	Piano Class I	2
and		
MUS 251	Piano Class II	2
or pass piano proficiency exam		

Six semesters of:

MUS 178	Applied Music for Majors I	2
MUS 278	Applied Music for Majors II	2
MUS 378	Applied Music for Majors III	2
MUS 478	Applied Music for Majors IV	2
MUS 367	Choral Conducting	2

Eight semesters of:

MUS 141	Chorus	1
or		
MUS 142	Band	1
or		
MUS 143	Sinfonietta	1
or		
MUS 147	Jazz Ensembles	1
or		
MUS 148	University Singers	1
or		

Major in Music Education, BS (Certifiable for PK-12 teaching, 66 credits)

MUS 114	Introduction to Music Technology	1
MUS 115	Aural Skills I	1
MUS 116	Aural Skills II	1
MUS 121	Music Theory I	2
MUS 122	Music Theory II	2

Six semesters of:

MUS 141	Chorus	1
or		
MUS 142	Band	1
or		
MUS 143	Sinfonietta	1
MUS 211	Ethnomusicology	3
MUS 215	Aural Skills III	1
MUS 216	Aural Skills IV	1
MUS 221	Music Theory III	2
MUS 222	Music Theory IV	2
MUS 235	Music History I	3
MUS 236	Music History II	3

Five of the six following:

MUS 259	Vocal Methods	1
MUS 261	Woodwind Methods	1
MUS 262	Brass Methods	1
MUS 263	Percussion Methods	1
MUS 267	String Methods: Violin and Viola	1
MUS 268	String Methods: Cello and Double Bass	1
MUS 269	Technology in Music Education	1
MUS 335	Music History III	3
MUS 367	Choral Conducting	2
MUS 368	Instrumental Conducting	2
MUS 390	Orchestration	2

Seven semesters of:

MUS 178	Applied Music for Majors I	2
MUS 278	Applied Music for Majors II	2
MUS 378	Applied Music for Majors III	2
MUS 478	Applied Music for Majors IV	2

Professional Education Requirements (30 credits)

MUS 101	Practicum in Music Education	2
MUS 310	General Music Education, Part I (Grades PK-4)	3
MUS 311	General Music Education, Part II (Grades 5-12)	3
MUS 315	Choral Music Methods	4
or		
MUS 316	Instrumental Music Methods	4
MUS 402	Student Teaching Seminar	1
EDF 415	Educational Foundations	3
EDSC 420	Student Teaching - Elementary Music Education	4.5
EDSC 421	Student Teaching - Secondary Music Education	4.5
EDTE 314	Applied Learning Theories (K-12 Programs)	3
SPED 315	Introduction to Educating Learners with Exceptionalities	3

General Education Requirements

Students in this program must take the following as part of their general education requirements:

HIST 161	American History to 1877	3
or		
HIST 162	American History from 1877 to Present	3
PSY 236	Life-Span Development	3
PHYS 113	The Sound of Music	3
ENG 110	Freshman Composition	3

Note: This major does not require a minor.

Note: Students enrolled in MUS 177 must pay an extra fee of \$300 each semester. Students enrolled in MUS 178, 278, 378, or 478 must pay an extra fee of \$400 each semester. This fee is non-refundable and subject to change. All students enrolled in MUS 178, 278, 378, or 478 must perform in one student recital per year.

All music majors are required to enroll in MUS 090 every semester except while enrolled in either EDSC 420/421 or MUS 400.

All students must be enrolled in a major ensemble every semester in which they are enrolled as full-time music majors except the semester they student teach. All part-time students must be enrolled in a major ensemble for six semesters. The Department of Music reserves the right to assign students to major ensembles.

All music majors (BA and BS candidates) must successfully complete all portions of the sophomore review, which includes a written theory test, sight-singing, and piano proficiency. No student will be allowed to proceed to a 300-level music course until the sophomore review has been successfully completed.

The piano proficiency exam may be taken a total of four times, and students must demonstrate a minimum of proficiency in each category to pass. Most students should begin taking this exam during their sophomore year. Three categories of the exam must be passed before acceptance into the professional program. All of the exam must be passed before beginning student teaching.

The piano proficiency exam consists of the following:

- Playing major and harmonic minor scales (up to 4 sharps and flats), two octaves, hands together;
- Playing three intermediate-level pieces from the recommended list, including a chorale and a memorized piece;
- Harmonizing a simple melody;
- Transposing the same melody up or down a major/minor second; and
- Sight-reading a simple piano piece and an accompaniment.

Minor in Music (18 credits)

Students planning to minor in music must consult the department chair for advisement.

Area I (9 credits)

Required:

MUS 109	Fundamentals of Music	3
or		
MUS 121	Music Theory I	2
and		
MUS 115	Aural Skills I	1

Six credits of the following:

MUS 100	Search in Music	3
MUS 110	Listening to Classical Music	3
MUS 111	Music of the World's People	3
MUS 112	Computer Applications to Music	3
MUS 113	History of Jazz	3
MUS 115	Aural Skills I	1
MUS 116	Aural Skills II	1
MUS 121	Music Theory I	2
MUS 122	Music Theory II	2

Area II (4-6 credits)

MUS 114	Introduction to Music Technology	1
MUS 250	Piano Class I	2
MUS 251	Piano Class II	2
MUS 264	Voice Class	2
MUS 273	Jazz Improvisation I	2
MUS 274	Jazz Improvisation II	2
MUS 350	Piano Class III	2
MUS 351	Piano Class IV	2
MUS 380	Advanced Notation, Sequencing, and Sound Synthesis	2

Area III (3-5 credits; any/all may be repeated for credit)

MUS 140	Ensemble	1
or		
MUS 141	Chorus	1
or		
MUS 142	Band	1
or		
MUS 143	Sinfonietta	1
or		
MUS 144	Marching Band	1
or		
MUS 147	Jazz Ensembles	1
or		
MUS 148	University Singers	1
or		
MUS 149	University Chamber Players	1
MUS 177	Applied Music	1

Note: Students enrolled in MUS 177 must pay an extra fee of \$300 each semester.

Major in Philosophy, BA (39 credits)

Core (21 credits)

PHIL 112	Introduction to Philosophy	3
or		
PHIL 121	Introduction to Philosophy through Literature	3
or		
PHIL 125	Introduction to Philosophy through Popular Culture	3
PHIL 220	Introduction to Logic	3
PHIL 230	Ancient Greek Philosophy	3
PHIL 290	Philosophical Methods	3
PHIL 310	Intermediate Seminar	3
PHIL 330	Early Modern Philosophy	3
PHIL 400	Seminar in Philosophy	3

Specializations (18 credits; 9 credits in each of two areas with at least 3 credits at 300-level or higher in each)

Specialization in History of Philosophy

PHIL 230	Ancient Greek Philosophy	3
PHIL 232	Medieval and Renaissance Philosophy	3
PHIL 330	Early Modern Philosophy	3
PHIL 332	The Age of Ideology	3
PHIL 368	Contemporary Epistemology and Metaphysics	3

Specialization in African, African-American, and Asian Philosophy

AFAM 110	Introduction to African American Studies	3
PHIL 250	Introduction to Asian Philosophy	3
PHIL 260	African Philosophy	3
PHIL 275	Chinese Philosophy	3
PHIL 360	African-American Philosophy	
PHIL 376	Buddhist Philosophy	3

Specialization in Logic and Philosophy of Science

PHIL 135	Nature, Mind, and Science	3
PHIL 235	Philosophy of Social Science	3
PHIL 241	Environmental Ethics	3
PHIL 242	Ethical Problems in Technology	3
PHIL 245	Computer Ethics	3
PHIL 320	Modern Logic	3
PHIL 335	Philosophy of Science	3
PHIL 368	Contemporary Epistemology and Metaphysics	3

Specialization in Continental Philosophy

PHIL 222	Philosophy of Gender	3
PHIL 248	Philosophy of the Arts	3
PHIL 332	The Age of Ideology	3
PHIL 366	Existentialism	3
PHIL 368	Contemporary Epistemology and Metaphysics	3

Specialization in Theoretical and Applied Ethics

PHIL 240	Ethical Problems in Business	3
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PHIL 241	Environmental Ethics	3
PHIL 242	Ethical Problems in Technology	3
PHIL 244	Introduction to the Philosophy of Social Justice	3
PHIL 344	Topic in Philosophical & Social Justice	3
PHIL 346	Ethical Theory	3
PHIL 349	Philosophy of Law	3
PHIL 311	Global Justice	3
NRSE 246	Health Care Ethics	3

Specialization in Philosophy of Religion and Religious Studies

REL 105	Development of Christian Thought	3
or		
REL 110	World Religions	3
REL 256	Philosophy, Religion & Culture	3
REL 257	Special Topics in Religion	3
REL 361	African-American Religion	3
PHIL 232	Medieval and Renaissance Philosophy	3
PHIL 250	Introduction to Asian Philosophy	3
PHIL 255	Philosophy of Religion	3
PHIL 376	Buddhist Philosophy	3

and courses listed under the minor in religious studies

Note: If PHIL 400 is taken more than once, the additional credit will be counted in a specialization.

Note: Any specialization course(s) taken to fulfill the core curriculum will be replaced by directed elective(s) selected in consultation with advisor.

Note: PHIL 382 or 492 may be included in a specialization if approved by the faculty advisor.

Minor in Philosophy (18 credits)

PHIL 112	Introduction to Philosophy	3
PHIL 220	Introduction to Logic	3
PHIL 290	Philosophical Methods	3
PHIL 230	Ancient Greek Philosophy	3
or		
PHIL 330	Early Modern Philosophy	3

and 6 credits of PHIL or REL electives listed in one of the specializations for philosophy majors (at least 3 credits at 300 level or higher).

Minor in Social Justice (18 credits)

The minor in Social Justice provides students with a solid background in philosophical concepts and theories of social justice, and fosters skills necessary for critical analysis of social justice issues that arise in contemporary society. (This minor is not open to Philosophy majors).

Philosophical Reasoning - 6 credits

PHIL 221	Introduction to Modern Logic	3
PHIL 290	Philosophical Methods	3

Social Justice Core - 12 credits

PHIL 244	Introduction to the Philosophy of Social Justice	3
PHIL 344	Topics in Philosophy & Social Justice	3

6 credits from the following (other courses may be substituted with the approval of the Department Chair).

PHIL 144	Moral Issues	3
PHIL 211	Global Justice	3
PHIL 222	Philosophy of Gender	3
PHIL 360	African-American Philosophy	3
SOC 212	Gender, Race & Class	3
SOC 240	Sociology of Gender	3

Major in Physics, BS (Non-teaching, 39 credits)

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
PHYS 220	Mechanics I	3
PHYS 250	Intermediate Lab I	1
PHYS 305	Foundations of Electricity & Magnetism	3
PHYS 320	Heat and Thermodynamics	3
PHYS 325	Optics	4
PHYS 331	Electronics I	3
PHYS 350	Intermediate Lab II	1
PHYS 425	Modern Physics	3
PHYS 450	Advanced Laboratory	1
PHYS 460	Seminar in Physics	1
PHYS 470	Quantum Mechanics	3
PHYS 471	Quantum Mechanics II	3

In addition, students must take:

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
MATH 152	Calculus I	4
MATH 221	Calculus II	4
MATH 222	Calculus III	3

Completion of a minor is required, and for students planning graduate work a year of French, German, or Russian should be taken.

Major in Earth Sciences with Specialization in Earth Sciences, BS (Non-teaching, 36 credits)

ESCI 121	Physical Geology	4
ESCI 122	Historical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4
ESCI 290	Field Methods in Geology	2
ESCI 335	Physical Oceanography	3
ESCI 360	Research Methods in the Earth Sciences	1
In addition, 1 to 3 credits of the following are required:		
ESCI 460	Senior Project	1-3
or		
ESCI 480	Internship in Earth Sciences	1-3

The remaining 11 to 13 credits will be selected in consultation with the student's advisor.

In addition, the following are required:

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
MATH 152	Calculus I	4
MATH 221	Calculus II	4
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4

A minor is not required.

Major in Earth Sciences with Specialization in Geology, BS (Non-teaching, 36 credits)

ESCI 121	Physical Geology	4
ESCI 122	Historical Geology	4
ESCI 221	Mineralogy	4
ESCI 223	Stratigraphy and Sedimentology	4
ESCI 290	Field Methods in Geology	2
ESCI 321	Structural Geology	4
ESCI 322	Igneous and Metamorphic Petrology	4
ESCI 360	Research Methods in the Earth Sciences	1
ESCI 424	Geomorphology	4

In addition, 2 to 4 credits from ESCI 460 or 4 credits from an external geology field camp approved by the Department Chair are required.

The remaining 1 to 3 credits will be selected from:

ESCI 378	Comparative Planetology	3
ESCI 431	Introduction to Hydrogeology	4
ESCI 450	Environmental Geology	3
ESCI 478	Planetary Image Analysis	3
ESCI 480	Internship in Earth Sciences	1-3
ESCI 490	Topics in Earth Science	3-4
or	other electives as selected in consultation with the student's advisor	

In addition, the following are required:

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
MATH 152	Calculus I	4
MATH 221	Calculus II	4
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4

A minor is not required.

Minor in Physics (Certifiable for secondary teaching, 18 credits)

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
PHYS 220	Mechanics I	3
PHYS 250	Intermediate Lab I	1
Physics electives		6

In addition, students must take:

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
MATH 152	Calculus I	4
MATH 221	Calculus II	4
MATH 222	Calculus III	3
SCI 417	Teaching of Science in the Secondary School	3

Major in Earth Sciences, BS (Certifiable for secondary teaching, 32 credits)

ESCI 121	Physical Geology	4
ESCI 122	Historical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4
ESCI 335	Physical Oceanography	3

and 13 credits of Earth Science courses at the 200- level and above as approved by faculty advisor

In addition, students must take:

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4
BIO 121	General Biology I	4
BIO 122	General Biology II	4
EDTE 316	Principles of Learning (Sec/K-12)	4
EDF 415	Educational Foundations	3
SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
RDG 440	Literacy in the Secondary School	3
SCI 416	Educational Technology in Secondary Science	3
SCI 417	Teaching of Science in the Secondary School	3
SCI 419	Student Teaching Seminar	1
SCI 420	History and Nature of Science	3
MATH 152	Calculus I	4
MATH 221	Calculus II	4

Minor in Earth Sciences (18 credits)

ESCI 121	Physical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4

The remaining credits will be chosen after consultation with an Earth Sciences advisor.

Minor in Earth Sciences (Certifiable for secondary teaching, 20 credits)

ESCI 121	Physical Geology	4
ESCI 122	Historical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4

and other electives as approved by faculty advisor

In addition, students must take:

SCI 416	Educational Technology in Secondary Science	3
SCI 417	Teaching of Science in the Secondary School	3
SCI 419	Student Teaching Seminar	1
MATH 152	Calculus I	4
MATH 221	Calculus II	4
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4

Major in General Science with Specialization in Earth Sciences, BS (Certifiable for elementary education, 39-42 credits)

For course listing, see [major in general science linked here](#).

Minor in Physics (18 credits)

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
PHYS 220	Mechanics I	3

The remaining physics courses will be selected after consultation with the student's physics department advisor.

In addition, students must take:

MATH 152	Calculus I	4
MATH 221	Calculus II	4
MATH 222	Calculus III	3

Minor in Meteorology (21 credits)

ESCI 129	Introduction to Meteorology	4
ESCI 431	Introduction to Hydrogeology	4
ESCI 461	Physical Meteorology	3
ESCI 462	Dynamic Meteorology	3

7 credits from the following:

ESCI 335	Physical Oceanography	3
ESCI 442	Weather Analysis and Forecasting	3
GEOG 374	Climatology	3

In addition, students must take:

MATH 152	Calculus I	4
MATH 221	Calculus II	4

Minor in Geology (18 credits)

ESCI 121	Physical Geology	4
ESCI 122	Historical Geology	4
ESCI 221	Mineralogy	4
ESCI 321	Structural Geology	4

and one course from the following:

ESCI 223	Stratigraphy and Sedimentology	4
ESCI 424	Geomorphology	3
ESCI 450	Environmental Geology	3

Minor in Astronomy (18 credits)

18 credits in Astronomy and related fields, including:

ESCI 178	Planetary Astronomy	4
ESCI 179	Stellar Astronomy	4

The remaining course will be selected from ESCI 278, 330, 378, 478, or other electives after consultation with an earth sciences department advisor.

In addition, students must take:

MATH 152	Calculus I	4
MATH 221	Calculus II	4
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4

For Certification in Elementary Education, Complementary Subject Matter Area in Earth Sciences (18-19 credits)

ESCI 121	Physical Geology	4
ESCI 129	Introduction to Meteorology	4

18 credits in astronomy and related fields, including:

ESCI 178	Planetary Astronomy	4
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and a minimum of 6 credits from the following:

ESCI 122	Historical Geology	4
ESCI 179	Stellar Astronomy	4
ESCI 278	Observational Astronomy	4
ESCI 321	Structural Geology	4
or		
ESCI 424	Geomorphology	3

Other electives as approved by advisor. Please consult with the School of Education and Professional Studies concerning additional requirements for dual subject programs and interdisciplinary majors.

Major in Political Science, BA (36 credits)

PS 104	The World's Political Systems	3
or		
PS 110	American Government & Politics	3

and one course in each of the following five areas- American government and politics; political theory; comparative government; international relations and organization; public law, methodology and organizational behavior. Six credits from the fields of history, sociology, psychology, economics, geography, mathematics, and statistics may be applied to the 36-credit political science requirement, when approved in advance by the departmental chair.

Major in Political Science with Specialization in Public Administration, BA (36 credits)

PS 110	American Government & Politics	3
PS 230	American State and Local Government	3
PS 260	Public Administration	3
PS 344	Interpretation of Political Data	3
PS 446	The Budgetary Process	3
PS 450	Ethics, Corruption, and Virtue in Public Service	3

6 credits from the following:

PS 480	Government Intern Experience	4
and		
PS 481	Intern Seminars and Research	4
PS 482	Government Intern Experience	6-8
and		
PS 483	Intern Seminars and Research	6-8
PS 490	Directed Readings in Political Science	1-6
and		
PS 491	Advanced Studies in Political Science	1-6

or approved 400-level courses in political science or other fields

12 credits of electives from political science, or from fields directly related to public administration, with prior approval of the department advisor. Particularly appropriate electives are PS 315, 330, 331 or 332, 335, 430, and 431. Students must also complete a minor in an area relevant to public administration.

Minor in Political Science (18 credits)

At least 15 credits must be in political science; the remaining credits may be earned in a discipline relevant to political science.

Credit for not more than 6 credits towards a political science minor may be granted, with approval of the department chair, from those areas listed as options under the major.

Minor in Political Science (For students completing secondary certification, 18 credits)**Requirements**

PS 104	The World's Political Systems	3
or		
PS 110	American Government & Politics	3

Credit for not more than 6 credits towards a political science minor may be granted, with approval of the department chair, from those areas listed as options under the major.

Major in Psychology, BA (42 credits)

PSY 112	General Psychology I	3
PSY 113	Exploring Psychology	1
PSY 221	Research Methods in Psychology I	4
PSY 222	Research Methods in Psychology II	4
PSY 236	Life-Span Development	3
PSY 330	Abnormal Psychology	3
PSY 490	History & Systems of Psychology	3

One course is required from each of the following categories:

Social/personality:

PSY 372	Social Psychology	3
PSY 470	Personality Psychology: Theories and Research	3

Biological:

PSY 342	Sensation & Perception	3
PSY 450	Biopsychology	3

Experimental:

PSY 200	Learning & Memory	3
PSY 281	Cognitive Psychology	3
PSY 440	Motivation	3

Diversity:

PSY 350	Cross-Cultural Psychology	3
PSY 430	Psychology of Diversity	3

and 9 credits of psychology electives

In addition, in order to graduate, students must take the Psychology Assessment test. The test will be administered by the department every semester; students may take the test only once.

A minor is required for this major.

Note: PSY 112 (C- or higher) and STAT 215 (C- or higher) are prerequisites for PSY 221.

Minor in Psychology (18 credits)

PSY 112	General Psychology	3
	Psychology electives	15

Minor in Gerontology

The minor in gerontology provides students with a solid background in different issues related to adult development and aging in order to prepare them to serve the aging population in various capacities. The minor incorporates courses from the schools of Arts and Sciences, Education and Professional Studies, and Technology. For more information, refer to the [gerontology page](#) linked here.

Note: Psychology majors choosing to minor in gerontology cannot double-count major and minor requirements.

Major in General Science with Specialization in Environmental Interpretation, BS (53-57 credits)

BIO 121	General Biology I	4
BIO 122	General Biology II	4
BIO 200	General Biology III	4
STAT 104	Elementary Statistics	3
or		
CS 113	Introduction to Computers	3
ESCI 121	Physical Geology	4

Structured Elective Component: Earth and Planetary Sciences

Four courses from the following or other courses in earth science approved by the chair of the Physics and Earth Sciences Department

ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
ESCI 179	Stellar Astronomy	4
ESCI 424	Geomorphology	3
ESCI 450	Environmental Geology	3

Structured Elective Component: Life Sciences

Two courses from the following, selected in consultation with an advisor:

BIO 120	Plants of Connecticut	3
BIO 150	Long Island Sound - Introductory Ecology	4
BIO 315	Microbial Ecology	4
BIO 322	Vertebrate Zoology	4
BIO 326	Mushrooms, Mosses & More	4
BIO 327	Vascular Plants	4
BIO 405	Ecology	4
BIO 420	Ornithology	4
BIO 421	Marine Invertebrate Biology	4
BIO 425	Aquatic Plant Biology	4
BIO 444	Plant Taxonomy	3
BIO 480	Animal Behavior	3

Directed Electives

In lieu of a minor, at least 15 credits, with the advisor's approval, from the following or other courses in any of the natural sciences:

ART 490	Curatorship	3
GEOG 256	Maps & Map Reading	3
GEOG 272	Physical Geography	3
GEOG 276	Elementary Cartography	3
GEOG 433	Issues in Environment Protection	3
GEOG 442	Field Methods in Geography	3
ANTH 150	Introduction to Archaeology	3
ANTH 151	Lab in Introductory Archaeology	1

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Central Connecticut State University (CCSU): Major in General Science: Environmental Interpretation, BS

ANTH 422	Native Americans	3
ANTH 425	Human Ecology	3
SCI 518	Teaching Science in the Out-of-Doors	3

At least 9 credits of the elective component must be from courses in biology, chemistry, physics, and the earth sciences, and must be completed at the 300 level or above. Three credits of internship (SCI 453) are also required.

Note: S. Burns and J. Jarrett are members of the advisory committee for this program.

Major in General Science with Specialization in General Science, BS (Certifiable for secondary teaching, 56-59 credits)**Science and Mathematics Core (46 credits)**

BIO 121	General Biology I	4
BIO 122	General Biology II	4
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
ESCI 121	Physical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4
PHYS 121	General Physics I	4
and		
PHYS 122	General Physics II	4
or		
PHYS 125	University Physics I	4
and		
PHYS 126	University Physics II	4
MATH 116	Pre-Calculus Mathematics	3
MATH 152	Calculus I	4
SCI 420	History and Nature of Science	3

and one of the following tracks (10-13 credits):

Physics Track

One of these physics courses

PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
PHYS 220	Mechanics I	3
PHYS 305	Foundations of Electricity and Magnetism	3
PHYS 320	Heat and Thermodynamics	3
PHYS 325	Optics	4
PHYS 331	Electronics I	3
or		
MATH 221	Calculus II	4
MATH 222	Calculus III	3

Earth Sciences Track

ESCI 122	Historical Geology	4
ESCI 221	Mineralogy	4

or

ESCI 278	Observational Astronomy	4
ESCI 335	Physical Oceanography	3

Chemistry Track

CHEM 238	Introduction to Research	1-6
or		
CHEM 301	Analytical Chemistry	4
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Lab	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Lab	1

Biology Track:

BIO 200	General Biology III	3
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and 6-8 credits in biology at 300 or 400 level

In addition, all students in the specialization in general science must take:

EDTE 316	Principles of Learning (Sec/K-12)	4
EDF 415	Educational Foundations	3
SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDSC 425	Principles of Secondary Education	3
EDSC 435	Secondary Education Student Teaching	3-9
RDG 440	Literacy in the Secondary School	3
SCI 416	Educational Technology in Secondary Science	3
SCI 417	Teaching of Science in the Secondary School	3
SCI 419	Student Teaching Seminar	1

Major in General Science with Specialization in Physical Sciences, BS (54 credits)

CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4
ESCI 121	Physical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4
BIO 121	General Biology I	4
BIO 122	General Biology II	4

and 18 credits selected from courses in physics, chemistry, and the earth sciences which are approved for majors and minors in those fields

In addition, students must take:

MATH 116	Pre-Calculus Mathematics	3
MATH 152	Calculus I	4
MATH 221	Calculus II	4

A minor is not required.

Major in Interdisciplinary Science: Specialization in Biology or Earth Sciences (Certifiable for elementary education, 39-42 credits)**Core (24-32 credits)**

Physics (6-8 credits)

PHYS 111	Introductory Physics I	3
PHYS 113	The Sound of Music	3
or		
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4
or		
PHYS 125	University Physics I	4
PHYS 126	University Physics II	4

Chemistry (6-8 credits)

CHEM 102	Chemistry of Nutrition	3
CHEM 111	Introductory Chemistry	3
or		
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1

Biology (6-8 credits)

BIO 111	Introductory Biology	3
BIO 211	Concepts in Biology	3
BIO 132	Introductory Ecology	3
or		
BIO 121	General Biology I	4
BIO 122	General Biology II	4

Earth Science (6-8 credits)

ESCI 111	Elementary Earth Science	3
ESCI 121	Physical Geology	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4

Specialization

A minimum of 18 credits in either specialization below, including 6-8 credits in the core of the specialization

Specialization in Biology

Core

BIO 121	General Biology I	4
BIO 122	General Biology II	4

Electives

BIO 200	General Biology III	4
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and 6-11 credits of BIO electives at the 300 or 400 level, selected in consultation with an advisor

Specialization in Earth Science

Core

ESCI 121	Physical Geography	4
ESCI 129	Introduction to Meteorology	4
ESCI 178	Planetary Astronomy	4

Electives

Choose a minimum of 6 credits (as needed to reach 39 credits) from the following:

ESCI 122	Historical Geology	4
ESCI 179	Stellar Astronomy	4
ESCI 335	Physical Oceanography	3

or other electives as approved by advisor

Minor in General Science (Certifiable for secondary teaching, 43 credits)

Restricted to students with a major in biology, chemistry, earth science, or physics.

32 credits in science as follows:

BIO 121	General Biology I	4
BIO 122	General Biology II	4
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4
ESCI 121	Physical Geology	4

and 4 credits from the following:

BIO 318	Anatomy & Physiology I	4
CHEM 210	Organic Chemistry I	3
and		
CHEM 211	Organic Chemistry I Lab	1
PHYS 325	Optics	4

In addition, students must complete the following:

SCI 416	Educational Technology in Secondary Science	3
SCI 417	Teaching of Science in the Secondary School	3
SCI 419	Student Teaching Seminar	1

Minor in Science (24 credits)

12 credits as follows:

BIO 121	General Biology I	4
or		
BMS 102	Introduction to Biomolecular Science	3
BMS 103	Introduction to Biomolecular Science Lab	1
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
ESCI 121	Physical Geology	4
or		
PHYS 121	General Physics I	4
or		
PHYS 125	University Physics I	4

and 12 credits from the following:

BIO 122	General Biology II	4
or		
BMS 201	Principles of Cell and Molecular Biology	4
CHEM 163	General Chemistry II	3
and		
CHEM 164	General Chemistry II Lab	1
ESCI 178	Planetary Astronomy	4
or		
ESCI 179	Stellar Astronomy	4
PHYS 122	General Physics II	4
or		
PHYS 126	University Physics II	4

Students must take at least one course in each discipline (biology or biomolecular sciences, chemistry, physics, and earth sciences), and the 8 credits in the minor may be credited toward a major as well.

Major in Social Sciences, BS (Certifiable for secondary teaching, 54 credits)

18 credits in history

HIST 121	World Civilization I	3
HIST 122	World Civilization II	3
HIST 301	The Historical Imagination	3
	300-level U.S. surveys	6

and 3 elective credits in non-western history

18 credits in one social science discipline (anthropology, economics, geography, political science, or sociology) as required by that department for a minor for secondary certificate students

18 credits from the following:

PS 104	The World's Political Systems	3
PS 110	American Government & Politics	3
ECON 200	Macroeconomics	3
	and	
ECON 201	Microeconomics	3
GEOG 110	Introduction to Geography	3
GEOG 120	World Regional Geography	3
ANTH 140	Introduction to Anthropology	3
SOC 110	Introductory Sociology	3

Courses taken for the 18 credits in one social science discipline above cannot be counted toward the 18 credits in social science in the last bulleted item.

All majors in social sciences must take ECON 200 and 201.

All majors in social sciences must take at least one class in the following disciplines: history, geography, economics, anthropology, sociology, and political science.

In addition, students must complete the following:

SSCI 415	Social Studies Methods at the Secondary Level	4
SSCI 421	Social Studies Student Teaching Seminar	1
SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDTE 316	Principles of Learning (Sec/K-12)	4
EDT 315	Educational Technology in the Secondary School Classroom	1
RDG 440	Literacy in Secondary School	3
EDF 415	Educational Foundations	3
EDSC 425	Principles of Secondary Education	4
EDSC 435	Secondary Education Student Teaching	3-9
PSY 236	Life-Span Development	3

No minor is required.

Minor in Social Studies (18 credits)

12 credits from the following list:

ANTH 140	Introduction to Anthropology	3
ECON 200	Principles of Economics I	3
ECON 201	Principles of Economics II	3
GEOG 110	Introduction to Geography	3
GEOG 120	World Regional Geography	3
PS 104	The World's Political Systems	3
PS 110	American Government & Politics	3
SOC 110	Introductory Sociology	3

and 6 credits at the 300- or 400-level in a social or behavioral science department as approved by the Department of History Department chair.

Major in Sociology, BA (39 credits)

The seven required core courses enable students to acquire fundamental analytical research skills and theoretical perspectives of the discipline.

Core (19-20 credits)

SOC 110	Introductory Sociology	3
SOC 210	Sociology Inquiry	3
SOC 212	Race, Class, and Gender	3
SOC 300	Sociology Theory	3
SOC 310	Research Methods	3
SOC 410	Quantitative Analysis	3
or		
SOC 411	Oral History for the Social Sciences	3
or		
SOC 412	Qualitative Analysis	3
SOC 413	Community Research	4
SOC 495	Passages & Prospects	1

and 19-21 credits of sociology electives (12 of which must be at the 300- and/or 400-level, and with no more than 6 credits at the 100-level). Students are also required to successfully complete STAT 215.

Students wishing to major in sociology are required to meet with the department chair to pick up introductory materials and information, as well as to be assigned a faculty advisor. Substantive areas of study should be developed in conjunction with the student's departmental advisor. Independent studies and internship opportunities are available to qualified majors. Eligible students are encouraged to participate in Alpha Kappa Delta, the International Sociology Honors Society.

Minor in Sociology (18 credits)

SOC 110	Introductory Sociology	3
SOC 212	Race, Class, and Gender	3

and 12 credits of electives, 6 of which must be at the 300 or 400 level

Minor in Gerontology

The minor in gerontology provides students with a solid background in different issues related to adult development and aging in order to prepare them to serve the aging population in various capacities. The minor incorporates courses from the schools of Arts and Sciences, Education and Professional Studies, and Technology. For information on the [Gerontology minor, see the page linked here](#).

Major in Theatre with Specialization in Performance, BFA (52-61 credits):**Core (41credits)**

TH 101	Performance Practicum (repeated 6 times)	6
TH 115	Play Production	2
TH 111	Stagecraft	3
	or	
TH 121	Costuming	3
TH 126	Makeup I	2
TH 135	Speaking-Voice Development	3
TH 145	Acting I	3
TH 148	Studio Performance I	2
TH 235	Movement for Performers	3
TH 246	Acting II	3
TH 253	Script Analysis for the Theater	3
TH 347	Acting III	3
TH 348	Performance Studio II	2
TH 375	History of Theater I	3
	or	
TH 376	History of Theater II	3
TH 477	Contemporary U.S. Theatre	3

Emphasis (20 credits - choose one of the following four emphases)**Acting Emphasis (20 credits)**

TH 146	Introduction to High Impact Theatre	3
TH 338	Advanced Voice Development	3
TH 447	Acting IV	3
TH 456	Shakespearean Production	3
TH 472	Studies in Acting	6
TH 483	Projects: Acting A	1
TH 484	Projects: Acting B	1

Directing Emphasis (15 credits)

TH 111	Stagecraft	3
	or	
TH 121	Costuming	3
TH 115	Play Production	2
TH 352	Directing for the Stage	3
TH 375	History of Theatre I	3
	or	
TH 376	History of Theatre II	3
TH 447	Acting IV	3

or

TH 456	Shakespearean Production	3
TH 488	Projects: Directing	3

Interdisciplinary Emphasis (11 credits)

11 credits from acting or directing emphasis, plus 9 guided theatre electives.

Dance Emphasis (15-17 credits)

DAN 151	Beginning Modern Dance	2
DAN 152	Beginning Ballet	1
DAN 157	Beginning Jazz Dance	1
DAN 235	Movement for Performers	2
DAN 236	Principles of Choreography	2
DAN 252	Intermediate Ballet	1
DAN 157	Intermediate Jazz Dance	1
DAN 377	Modern Dance & Theory	1
DAN 480	Project: Dance	1-3
MUS 109	Fundamentals of Music	3

A minor is not required with this major.

Major in Theatre with Specialization in Design and Technical Theatre, BFA (65 credits):**Core** (52 credits)

TH 111	Stagecraft	3
TH 117	Lighting	3
TH 121	Costuming	3
TH 126	Makeup I	2
TH 211	Rendering and Drawing for the Stage	3
TH 213	Scene Painting I	3
TH 217	Sceno-Graphic Techniques	3
TH 251	Stage Management	2
TH 253	Script Analysis for Theatre	3
TH 316	Scene Design	3
TH 318	Lighting Design	3
TH 333	Period Styles	3
TH 375	History of Theatre I	3
TH 376	History of Theatre II	3
ART 130	Drawing I	3
ART 110	Introduction to Art History	3

and 6 credits from the following:

TH 481	Projects: Scenery	1-3
TH 485	Projects: Lighting	3
TH 486	Projects: Sound	3
TH 488	Projects: Directing	1-3
TH 491	Projects: Technical Direction	3
TH 492	Projects: Stage Management	3
TH 493	Theatre Internship	3-6

Directed Electives (13 credits)

Chosen from other theatre courses or from courses in related fields in consultation with advisor

A minor is not required with this major.

Major in Theatre with Specialization in General Theatre, BFA (60 credits)

TH 101	Performance Practicum (repeated 3 times)	3
TH 111	Stagecraft	3
TH 117	Lighting	3
TH 121	Costuming	3
TH 126	Makeup I	2
TH 145	Acting I	3
TH 253	Script Analysis for the Theatre	3
TH 375	History of Theatre I	3
TH 376	History of Theatre II	3
TH 489	Studies in Theatre/Drama	3

and 17 credits of theatre electives and 14 credits of theatre or related fields courses approved by the student's advisor

A minor is not required with this major.

Major in Theatre with Specialization in General Theatre/Educational Theatre, BFA (non-certification program, 50-62 credits)**Core (29 credits)**

TH 101	Performance Practicum (repeated three times)	3
TH 111	Stagecraft	3
TH 117	Lighting	3
TH 121	Costuming	3
TH 126	Makeup I	2
TH 143	Theatre Games and Improvisation	3
TH 145	Acting I	3
TH 376	History of Theatre II	3
ENG 377	Play Writing	3
TH 489	Studies in Theatre/Drama	3

General Theatre Specialization (21 credits)

TH 110	Introduction to Theatre	3
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and 18 credits of theatre electives

Educational Theatre Specialization (30-33 credits)

TH 146	Intro to High Impact Theatre	3
TH 165	Improvisation for the Classroom	3
TH 246	Acting II	3
TH 253	Script Analysis for the Theatre	3-6
TH 352	Directing for the Stage	3
TH 375	History of Theatre I	
TH 465	Creative Dramatics for Children	3
TH 495	Theatre Internship	3

and 6 credits of theatre electives, chosen in consultation with advisor.

A minor is not required with this major.

Major in Theatre with Specialization in Costume Design, BFA (65 credits)**Core (48 credits)**

TH 111	Stagecraft	3
TH 115	Play Production	1
TH 117	Lighting	3
TH 121	Costuming	3
TH 126	Makeup I	2
TH 211	Rendering and Drawing for the Stage	3
TH 222	History of Fashion	3
TH 253	Script Analysis for Theatre	3
TH 327	Makeup II	3
TH 332	Costume Design	3
TH 333	Period Styles	3
TH 334	Costume Construction	3
TH 375	History of Theatre I	3
TH 376	History of Theatre II	3
TH 482	Projects: Costuming	3
ART 130	Drawing I	3
ART 110	Introduction to Art History	3

and 17 credits of directed electives, either other theatre courses or courses in related fields, in consultation with advisor

A minor is not required with this major.

Major in Theatre, BA (34 credits)**Core** (22 credits)

TH 111	Stagecraft	3
TH 115	Play Production	1
TH 117	Lighting	3
TH 121	Costuming	3
TH 135	Speaking-Voice Development	3
TH 143	Theater Games and Improvisation	3
TH 253	Script Analysis for Theatre	3

and 3 credits from the following:

TH 375	History of Theatre I	3
TH 376	History of Theatre II	3
TH 489	Studies in Theatre/Drama	3

Emphasis

(6 credits from one of the following categories)

Acting/Theatre Voice Emphasis

TH 145	Acting I	3
TH 338	Advanced Voice Development	3
TH 246	Acting II	3
TH 347	Acting III	3

Directing Emphasis

TH 352	Directing for the Stage	3
TH 488	Projects: Directing	1-3

Design/Tech Emphasis

TH 115	Play Production (3 credit max.)	3
TH 213	Scene Painting I	3
TH 217	Sceno-Graphic Techniques	3
TH 316	Scene Design	3
TH 318	Lighting Design	3

Costuming/Makeup Emphasis

TH 115	Play Production	1
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TH 126	Makeup I	2
TH 222	History of Fashion	3
TH 327	Makeup II	3
TH 332	Costume Design	3
TH 482	Projects: Costuming	1-3

Dance/Movement Emphasis

At least 2 credits from the following:

DAN 235	Movement for Performers	2
DAN 236	Principles of Choreography	2

and at least 2 credits from:

DAN 151	Beginning Modern Dance	2
DAN 152	Beginning Ballet	1
DAN 157	Beginning Jazz Dance	1
DAN 252	Intermediate Ballet	1
DAN 257	Intermediate Jazz Dance	1

and 2 credits from the above dance/movement courses

or

DAN 377	Modern Dance & Theory	
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Electives

6 credits of theatre electives

*In the emphasis and electives mentioned above, acting/theatre voice majors are recommended to complete TH 145, 338, and 246.

Minor in Theatre (21 credits)

TH 111	Stagecraft	3
TH 117	Lighting	3
TH 121	Costuming	3
TH 135	Speaking-Voice Development	3
TH 143	Theater Games and Improvisation	3
TH 253	Script Analysis for Theatre	3

and 3 credits from the following:

TH 375	History of Theatre I	3
TH 376	History of Theatre II	3
TH 489	Studies in Theatre/Drama	3

Minor in Theatre (Performance) (21 credits)

TH 101	Performance Practicum (repeated 3 times)	3
TH 143	Theatre Games and Improvisations	3
TH 145	Acting I	3
TH 246	Acting II	3
TH 347	Acting III	3

and 6 credits from the following:

TH 115	Play Production	1
TH 126	Makeup I	2
TH 135	Speaking-Voice Development	3
TH 447	Acting IV	3
TH 456	Shakespeare Production	3
TH 489	Studies in Theatre/Drama	3
DAN 235	Movement for Performers	2

Minor in Dance (18 credits)

DAN 151	Beginning Modern Dance	2
DAN 152	Beginning Ballet	1
DAN 157	Beginning Jazz Dance	1
DAN 252	Intermediate Ballet	1
DAN 257	Intermediate Jazz Dance	1
DAN 377	Modern Dance & Theory	1
DAN 480	Project Dance	1-3
TH 117	Lighting	3
TH 121	Costuming	3
MUS 109	Fundamentals of Music	3

Not open to theatre majors.

Carol A. Ammon School of Arts & Sciences Centers

The **Copernican Planetarium and Observatory** (Copernicus Hall) includes a full-function, optical planetarium that seats 100 people and is used for classes and community engagement and outreach. The observatory, located on the roof of Copernicus Hall, and a selection of portable telescopes, are used for astronomical instruction and community engagement and outreach. Students are particularly encouraged to work with faculty and staff and become trained in the workings of these facilities.

The **Institute for Science Education**, coordinated by the Department of Biology, offers summer courses for elementary, middle, junior high, and high school science teachers. Hands-on activities that can be transferred to the classroom are emphasized. Topics have included the environment, the aquatic world, coastal ecology, science and the citizen, field biology, and plants in the laboratory.

The **Polish Studies Center** (DiLoreto 208-23) was established to foster within both the Polish-American and the American communities an awareness of Poland's culture, history, and civilization. In 1997, CCSU established the S. A. Blejwas Endowed Chair in Polish and Polish-American Studies, the first endowed chair in Polish Studies in Connecticut and the second in New England. The center offers courses in Polish history, politics, culture and civilization, language, and the Polish community in America. The center's other resources include the Polish Heritage Book Collection, the Connecticut Polish American Archive, the annual Fiedorczyk-Wodarski lecture in Polish American Studies, the Milewski Polish Studies lecture, the Godlewski Evening of Polish Culture, the Koproski Lecture in Polish Business and Economics, the Nowakowski Conversations, and the Rudewicz Polish Music Series. It also includes educational materials for teachers, movies, exhibits, scholarship aid for Polish-American students and for students pursuing Polish Studies and the Martin and Sophie Grzyb prize for Excellence in Polish Studies, and the Blejwas Award for graduate Studies in Polish affairs.

The **Weather Center** (Copernicus 538) is a fully-functional weather forecasting facility, including a satellite downlink to the National Weather Service, computer data retrieval capability, color weather radar, and satellite access. It supports forecasting for the University community as well as faculty and student research in the atmospheric sciences.

Cooperative Programs

Community-Technical College Transfer Minors

By agreement between the Carol A. Ammon School of Arts and Sciences and the Connecticut Community-Technical College system, students who complete an associate's degree in a professional or technical program (not an associate's degree in general or liberal studies) at a Connecticut community-technical college may request that their minor be waived if they are majoring in a discipline different than that in which they received the associate's degree. Students are expected to complete a major (non-teaching) in the Carol A. Ammon School of Arts and Sciences and to fulfill all other university requirements. The agreement includes, but is not limited to, programs in corrections and in drug and alcohol rehabilitation. For information, contact the office of the Dean of Arts and Sciences, DiLoreto Hall 112.

Engineering Transfer Program

This program provides the first-year and sophomore core courses needed for a wide variety of engineering fields. Constructed in consultation with the School of Engineering at University of Connecticut, it enables a limited number of students to transfer to that school after the sophomore year to complete the BS degree in either chemical, civil, electrical, or mechanical engineering in approximately two additional years.

The program at Central Connecticut State University includes laboratory courses in chemistry and physics, mathematics, computer science, CAD, freshman English, and various electives in social sciences and humanities.

The Engineering Advisory Committee will assist students with transfer procedures to the School of Engineering at University of Connecticut and to other schools of engineering.

Students planning to enroll should consult with the committee chair at the earliest opportunity. Inquiries should be addressed to the Engineering Transfer Program, Department of Physics and Earth Sciences, Central Connecticut State University, New Britain, CT 06050 (860-832-2932; 860-832-2930).

UConn/CCSU Joint Program in Public Affairs

There is a cooperative program between Central Connecticut State University and University of Connecticut for the master of public administration degree. An undergraduate student may enroll in up to four approved graduate-level courses and later apply these courses toward the MPA. Approved Central Connecticut State University courses (PS 445, 446, and 448) may be credited toward the MPA. Non-matriculated students, who have completed the BA, may take up to three CCSU courses in the MPA program before applying for admission. Students may register from their home institution. Detailed information may be obtained from the chair of the political science department, or from the director of the UConn Master of Public Affairs program.

SCHOOL OF BUSINESS

Siamack Shojai, *Dean*
Sharon Braverman, *Assistant Dean*
Phone: 860-832-3209
Fax: 860-832-3219
Website: www.ccsu.edu/business

The School of Business offers programs leading to the Bachelor of Science degree in business administration.

Vision: The School of Business aspires to provide its students with a high quality education through student-centered learning that includes a global view of business and a rigorous curriculum. The School of Business provides a foundation for intellectual enrichment and life-long learning by holding students to high standards. A collegial and collaborative faculty, who are respected for the quality of their teaching, relevant scholarship, and activity in Connecticut's business community, contribute to the School of Business's reputation as a quality business school. This quality is recognized within the University, the business community, and the profession through exceptional graduates and contributions to Connecticut's economic capabilities.

Mission: We provide the opportunity for an education in the field of business that is recognized by our stakeholders for its quality. The faculty, dedicated to teaching and informed by their scholarship, prepare students to be thoughtful and responsible business professionals.

The curriculum of the School of Business is designed to provide appropriate theory and practice in problem solving, critical thinking, data analysis, use of information technology, communication, teamwork, ethics, and leading and managing. Students learn to engage with others of culturally diverse backgrounds and gain a global perspective.

The School of Business offers the following majors:

- [Accounting](#)
- [Finance](#)
- [Management and Organization](#)
- [Management Information Systems](#)
- [Marketing](#)

Admission to the School of Business and the Business Major

Pre-Major Status

Students may apply for admittance to the School of Business as part of their initial application for admission to the University, and such students will be in pre-major status until they are formally admitted to business major status.

Business Major Status

The School of Business requires objective evidence that a student possesses the quantitative and verbal aptitude plus the fundamental economics and accounting skills to move on to upper division business coursework and successfully complete his or her desired business degree program. Students are also expected to have a working knowledge of basic computer applications programs such as word processing and spreadsheet applications.

Students must be formally admitted to business major status before they will be permitted to enroll in upper division business courses. ("Upper division" is defined as 300- and 400-level business courses.) Students may attain business major status when they have completed the **pre-major** requirements, which consist of AC 211 and 212; ECON 200 and 201; ENG 110; MATH 123 or 125; STAT 200 and 201; or equivalencies as approved by the School of Business.

Business major status will only be granted to students who have completed *all four* of the following requirements:

- achieved at least junior standing;
- completed the eight-course pre-major requirements with grades of least C- in each course (AC 211, AC 212 ECON 200, ECON 201, ENG 110, MATH 123 or 125, STAT 200, and STAT 201; or equivalencies as approved by the School of Business);
- earned a grade point average of at least 2.50 in the eight-course pre-major requirements (This grade point average is based on the average of the specific grades earned in the eight pre-major courses, whether the course was taken at CCSU or transferred to CCSU.); and

- earned a cumulative grade point average of at least 2.50 in all coursework at CCSU.

Students who are enrolled in pre-major requirements courses and will complete the pre-major requirements by the close of the current semester may be granted "conditional" permission to register for upper division business courses for the following semester provided, however, they currently meet the minimum grade and cumulative grade point average requirements in their completed coursework. If such students subsequently fail to successfully complete the pre-major requirements, they will be removed from upper division business courses and denied access to such courses until they successfully complete the pre-major requirements.

Students accepted into business major status must maintain a minimum 2.50 cumulative grade point average in business coursework and in the University grade point average. A student who has attained business major status in the School of Business and whose grade point average falls below the required minimum 2.50 cumulative grade point average will not be able to graduate and is subject to dismissal from the School.

Further information and applications for admission for both pre-major status and business major status may be obtained in the assistant dean's office in Robert C. Vance Academic Center, Room 216, along with names and locations of faculty advisors in the student's major. Students are encouraged to talk with faculty members in their major departments regarding course selection and career opportunities.

Transfer Students

Transfer students must meet the same course requirements, application procedures, and cumulative grade point averages as CCSU students. Transfer credit for pre-major requirements courses, common business core courses, and chosen major courses will not be granted by the School of Business unless such courses were completed with grades of C- or better. Transfer grades for pre-major courses (AC 211 and 212; ECON 200 and 201; ENG 110; MATH 123 or 125; STAT 200 and 201; or equivalencies as approved by the School of Business) taken at other colleges and universities will be included in the GPA calculation of pre-business major courses. Students may be asked to repeat those courses to attain a minimum GPA of 2.50 for the pre-business major courses.

Student Advising Program

Student advising and intervention are an integral and vital component of the School of Business students' experience. The Student Advising Program for business majors consists of the following components:

Initial Advising

Upon entry to CCSU, new and transfer students are encouraged to schedule an individual appointment in the assistant dean's office to acquaint them with the academic standards and procedures. This orientation includes an overview of the School of Business, its majors and the requirements of the curriculum, and an explanation of vital offices and University departments at CCSU.

Intervention

Each semester during their lower division status, students meet with a School of Business counselor in the assistant dean's office to review their course selection, to discuss grade point average requirements, and to complete the admission process into the School of Business. This careful monitoring of students' academic progress after the completion of each semester ensures that the students are progressing satisfactorily. If an academic problem occurs, the advisor will intervene with future course selection and facilitate an academic support program for the student. Those students who don't meet the minimum 2.50 GPA or individual pre-major course grade requirements will receive an Academic Alert Letter that instructs them to contact their academic advisor for consultation and remedial action.

Advising for Upper-Level Business Majors

Students are expected to satisfy all pre-major requirements in the freshman and sophomore years. After satisfying all pre-major requirements, applying for acceptance to business major status, and being granted business major status, a student should contact his or her major department to be assigned a faculty advisor within the department. Each semester, upper-level students meet with their faculty advisors to identify appropriate courses for their program of study.

Once a student has completed 90 credits, the student must have advance permission from the chair of the student's major department to take any additional credits at other colleges or universities and count such courses towards a major in business.

School of Business Curriculum

All School of Business majors must complete the following:

- the general education requirements, comprised of study and skill areas;
- the common business core requirements;
- the chosen major requirements; and
- the non-business elective requirements.

The courses satisfying these requirements must be taken at CCSU or transferred according to the regulations for transfer students. Students must receive a grade of C- or better in each common business core course and each chosen business major course.

Credits

General education	47
Non-business elective	18
Common business core	27
Major course requirements (major requirements are listed under the appropriate departments)	30
Total degree requirements	122

General Education Requirements (18 credits)

General education requirements are described elsewhere here in this catalog; however, the general education courses required specifically for business majors as part of the pre-major requirements are the following (all with a grade of C- or better):

Study Area II: ECON 200, 201	6
Skill Area I: ENG 110	3
Skill Area II: MATH 123 or 125,	3
STAT 200, 201	6

Common Business Core (27 credits)

AC 211	Introduction to Financial Accounting	3
AC 212	Introduction to Managerial Accounting	3
FIN 295	Managerial Finance	3
LAW 250	Legal Environment of Business	3
MC 207	Managerial Communications	3
MGT 295	Fundamentals of Management and Organizational Behavior	3
MGT 480	Strategic Management	3
MIS 201	Introduction to Management Information Systems	3
MKT 295	Fundamentals of Marketing	3

Business Degree Graduation Requirements

Students must complete:

- Common business core (27 credits);
- the common business core with a minimum cumulative grade point average of 2.50 in all coursework at CCSU (students must also receive a grade of C- or better in each of the common business core courses);
- the business major requirements (30 credits) with a minimum cumulative grade point average of 2.50 in all coursework at CCSU (students must also receive a grade of C- or better in each business major course taken); and
- the entire business degree requirements (122 credits) with a minimum cumulative grade point average of 2.50 in all coursework at CCSU in order to graduate.

Note that each department may set separate requirements for admission to (and completion of) a chosen business major, including higher minimum grade and cumulative grade point averages. Please check the specific requirements for each business major.

For more information on programs, please see the following links:

- [Accounting](#)
- [Finance](#)
- [Management and Organization](#)
- [Management Information Systems](#)
- [Marketing](#)
- [Minors for Business Majors in Subjects Other Than Business](#)
- [Minors in Business for non-Business Majors](#)

For more information on **student organizations** in the School of Business, [click here](#).

Accounting

Faculty

L. Grasso, *Chair*; C. Crespi, M. Durant, K. Lim, M. McCarthy, P. Mihalek, A. Rich, M. Roxas, H. Shakun, J. Stoneback, P. Tilley (*Dept. phone: 860-832-3220*)

Department Overview

The accounting program prepares its graduates for professional careers in public, corporate, and governmental accounting, and for advanced graduate study in accounting. The program provides the background necessary in areas of accounting such as financial reporting, auditing, taxation, cost management, budgeting, internal auditing, accounting information systems, and accounting for non-profit organizations.

The accounting program satisfies the business and accounting educational requirements of the Connecticut State Board of Accountancy for eligibility to take the Connecticut CPA examination at graduation. Please note that Connecticut requires 120 hours of university credit, but requires 150 hours to be licensed. Additional courses to meet the 150 hour requirement may be taken at either the undergraduate or the graduate level. Also, 36 of the 150 credit hours must be in "AC" designated courses, and 30 credit hours must be in "BUS" and "ECON" designated courses. The accounting program also satisfies the educational requirements for eligibility to become a certified management accountant or a certified internal auditor.

Program

Curriculum Requirements

Students must first successfully complete the School of Business pre-major requirements before they can be admitted to the accounting major. Upon admission to the accounting major, students must complete the common business core of 27 credits and an additional 30 credits of specific accounting course work as follows:

[Major in Accounting, BS](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Finance

Faculty

K. Czyrnik, *Chair*; Z. Bello, J. Farhat, L. Frank, S. Hyat, C. Marquette, P. Root, D. Sims (*Dept. phone: 860-832-3260*)

Department Overview

The finance program prepares graduates for managerial careers and advanced study in finance. Financial professionals evaluate all business and financial risks and returns in business decisions. Using economic theory and the techniques of accounting and statistics, financial managers direct funds acquisition, funds management, and investment. Graduates may pursue careers in corporate financial management, banking, insurance, investments, and government.

Program

[Major in Finance. BS](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Management and Organization

Faculty

M. E. Mitchell, Chair; G. Baten, G. Berry, S. Cavaleri, D. S. Fearon, D. Harris, C. Labeledz, L. Lee, D. J. Miller, S. Stookey, W. E. Tracey, Jr. (*Dept. phone: 860-832-3275, email: carrolljo@ccsu.edu*)

Department Overview

Upon completion of the program, management majors will possess competencies and skills needed for the managerial dimensions of roles they will play in their careers, as well as for graduate study. The program provides a foundation in management theory and practice.

Graduates can expect to pursue careers in such diverse areas as human resources management, entrepreneurship, small business management, healthcare management, international management, not-for-profit management, or other management-oriented program interests. Graduates work in business, government, healthcare, entrepreneurial firms, and not-for-profit organizations.

Program

[Major in Management, BS](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Management Information Systems

Faculty

M. J. D'Onofrio, *Chair* (phone: 860-832-3297); M. Gendron, A. Jarmoszko, J. Lee-Partridge, O. Petkova, J. Snyder (*Dept. phone: 860-832-3290*)

Department Overview

The management information systems (MIS) program prepares graduates for advanced graduate study and careers in organizations as information systems specialists focusing in the areas of application programming, data base administration, information systems management, and systems analysis and design.

The program emphasizes the importance of information as an organizational resource to be managed for the generation of timely, quality information for business decision making. The use of information to make decisions in the areas of accounting, finance, management, and marketing of an enterprise is stressed.

Programs

[Major in Management Information Systems, BS](#)

[Minor in Management Information Systems](#) (for business majors and non-business majors)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Marketing

Faculty

J. Lefebvre, *Chair*; J. Bonnici, A. Jackson, K. Koh, N. Raajpoot (*Dept. phone: 860-832-3305; email: lefebvrej@ccsu.edu*)

Department Overview

The Department of Marketing offers courses leading to a BS in business administration. Students choosing to major in marketing have the opportunity to custom-design their programs. Non-marketing students, interested in marketing, may select marketing courses that complement their major.

The Department of Marketing's program provides a basic foundation in marketing skills, theory, and best practices, domestic and international. It prepares students for entry-level positions (e.g., sales, customer services, public relations, product management, and market analyst), the opportunity to become a marketing professional, and continuing on to graduate study.

Marketing is a field that offers ambitious students rewarding career opportunities. In fact, about a third of all employees work in marketing-related activities.

The 33-credit program starts with a 12-credit marketing core followed by 12 credits of marketing electives and 9 credits of business electives. The later 9 credits can be marketing electives. Thus, by selecting an appropriate set of marketing courses, students can custom-design their marketing programs to best fit their personal projects, interests, and needs. A student's program can be tailored for preparation to enter the job market in areas such as advertising, communication, public relations, services marketing, customer relations management, business-to-business/sales, market research, retailing, new product/service development, direct marketing, and others.

The marketing faculty works closely with students who learn from experience performing work for real firms via internships, independent studies, and the marketing practicum. The faculty prepares students to succeed in their careers.

Finally, the marketing faculty care about teaching and students' learning. Both students and faculty engage in research and scholarship.

Program

[Major in Marketing, BS](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Major in Accounting, BS**Accounting Foundation (30 credits)**

AC 300	Foundations of Accounting: The Profession, Processes, and Analysis	3
AC 301	Cost Management Systems	3
AC 302	Introduction to Income Taxation	3
AC 312	Financial Reporting I	3
AC 313	Financial Reporting II	3
AC 340	Accounting Information Systems	3
AC 445	Auditing	3

Directed Accounting Electives (9 credits)

Select three courses from the following:

AC 311	Accounting Applications	3
AC 402	Fundamentals of Corporate Taxation	3
AC 404	Taxation of Business Pass-Through Entities	3
AC 407	Advanced Accounting	3
AC 410	Fraud Examination	3
AC 420	Managerial Analysis & Cost Control	3
AC 421	Accounting for Lean Enterprises	3
AC 430	Accounting for Non-Profit Organizations	3
AC 455	Internal Auditing	3
AC 490	Current Accounting Topics	3
AC 497	Independent Study	3
AC 498	Internship in Accounting	3
LAW 400	Advanced Business Law	3
FIN 301	Intermediate Managerial Finance	3

Major in Finance, BS

Majors in finance must complete the 27-credit [common business core](#) requirements plus the following 30 credits.

Finance Core

FIN 301	Intermediate Managerial Finance	3
FIN 310	Principles of Investments	3
FIN 320	Financial Markets and Institutions	3
Directed finance electives		12
Finance, accounting, or economics electives		9

Directed Finance Electives (12 credits)

The finance program requires completion of 12 credits selected from the following list of courses. Consultation with an advisor is recommended if the student wishes to pursue a specific specialization or career goal.

FIN 321	Insurance	3
FIN 330	International Finance	3
FIN 400	Advanced Managerial Finance	3
FIN 410	Securities Analysis	3
FIN 411	Financial Statement Analysis	3
FIN 420	Bank Management	3
FIN 422	Risk Management	3
FIN 425	Financial Derivatives	3
FIN 490	Independent Study in Finance	3
FIN 498	Finance Seminar	3
FIN 499	CFA Seminar	3
ECON 450	Money, Credit, and Banking	3

Finance, Accounting, or Economics Electives

Students must complete 9 credits of 300- or 400-level courses.

Specialization in Banking (12 credits)

For students interested in preparing for careers in banking. Required courses include:

ECON 450	Money, Credit, & Banking	3
FIN 411	Financial Statement Analysis	3
FIN 420	Bank Management	3
FIN 330	International Finance	3
or		
FIN 425	Financial Derivatives	3

Specialization in Investments (12 credits)

For students interested in preparing for careers in investments. Required courses include:

FIN 410	Securities Analysis	3
FIN 411	Financial Statement Analysis	3
and two of the following three courses:		
FIN 425	Financial Derivatives	3
FIN 499	CFA Seminar	3
ECON 310	Mathematical Economics I	3

Specialization in Risk Management/Insurance (12 credits)

For students preparing for careers in the insurance industry. Required courses include:

FIN 321	Insurance	3
FIN 422	Risk Management	3
FIN 425	Financial Derivatives	3
And one finance elective		3

Major in Management, BS

Students in the management major must complete the 27-credit [common business core](#) requirements and 30 credits of general management major requirements:

The management major includes three options:

- General management major
- Management major with a specialization in human resource management
- Management major with a specialization in entrepreneurship

Management majors select one of the three aforementioned options and complete requirements specified for the selected option.

Management Requirements (30 credits)

MGT 326	Business Organizational Behavior	3
MGT 345	Organizational Theory	3
MGT 348	Management Systems	3
MGT 448	Managing Strategy and Operations	3
Management specialization courses		9
Business electives		9

General Management Specialization Courses (9 credits)

Students choose three courses after meeting with a Department of Management faculty advisor and adopting a planned program. Courses are selected from the following list to fashion a management curriculum that will satisfy career interests, such as international management, healthcare management, non-profit management, or advanced study in the discipline.

ENT 301	Entrepreneurship and New Venture Creation	3
MGT 305	Human Resource Management	3
MGT 321	International Management	3
MGT 390	Management Topics	3
MGT 403	Ethical and Social Issues for the Manager	3
MGT 425	Labor/Management Relations	3
MGT 431	Compensation and Benefits	3
MGT 460	Staffing	3
MGT 462	International Human Resource Management	3
MGT 470	Organizing and Managing for Quality	3
MGT 471	Managing Knowledge for Business Performance	3
MGT 473	Organizing and Managing for Innovation	3
MGT 481	Management of Not-for-Profit Organizations	3

Note: MGT 295 must be completed with a C- or better before students can take upper-level management courses.

Business Electives (9 credits)

Students must select 9 credits of 300- or 400-level School of Business courses in consultation with a Department of Management faculty advisor. These 9 credits are selected from courses in AC, ENT, FIN, LAW, MGT, MIS, and MKT courses. These courses are completed after satisfying all course prerequisites for each course.

Management Major with a Specialization in Human Resource Management

For students interested in preparing for careers in human resource management or personnel administration in a variety of business and non-business settings.

All students who choose the human resource specialization may take courses only after meeting with a Department of Management faculty advisor and adopting a planned program.

Human Resource Management Core (9 credits)

MGT 305	Human Resource Management	3
MGT 326	Business Organizational Behavior	3
MGT 348	Management Systems	3
or		
MGT 345	Organizational Theory	3

Human Resource Specialization Courses (12 credits)

MGT 425	Labor/Management Relations	3
MGT 431	Compensation and Benefits	3
MGT 460	Staffing	3
MGT 462	International Human Resource Management	3

Business Electives (9 credits)

Students must select 9 credits of 300- or 400-level School of Business courses in consultation with a Department of Management faculty advisor. These 9 credits are selected from AC, ENT, FIN, LAW, MGT, MIS, and MKT courses. Courses are completed after satisfying all course prerequisites for each course.

Management Major with a Specialization in Entrepreneurship (30 credits)

Prepares students for entrepreneurial careers in new venture creation or managing family-owned or other small business enterprises. This specialization provides a basic foundation in the knowledge necessary to search for and evaluate new venture opportunities, and to finance, operate, and manage new or growing businesses. Students are required to complete a field study experience.

Students must complete the School of Business 27-credit [common business core](#) plus the following 30 credits. However, they may not take courses in the entrepreneurship specialization beyond ENT 301 unless they have first met with a Department of Management faculty advisor and developed a planned program.

ENT 301	Entrepreneurship and New Venture Creation	3
ENT 305	Financing Entrepreneurial Ventures	3
ENT 320	Managing a Growing Business	3
ENT 499	Field Study in Entrepreneurship	3
Directed entrepreneurship electives		9
Business electives		9

Directed Entrepreneurship Electives (9 credits)

Select three courses from the following:

AC 301	Cost Management Systems	3
AC 420	Managerial Analysis and Cost Control	3
FIN 301	Intermediate Managerial Finance	3
FIN 310	Principles of Investments	3
MGT 305	Human Resource Management	3
MGT 326	Business Organizational Behavior	3
MKT 305	Consumer Behavior	3
MKT 373	Marketing Research	3
MKT 390	Product Development and Management	3
MKT 481	Consultative Selling Techniques	3

Business Electives (9 credits)

Students must complete 9 credits of 300- or 400-level courses offered by the School of Business courses, to be determined in consultation with a Department of Management faculty advisor. These courses are selected from AC, ENT, FIN, LAW, MGT, MIS, and MKT courses.

Management Major with a Concentration in International Business (30 credits)

The International Business program prepares its graduates for advanced graduate study and for entry-level positions in global and international business enterprises. The program provides students with a broad general education which includes language, culture and international courses and, at the same time, provides students with a core of international business courses and selected specializations in the functional business areas. Students will be provided with study abroad opportunities.

Students are required to take the general education requirements, free elective requirements, and the business core requirements as all management majors. In addition, the students are required to complete:

Required core courses (15 credits)

MGT 321	International Management	3
MKT 321	International Marketing	3
FIN 330	International Finance	3
MGT 495	Seminar in International Business	3
ECON 430	International Economics	3
or		
ECON 435	Economic Development	3
or		
MGT 395	Field Studies in International Business	3

Functional Specialization (9 credits)

Three courses from one of five specialization areas:

Accounting

AC 300	Foundations of Accounting	3
AC 301	Cost Management Systems	3
AC 312	Financial Reporting I	3

OR AC 300 plus two additional courses selected after consulting a faculty advisor in accounting

Finance

FIN 301	Intermediate Managerial Finance	3
FIN 310	Principles of Investments	3
FIN 320	Financial Markets and Institutions	3

Management Information Systems

MIS 305	E-Business	3
MIS 315	Database Management Systems	3
MIS 361	Systems Analysis and Design for Business	3
or		
MIS 400	Business Decision Analysis Using Knowledge Bases	3

Marketing

MKT 305	Consumer Behavior	3
MKT 373	Marketing Research	3

and any other MKT electives

(From recommended, not required, lists)

Business electives (6 credits)

Two courses from among upper-division Business School courses, or, with Management Department advisor's approval, I-designated courses.

Minor in Management Information Systems (for business majors and non-business majors)

The minor in management information systems complements the student's major area of study with a focused professional component in the field of management information systems. The minor may be completed by any university student.

18 credits as follows:

MIS 201	Introduction to Management Information Systems	3
MIS 220	Contemporary Business Applications Development I	3
MIS 305	E-Business	3
MIS 312	Contemporary Business Applications Development II	3
MIS 315	Database Management Systems	3
MIS 361	Systems Analysis and Design for Business	3
MIS 400	Business Decision Analysis Using Knowledge Bases	3
MIS 410	Business-Driven Network Design	3
MIS 450	Enterprise Strategies and Transformations	3
MIS 460	Emerging Technologies for Business	3
MIS 462	Systems Implementation & Project Management	3

Selection of courses is made in consultation with the Department of Management Information Systems chair before enrolling in any courses. A student must maintain a GPA of at least 2.50 in the courses in the minor and must receive a grade of C- or higher in each minor course.

Major in Management Information Systems, BS

Students must complete the 27-credit [common business core](#) requirements plus the following 30 credits:

Management Information Systems Core (30 credits)

MIS 220	Contemporary Business Applications Development I	3
MIS 305	E-Business	3
MIS 315	Database Management Systems	3
MIS 361	Systems Analysis and Design for Business	3
MIS 400	Business Decision Analysis Using Knowledge Bases	3
MIS 410	Business-Driven Network Design	3
MIS 450	Enterprise Strategies and Transformations	3
MIS 462	Systems Implementation and Project Management	3
Directed electives (see below)		6

Directed Management Information Systems Electives (6 credits)

The management information systems (MIS) program requires completion of 6 credits selected from the following list of courses. Consultation with an advisor is recommended if the student wishes to pursue a specific specialization and career goal.

MIS 210	Application Program Development I	3
MIS 312	Contemporary Business Applications Development II	3
MIS 460	Emerging Technologies for Business	3
MIS 494	Independent Study in MIS	3
MIS 496	Practicum in Management Information Systems	3
MIS 498	Information and Decision Sciences Seminar	3

No minor is required for this major.

Major in Marketing, BS**Marketing Core** (12 credits)

MKT 305	Consumer Behavior	3
MKT 373	Marketing Research	3
MKT 380	Market Data Analysis	3
MKT 450	Marketing Strategy and Planning	3

Directed Marketing Electives (12 credits)

The directed electives are selected with and approved by an advisor.

MKT 306	Advertising and Promotion	3
MKT 307	Sales Administration	3
MKT 311	Retailing	3
MKT 321	International Marketing	3
MKT 350	Internet Marketing and Channels	3
MKT 358	Relationship Marketing	3
MKT 359	Special Events Marketing	3
MKT 375	Services Marketing	3
MKT 390	Product Development and Management	3
MKT 413	Business-to-Business Marketing	3
MKT 415	Marketing Touristic Startups	3
MKT 439	Direct Marketing	3
MKT 480	Marketing for Non-Profit Organizations	3
MKT 481	Consultative Selling Techniques	3
MKT 494	Independent Study in Marketing	3
MKT 496	Practicum in Marketing	6
MKT 497	Marketing Internship	3
MKT 498	Marketing Seminar	3

Business Electives (9 credits)

Students must complete 9 credits of 300- or 400-level courses offered by the School of Business, including marketing courses.

No minor is required for this major.

Counseling and Family Therapy

(Post-baccalaureate degrees only)

Faculty

C. Tait, *Chair, Barnard 221*; R. Cohen, J. Fried, C. King, V. Percy, J. Rosenberg, D. Wiener (*Dept. phone: 860-832-2154*)

Department Overview

The department offers a MS degree in counselor education and in marriage and family therapy, preparing students for careers in school counseling, student development in higher education, rehabilitation counseling, mental health counseling, drug and alcohol recovery counseling, and marriage and family therapy. See the graduate catalog for further information.

Educational Leadership

(Post-baccalaureate degrees only)

Faculty

A. Rigazio-DiGilio, *Chair, Barnard 231*; F. Abed, *Coordinator of the EDT program, Barnard 308*; K. Beyard, *Director of the Ed.D. program, Barnard 320*; M. Cohan, E. Heinen, N. Hoffman, P. Lisi, E. Retelle, O. Sogunro, B. Sponder, B. Sternberg, S. Watson (*Dept. phone: 860-832-2130*)

Department Overview

The Department of Educational Leadership offers the following programs: MS in educational technology; MS in educational leadership; a Sixth-Year Certificate leading to certification as an intermediate administrator or supervisor; an official certification program in school superintendency; an official certification program in global leadership and literacy; and an Ed.D. program in educational leadership. The department also offers graduate courses in curriculum development, research in education, and undergraduate/graduate courses in educational technology.

See the graduate catalog for further information.

Nursing

Faculty

L.Wagner *Chair, Barnard 324*; S. Bochain, S. Christensen, M. Coleman, J. Espelin, M. Levvis, N. Peer (*Dept. phone: 860-832-0032*)

Department Overview

The department offers two programs leading to a bachelor's degree in nursing: 1) an RN to BSN program for registered nurses who have an associate or diploma degree in nursing and 2) a generic BSN program. Both programs are designed to prepare a liberally educated person to function as a professional nurse in a variety of roles and health care settings. Upon completion of the program, graduates are expected to be professionally competent generalists in nursing who recognize the need for continued personal and professional development throughout life and who possess the educational background for post-baccalaureate study in nursing. The program is accredited by the Commission on Collegiate Nursing Education.

The generic BSN program is designed for first time students who wish to pursue a bachelor's degree in nursing. The program begins with a pre-nursing year. Admission to the major occurs in the spring of the first year. The remaining three years comprise the nursing major. Graduates of the generic BSN program are eligible to take the National Council of State Boards examination in nursing (NCLEX) for licensure as registered nurses.

Clinical Experience

Background Check

All students in nursing programs are required to undergo state and national criminal history background checks before participating in clinical experiences. Students are responsible for the cost of the background check and will be provided with the necessary consent forms and other documents needed to conduct it. As part of the background check, students may need to be fingerprinted. Students who fail to pass the background check may be unable to complete their chosen degree program at Central Connecticut State University. The University is not responsible for a student's inability to complete their chosen degree program.

Health Requirements

Students newly accepted into the program must complete the following information regarding Health and Liability Insurance Policies to begin classes:

Submit to the Department of Nursing by August 1st a current CPR certification.

1. Physical examination: A complete physical examination is required and should be conducted in the summer months. A statement of good health and verification of the exam must be submitted each year prior to the first day of the fall semester
2. Tuberculosis: A yearly tuberculin skin test (Mantoux type) is required.
3. Immunity status: Students must present evidence of having immunity through blood titer levels for the following diseases:
 - a) Varicella
 - b) Rubella
 - c) Measles (Rubeola)
 - d) Mumps
 - e) Hepatitis B (or provide evidence of receiving 3 doses of Hepatitis B vaccination or documentation of refusal of the vaccine).
4. Evidence of the tetanus/diphtheria immunization within the past 10 years.

Medication Calculation Test

A written Math for Medication Administration test is administered in the first week of the semester of both the junior and senior year. Calculators are permitted. If a student does not pass the exam with a grade of 100% after 3 attempts, the student will be ineligible to begin the clinical course that semester and will need to withdraw from the course. Remediation will be available to students who do not pass the test on the first and second attempts.

Transportation

Students are personally responsible for all transportation to and from their clinical laboratory experiences. A variety of clinical experiences are

necessary to meet the educational needs of nursing students in practice areas. Clinical placement is based on course objectives and the availability of clinical sites. Students may be required to travel up to one hour from campus when attending clinical experiences and are responsible for any parking and gasoline costs. There may be evening or weekend clinical rotations that need to be scheduled. The Department of Nursing retains the right to place and schedule students in appropriate settings.

Retention Policy

1. Once admitted to the nursing program:
 - a. Students must maintain a cumulative GPA of 2.5 in all courses required for the major (all NRSE courses and all related requirements) each semester;
 - b. Must achieve a C+ or better in each nursing course; and
 - c. Must earn a grade of "C" or better in the following courses: BMS 216, CHEM 152, EXS 207, EXS 208.
2. If any of the circumstances listed above occur, the student will be placed on departmental probation. The following conditions will apply:
 - a. Students must meet with their academic adviser and the Department Standards Committee to develop a plan of action;
 - b. A student is permitted two semester of probationary status prior to dismissal from the program;
 - c. When the student earns a semester and cumulative GPA of 2.50 or higher, the student will return to departmental good standing.
3. Nursing courses may be repeated only once.
4. Students who achieve below a C+ in a nursing course may repeat the course once. Two nursing course failures will result in academic dismissal from the program.
5. Clinical experiences are graded pass/fail. A student must receive a passing grade in clinical in order to receive a passing grade in the course. If a student fails the clinical component, they fail the entire course. If they fail the theoretical component, they fail the entire course and must repeat both the theoretical and clinical component.

Revocation of Admission to the Professional Program

1. The following occurrences result in academic dismissal from the Department of Nursing:
 - a. C or below in any two nursing courses in the nursing program;
 - b. C or below in the same nursing course more than once.
2. Once dismissed from the program, students may not reapply.

Programs

Major in Nursing, B.S.N. (130 credits)

Minor in Gerontology

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Physical Education & Human Performance

Faculty

D. V. Harackiewicz, *Chair*, Kaiser 01804; J. Bishop, A. B. Capita, C. Ciotto, C. J. Fellows, K. Kostelis, T. J. McCarthy, J. Melnyk, P. Morano, V. S. Morley, K. B. Pirog, J. Sawyer, S. H. Smith, M. Voight, S. Walsh (*Dept. phone: 860-832-2155*)

Department Overview

The Department of Physical Education and Human Performance offers an undergraduate major in physical education for teacher certification, as well as an option in exercise science and health promotion (not for teacher certification), and a major in athletic training (not for teacher certification). The exercise science and health promotion program is in the process of applying to the Department of Higher Education to be recognized as its own major.

Programs

Physical Education

The physical education teacher preparation program prepares future teachers for public and private schools in the state of Connecticut. Those students who successfully complete the program are eligible for certification in pre-kindergarten through grade 12 physical education. The program is accredited by the National Association for Sport & Physical Education (NASPE), an association of the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD).

Exercise Science and Health Promotion

This program option, which is not for teacher certification, prepares students for employment at fitness/wellness centers in corporate, non-profit, clinical, and sports settings. Students are given the necessary cognitive and practical experiences for pursuing certification by the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). Exercise prescription and implementing individualized fitness programs are emphasized.

The Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

The National Strength and Conditioning Association has recognized the exercise science program for successfully meeting established educational program criteria in strength and conditioning.

Athletic Training

This program, which is not for teacher certification, prepares students for employment as certified athletic trainers in schools, colleges/universities, professional sports, and sports medicine settings. Students in this program are given the necessary cognitive and psychomotor skills required for certification by the National Athletic Trainers Association Board of Certification (BOC). The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

[Major in Physical Education, BSEd](#)

[Major in Physical Education: Exercise Science and Health Promotion, BS](#) (not certifiable for teaching)

[Major in Athletic Training, BS](#) (not certifiable for teaching)

[Minor in Gerontology](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Reading and Language Arts

(Post-baccalaureate degrees only)

Faculty

H. Abadiano, *Chair, Barnard 209*; B. Davies (emeritus), E. Demos, J. Kara-Soteriou, C. Kurkjian, C. Mulcahy, J. Turner, L. Valerie, K. Weiss
(Dept. phone: 860-832-2175)

Department Overview

The Department of Reading and Language Arts offers both undergraduate and graduate courses in teaching reading and language arts.

At the undergraduate level, required courses are provided for students preparing to become teachers.

At the graduate level, the department offers a master's degree, Sixth-Year Certificate, and advanced official certificate program that can lead to certification as a remedial reading and language arts teacher or a reading and language arts consultant.

Social Work

Faculty

C. R. Baratta, *Chair, Vance 324*; D. Gonzalez Sanders (*Dept. phone: 860-832-3129*)

Department Overview

The Department of Social Work offers a traditional undergraduate program as well as a weekend option, with classes offered on Saturday; both the traditional program and the weekend option are modeled on competency-based education. Program graduates are prepared for beginning generalist social work practice and for acceptance into graduate school. The social work program is accredited at the undergraduate level by the Council on Social Work Education and is a member of Phi Alpha Honor Society, Chapter Chi Upsilon.

The social work weekend option is specifically for employees of Connecticut social service agencies who want to advance their career by completing a Bachelor's degree in Social Work. To be eligible for the weekend option, prospective students must have already earned a minimum of 30 college credits and must comply with the admissions policy outlined below.

Applying for Admission into the Social Work Program

Applicants seeking admission to the social work program must submit a portfolio for review by the Department of Social Work. Application portfolios are accepted twice a year, October 1 and March 1.

Social work is a field that deals extensively with sensitive social issues and people's personal well-being, and field experiences and volunteer service are required components of many social work courses. Because of the extensive field work that characterizes this program, applicants are carefully evaluated not only academically, but also for their potential professional competence in field experiences.

The admissions process is selective and a limited number of students are admitted each year. Thus, applicants should be aware that acceptance into the University does not guarantee acceptance into the social work program.

Requirements for Admission

The following are requirements for admission to the social work program:

- A minimum GPA of 2.00 for courses taken at CCSU, as well as an overall GPA of 2.00, which includes both CCSU grades and grades for courses taken at other colleges.
- A minimum overall GPA of 2.50 for the following introductory SW courses and related requirements: SW 100 or SOC 111; SW 226; SW 227; ANTH 140 or SOC 110; BIO 111 or BMS 111; PS 110 or PS 230; SOC 233; ECON 200; STAT 215. All of these courses must be completed with a minimum grade of C.
- Satisfactory sophomore volunteer field evaluations.
- Demonstrated competence in writing.
- Awareness of diversity and populations at risk in social work practice.
- Demonstrated self-awareness.

Please refer to the Department of Social Work Student Handbook for a comprehensive overview of the application process and policies. It is available online at: http://www.education.ccsu.edu/Departments/Social_Work/.

Retention Policy

In accordance with University Academic Standards and Regulations, students must maintain a cumulative GPA of 2.00 or higher to be in good standing. However, to remain in the social work program, students must maintain a program GPA of at least 2.50 for all social work courses, with no less than a C in each course. In addition, potential for professional skill must be demonstrated in field experiences, which are required in all social work courses. Each semester, the faculty evaluate the student's academic achievement as well as the student's performance in the field experience. If a student does not meet academic or professional standards, he or she will be placed on provisional status within the program. Written notification will be given and conditions for full completion of the social work program discussed with the student. Students will be given the opportunity to correct the problem(s); however, if the student does not demonstrate improvement, he or she will not be allowed to complete the program.

Note: This program may undergo revisions in order to comply with national accreditation standards. Students should check with the department chair regarding the possibility of new requirements.

Program

Major in Social Work, BA

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Special Education

Faculty

M. Beck, *Chair, Barnard 220*; J. Foshay, L. Jacobson, J. Nicoll-Senft, E. Pancsofar, W. Nelson (*Dept. phone: 860-832-2400*)

Department Overview

The Department of Special Education prepares teachers to work with learners who have special needs. At the undergraduate level, the department offers courses about exceptionalities that are required for certification of regular education teachers. Students who are interested in becoming special education teachers are encouraged to pursue teacher certification at the undergraduate level in elementary or secondary education, and then seek cross endorsement in special education at the graduate level. Contact the Department of Special Education or refer to the graduate catalog for further information.

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Teacher Education

Faculty

R. Casella, *Chair*; G. Cueto, *Assistant Chair*, A. Ayalon, B. Clark, J. French, L. George, M. How ell, K. Love, D. Mulcahy, T. Reagan, K. Riem, S. Seider, J. Werblow (*Dept. phone: 860-832-2415*)

Department Overview

The Department of Teacher Education is committed to the preparation and continuing professional education of students involved in elementary, all-level, and secondary education teaching programs.

The department offers certification programs at the following levels:

- Early childhood education (*This program is currently inactive and is not accepting applications*);
- Elementary education;
- Secondary education; and
- All-level (K-12).

Note: For information on [admission to the professional program, please see page linked here.](#)

For information on [Field Experiences and Student Teaching, please see page linked here.](#)

For information on [Regulatory Changes and the Professional Program, please see page linked here.](#)

Programs

[Major in Early Childhood Education, BS](#) (Inactive)

[Major in Elementary Education, BS](#)

[Major in Secondary Education and All Level Subjects, BS](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Major in Nursing, B.S.N. (130 credits)**Admission to the Major**

Admission to the Major in Nursing BSN program is highly competitive. Meeting the following minimum criteria does not guarantee admission to the major.

- Submission of all application materials to the nursing program by March 1;
- Matriculation at CCSU;
- Completion of a minimum of 14 credits;
- A minimum cumulative GPA of 2.70 at CCSU and a minimum cumulative GPA of 2.70 for all undergraduate coursework taken at all institutions (including CCSU);
- A grade of C or better in CHEM 150: Chemistry of Allied Health I; and
- A grade of B- or better in NRSE 110: Introduction to Nursing Theories.

Admission to CCSU as a pre-nursing major requires:

- Eligibility to enroll in CHEM 150: Chemistry of Allied Health I, or
- AP credit for CHEM 161 and 162.

Requirements for the BSN program (130 credits)

General education requirements as follows: PS 110, SOC 110, PSY 112, ENG 110, STAT 215 or 104.

Nursing Core (60 credits)

NRSE 110	Introduction to Nursing Theories	3
NRSE 150	Nutrition	3
NRSE 210	Health Assessment	4
NRSE 246	Health Care Ethics	3
NRSE 250	Nursing Care of Well Populations	4
NRSE 303	Introduction to Nursing Research	3
NRSE 310	Altered Health Concepts and Therapeutic Interventions	4
NRSE 320	Holistic Care of Adults with Health Alterations	5
NRSE 350	Nursing Care of Families in Transition	5
NRSE 375	Seminar in Family Nursing Concepts	2
NRSE 420	Social Justice and Community Health Issues	3
NRSE 430	Psychiatric/Mental Health Nursing	4
NRSE 440	Gerontological Nursing	3
NRSE 460	Seminar & Practicum in Community Health Nursing	4
NRSE 470	Holistic Nursing Care of the Critically Ill	5
NRSE 480	Professional Issues	2
NRSE 490	Leadership & Management in Nursing	3

Related Requirements (27 credits)

PSY 236	Life Span Development	3
BIO 111	Introductory Biology	3
or		
BMS 111	Cells and the Human Body	3
or		
BMS 102	Introduction to Biomolecular Science	3
BMS 206	Genetics for Nursing	3
BMS 216	Microbiology for Nursing	3
EXS 207	Anatomy & Physiology in Human Performance I	4

EXS 208	Anatomy and Physiology in Human Performance II	4
or		
BIO/BMS 318	Anatomy and Physiology I	4
and		
BIO/BMS 319	Anatomy and Physiology II	4
CHEM 150	Chemistry of Allied Health I	3
CHEM 152	Chemistry of Allied Health II	4

RN to BSN Program

Admission

In addition to meeting all requirements established for admission to Central Connecticut State University*, the applicant must:

- Be licensed currently as a registered nurse in Connecticut;**
- Carry and provide documentation of adequate malpractice and health insurance;
- Have completed a minimum of 45 undergraduate credits from an accredited college or university;
- Have advisement by nursing faculty;
- Be CPR certified;
- Meet specific immunization and OSHA requirements;
- Successfully complete the state articulation agreement (35 credits of nursing transferred from associate degree or diploma school program) prior to enrolling in NRSE 303; and
- Complete the BSN program within five years of taking NRSE 303.

*Admission to the University does not guarantee advancement to upper division nursing courses.

**Applicants in their final year of a diploma or associate degree may be accepted on a provisional basis.

RN to BSN Core

Requirements:

122 credits including:

NRSE 246	Health Care Ethics	3
NRSE 300	Nursing Assessment	4
NRSE 301	Theoretical Foundations of Nursing	3
NRSE 303	Introduction to Nursing Research	3
NRSE 413	Population- and Community-Based Nursing Care	5
NRSE 414	Professional Nursing Role	4
NRSE 490	Leadership and Management in Nursing	3
BIO/BMS 318	Anatomy and Physiology I	3
BIO/BMS 319	Anatomy and Physiology II	1
BMS 216	Microbiology for Nursing	3
or		
BMS 316	Microbiology	
PSY 236	Life-Span Development	3

and up to 35 additional articulation credits in Nursing.

No minor is required for this major.

Transfer Students, Change of Major, or Re-entry Policy

Transfer students must meet the same course requirements and application procedures as CCSU students. Acceptance as a pre-nursing major is done for fall semester only and requires:

- A cumulative GPA of 2.70 or better;
- A grade of C or better in any required science courses, if completed; and
- A grade of B or better in any nursing course, if completed.

Major in Physical Education, BSEd

82 credits in physical education skill and lecture courses as follows:

Lecture Courses (46 credits)

PE 111	Orientation to Physical Education	2
EXS 210	Personal and Community Health	2
EXS 213	Anatomy & Physiology in Human Performance I	3
EXS 214	Anatomy & Physiology in Human Performance II	3
EXS 216	Kinesiology	3
PE 299	Psycho-Social Aspects of PE	3
PE 300	Developmental Movement	3
PE 305	Evaluation in Physical Education	3
PE 405*	Elementary Methods in PE	3
PE 406*	Adapted Physical Education	3
PE 408*	The Curriculum Process in K-12 PE	3
EXS 410*	Exercise Physiology	3
PE 416*	Organization & Administration of PE	3
PE 417*	Secondary Methods in Physical Education	3
PE 420*	Lifespan Motor Development	3
PE 422*	Motor Learning	3

Skill Courses (17 credits)

PE 219	Methods of Teaching Golf	1
PE 273	Tumbling and Gymnastics	2
PE 277	Outdoor Adventure Activities	2
PE 278	Methods of Teaching Games	2
PE 279	Methods of Teaching Team Sports	2
PE 280	Methods of Teaching Racquet Sports	2
PE 374	Methods of Teaching Fitness	3
DAN 272	Creative Dance in Education	2
DAN 377	Modern Dance and Theory	1

Professional Education Courses (19 credits)

EDT 315*	Educational Technology in the Secondary School Classroom	1
EDTE 314	Applied Learning Theories, K-12 Programs	3
EDF 415*	Educational Foundations	3
EDSC 417*	Student Teaching, Elementary PE	6
EDSC 419*	Student Teaching, Secondary PE	6

*Require admission to the professional program prior to enrollment.

Required general education courses:

BIO 111 or BIO 121 or BMS 111, CHEM 111 or CHEM 150 or CHEM 161/162, ENG 110, HIST 161, HIST 162, STAT 104, PHYS 111, PSY 236, and COMM 115.

Note: No minor is required with this major.

Note: For information on [admission to the professional program see the page linked here.](#)

Major in Physical Education: Exercise Science and Health Promotion, BS (not certifiable for teaching)

67 credits as follows:

Lecture Courses (61 credits)

EXS 110	Concepts in Health & Fitness	3
EXS 113	Introduction to Exercise Science	3
EXS 207	Anatomy and Physiology in Exercise Science I	4
EXS 208	Anatomy and Physiology in Exercise Science II	4
EXS 215	Physiological Aspects of the Human Performance of the Aging	3
EXS 216	Kinesiology	3
EXS 217	Care and Treatment of Athletic Injuries	3
EXS 307	Human Nutrition	3
EXS 311	Stress Management	3
EXS 331	Measurement and Evaluation in Exercise Science	3
EXS 376	Theories of Strength Training and Conditioning	2
EXS 408*	Physiology of Sport and Exercise	3
EXS 409*	Clinical Exercise Physiology	3
EXS 415*	Fitness Assessment and Exercise Prescription	3
EXS 416*	Graded Exercise Testing	3
EXS 421*	Pharmacology in Sports Medicine	3
EXS 425*	Implementation and Evaluation of Health Promotion Programs	3
EXS 450*	Practicum in Exercise Science	3
EXS 470*	Internship in Exercise and Health Promotion	6

Skill Courses (6 credits)

EXS 275	Training for Sport Performance	3
EXS 280	Leadership in Exercise and Wellness	3

* Require admission to the professional program prior to enrollment

Required General Education Courses:

BIO 111 or BIO 121 or BMS 102 or BMS 111; CHEM 111 or CHEM 150 or CHEM 161/162; ENG 110; HIST 161 or HIST 162; STAT 104, CS 115, PHYS 111, PSY 112, 236, and COMM 140

Note: No minor is required with this major.

Applying for Admission into the Exercise Science and Health Promotion Program

Undergraduate applicants seeking admission to the exercise science and health promotion program are required to submit a file of materials for review by the Department of Physical Education and Human Performance. The applicant's completed file should be submitted prior to September 21 for fall candidates and February 21 (second semester sophomore year) for spring candidates. Applications for admission may be obtained in the Department of Physical Education and Human Performance, Kaiser Hall, Room 0180.

Requirements for Admission

The following are departmental requirements for admission to the exercise science and health promotion program:

- Completion of application to the professional program for exercise science and health promotion;
- Completion of 45 credits of academic work;
- Successful completion of EXS 207 or 208 or equivalent and EXS 113 or equivalent with a grade of C- or better. Courses must be completed before full admission will be granted.
- Successful completion of 3 credits of required skills courses including EXS 275 or equivalent or EXS 280 or equivalent with a grade of C- or better. Courses must be completed before full admission will be granted.
- University GPA of 2.50;
- Departmental GPA of 2.70;
- Two letters of recommendation (from persons who can best assess the candidate's potential);

- The presentation of an essay demonstrating command of the English language, setting out the reasons for wanting to enroll in the program; and emphasizing experiences related to exercise science (500-700 words); and
- An interview with the personnel committee of the Department of Physical Education and Human Performance, including at least one exercise science faculty member.

Retention Policy

Once admitted to the professional program, the following requirements must be maintained in order to remain in "good standing" within the exercise science and health promotion program:

- Students must maintain a University GPA of 2.50;
- Students must maintain a departmental GPA of 2.70; and
- A letter grade of C or higher is required in all professional program courses.

Note: Internship assignments require the student to be in good standing by having a University GPA of 2.50 and a major GPA of 2.70.

If a candidate drops below the required GPA levels, and/or fails to get a C or higher in any professional program course, he or she may be denied admission to the professional program courses, practicum courses, and internship assignments until the GPA or grade reaches the appropriate level.

Note: Revisions to the exercise science education program may occur in order to maintain compliance with national accreditation standards. Students should check with the program director and/or the CCSU exercise science website regarding the possibility of new requirements. All practicum courses and internship assignments require the student to be in "good standing."

Major in Athletic Training, BS (not certifiable for teaching)

73 credits as follows:

Lecture Courses (58 credits)

EXS 110	Concepts in Health & Fitness	3
EXS 112	Introduction to Athletic Training	2
EXS 207	Anatomy and Physiology in Exercise Science I	4
EXS 208	Anatomy and Physiology in Exercise Science II	4
EXS 216	Kinesiology	3
EXS 217	Care and Treatment of Athletic Injuries	3
EXS 218	Scientific Basis for Athletic Training	4
EXS 240	Therapeutic Modalities in Athletic Training	4
EXS 307	Human Nutrition	3
EXS 317	Therapeutics in Athletic Training	4
EXS 332	Psychological Aspects of Sport	3
EXS 408*	Physiology of Sport and Exercise	3
EXS 409	Clinical Exercise Physiology	3
EXS 413*	Organization and Administration of Athletic Training	3
EXS 415*	Fitness Assessment and Exercise Prescription	3
EXS 421*	Pharmacology in Sports Medicine	3
BMS 380	Emergency Medical Technician (EMT)	6

Practicum Courses (15 credits)

EXS 275	Training for Sport Performance	3
EXS 315*	Practicum in Athletic Training I	2
EXS 316*	Practicum in Athletic Training II	2
EXS 319*	Practicum in Athletic Training III	2
EXS 445*	Internship in Athletic Training	6

* Require admission to the professional program prior to enrollment

Related Requirements:

BIO 111 or BIO 121 or BMS 102 or BMS 111; CHEM 111 or CHEM 150 or CHEM 161/162; PHYS 111 (all with C- or better); also ENG 110, COMM 140, CS 115, PSY 236, STAT 104.

No minor is required for this major.

Clinical Experience

All students in the athletic training education program are required to complete four semesters of clinical experience in CCSU's athletic training facility, one pre-season experience at CCSU that typically runs from early August to the first day of classes, and a fifth semester in an off-campus affiliation. The BOC and CAATE require a minimum of two years (four semesters) of clinical rotation, which will be under the direct supervision of a certified athletic trainer. Emphasis is placed on mastery of the educational competencies over the five semesters of clinical experience.

Applying for Admission into the Athletic Training Education Program

Undergraduate applicants seeking admission to the athletic training education program are required to submit a file of materials for review by the Department of Physical Education and Human Performance. The applicant's completed file should be submitted prior to September 21 for fall candidates and February 21 (second semester sophomore year) for spring candidates. Applications for admission may be obtained in the Department of Physical Education and Human Performance, Kaiser Hall, Room 0180.

Requirements for Admission

The following are departmental requirements for admission to the athletic training education program. Acceptance into the professional program should be completed by the second semester sophomore year. Students not meeting this deadline must meet with the program director to continue in the professional program.

- Completion of application to the professional program for athletic training;
- Successful completion of 200 observation hours in the clinical aspect of athletic training at CCSU;
- Completion of 45 credits of academic work at CCSU as an athletic training major;
- Successful completion of EXS 112, EXS 213, and EXS 217 (at CCSU), with a grade of C- or better in all courses;
- Successful completion of BMS 380, or EMT-B certification;
- University GPA of 2.50;
- Departmental GPA of 2.50;
- Two letters of recommendation (from persons who can best assess the candidate's potential);
- The presentation of an essay demonstrating command of the English language, citing reasons for wanting to enroll in the program, and emphasizing experiences related to athletic training (500-750 words); and
- An interview with the personnel committee of the Department of Physical Education and Human Performance, including at least one clinical supervisor.

Technical Standards for Admission

The technical standards set forth by the athletic training educational program establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level athletic trainer, as well as meet the expectations of the program's accrediting agency, the Commission on Accreditation of Athletic Training Education (CAATE). All students admitted to the professional program in athletic training must meet the expectations and display the abilities outlined below. In the event a student is unable to fulfill these technical standards, the student will not be admitted into the program. Further, compliance with the program's technical standards does not guarantee a student's eligibility for the BOC certification exam.

Candidates for admission to the professional program in athletic training at CCSU must show:

- Demonstrated ability to assimilate, analyze, synthesize, integrate concepts and problem solve to formulate assessment and therapeutic judgments, and to be able to distinguish deviations from the norm;
- Evidence of sufficient postural and neuromuscular control, sensory function, and coordination to perform appropriate physical examinations using accepted techniques; and the demonstrated ability to accurately, safely, and efficiently use equipment and materials during the assessment and treatment of patients;
- Demonstrated ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds; this includes, but is not limited to, ability to maintain a professional demeanor, establish rapport with patients, and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice;
- Demonstrated ability to record the physical examination results and a treatment plan clearly and accurately;
- Demonstrated ability to maintain composure and continue to function effectively during periods of high stress;
- Perseverance, diligence, and commitment to complete the athletic training education program as outlined and sequenced;
- Demonstration of flexibility and ability to adjust to changing situations and uncertainty in clinical situations; and
- Demonstrated ability to perform the affective skills that relate to professional education and quality patient care.

Candidates for admission to the professional program in athletic training will be required to verify they understand and meet these technical standards or that they believe that, with certain accommodations, they can meet the standards.

A student who believes that they have a disability that may impact admission to or successful completion of this program should contact the Student Disability Services in Copernicus, Room 241, 860-832-1900, TTY 860-832-1954. Student Disability Services will evaluate the student's documentation to determine if the stated condition qualifies as a disability under applicable laws and so notify the program director of the athletic training education program and the chair of the Department of Physical Education and Human Performance.

If a student with a qualified disability states he/she can meet the technical standards with accommodation, then the student and appropriate University personnel will discuss what accommodation(s) may be effective and whether the accommodations requested are reasonable, taking into account clinician/patient safety, and whether the requested accommodations would fundamentally alter the nature of the program, including academic standards.

Retention Policy

Once admitted to the professional program, the following requirements must be maintained in order to remain in "good standing" within the athletic training education program.

- Students must receive a letter grade of C or higher in all professional program courses;
- Students must maintain a University GPA of 2.50;
- Students must maintain a departmental GPA of 2.50;
- Students must successfully demonstrate required clinical skill competencies; and
- Students must have a current state of Connecticut or National Registry EMT-B Certification.

If a candidate drops below the required GPA levels and/or fails to complete the clinical skill competencies, he or she may be denied enrollment to professional program courses, practicum courses, and internship assignments until the GPA or competencies reach the appropriate level.

Note: Revisions to the athletic training education program may occur in order to maintain compliance with national accreditation standards. Students should check with the program director and/or the CCSU athletic training education website regarding the possibility of new requirements. All practicum courses and internship assignments require the student to be in "good standing" in addition to having a current state of Connecticut or National Registry EMT-B Certification.

Transfer Students Policy

Transfer students must meet the same course requirements and application procedures as CCSU students. Transfer students are required to complete a minimum of 15 credits "in residence" at CCSU prior to applying to the professional program. The 15 credits for transfer students may be in general education and/or within the athletic training education program and must include, at CCSU, EXS 112: Introduction to Athletic Training, and EXS 217: Care and Treatment of Athletic Injuries.

Currently, all requests for transfer into the athletic training education program, either by students from other universities or by CCSU students looking to change majors, are handled on a case-by-case basis. The number of students accepted in this manner depends on the number of openings available in a given year.

For acceptance into the athletic training education program, transfer students must complete a required (minimum) 200 clinical hours.

Major in Early Childhood Education, BS

Contact person: M. Howell (860-832-2422)

This program is currently inactive and is not accepting applications.

Major in Elementary Education, BS

Coordinator: G. Cueto (860-832-2434)

Program Requirements (130 credits)

ENG 110, MATH 113, MATH 213 and BIO 211, HIST 161 or 162, PSY 236, SCI 111, either PSY 361 or 362.

Subject-matter Major (33-39 credits)

Single subject-matter majors include English, geography, history, mathematics, general science with a specialization in biology, and general science with a specialization in earth science.

Additional majors may be offered in the future due to change in state of Connecticut regulations. See Carol A. Ammon School of Arts and Science sections for specific course requirements.

Professional education (49 credits):

Courses are taken in clusters as follows:

EDTE 210 Education and Teacher Leadership in Diverse Learning Communities	4
EDT 210 Introduction to Educational Technology	1

Enrollment in the following courses requires acceptance to the professional program in the School of Education and Professional Studies. Applications are accepted in the second week of the fall and spring semesters.

RDG 315 Comprehensive Reading Instruction I	3
EDTE 315 Principles of Learning: Elementary	4
SPED 315 Introduction to Educating Learners with Exceptionalities	3
RDG 316 Comprehensive Reading Instruction II	3
EDEL 322 Effective Elementary Teaching	3
EDTE 320 Practicum in Elementary Education I	1
EDF 415 Educational Foundations	3
EDT 415 Developing Instructional Materials	1
EDTE 420 Practicum in Elementary Education II	1-2
FA 412 Fine Arts Across the Curriculum	3
MATH 412 Elementary Mathematical Methods	3
RDG 412 Literacy in the Elementary School	3
SCI 412 Elementary Science Methods	2
EDEL 415 Elementary Social Studies Methods	1
EDEL 430 Elementary Education Student Teaching	1-9
EDTE 430 Topic Seminar in Leadership and Learning Communities	1

The completion of a minor is not required.

Major in Secondary Education and All Level Subjects, BS

Coordinator: K. Love (860-832-2124)

Program Requirements (130 credits)

General education requirements for secondary programs are as follows: 6 credits in English (ENG 110 is required), HIST 161 or 162, PSY 236, 6 credits of science, and 6 credits in mathematics. For all-level program requirements, students should consult the chair of their major department to determine the recommended general education courses.

Major (36-57 credits)

Students in secondary education and all-level subjects programs can be certified to teach in specific areas of specialization as follows:

- For secondary education: biology, chemistry, earth science, English, French, general science, German, history & social studies, Italian, mathematics, physics, or Spanish, and
- For all-level subjects: art, music, physical education, technology, or engineering education

See Schools of Arts and Sciences or Technology sections for specific course requirements.

Minor (18-24 credits)

The completion of a minor or a certifiable minor is required unless specifically noted in the individual major. Options for certifiable minors for science majors include biology, chemistry, earth science, and general science. Specific course requirements for minors can be found in the Carol A. Ammon School of Arts and Sciences sections.

Professional education (24-34 credits)

Enrollment in the following courses requires acceptance to the professional program in the School of Education and Professional Studies.

For secondary education program:

RDG 440	Literacy in the Secondary School	3
EDTE 316	Principles of Learning (Sec/K-12)	4
EDSC 425	Principles of Secondary Education	3

For all-level subjects program:

The following must be completed prior to acceptance into program:

EDTE 314	Applied Learning Theories (K-12 Programs)	3
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Enrollment in the following courses requires acceptance to the professional program:

SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDSC 425	Principles of Secondary Education	3
EDF 415	Educational Foundations	3
EDSC 4XX*	Student Teaching	1-9

*Course numbers and availability of student teaching vary based on certification field.

Major methods courses are taken in conjunction with the major academic department. Additional professional education course work related to the academic discipline is required.

Degree Programs and Certification

It is important to understand the distinction between obtaining a degree from Central Connecticut State University and obtaining a teaching certificate from the state of Connecticut. Students seeking a degree in education should also understand the subject-matter major requirement that applies to all teacher candidates. Both of these points are explained below.

Obtaining a Degree and Obtaining a Teaching Certificate

Central Connecticut State University has the authority to grant a bachelor's degree to any student who successfully completes all the requirements of a particular program of study. A degree, however, does not automatically lead to a teaching certificate.

The state of Connecticut grants the teaching certificate after a candidate:

- Completes a bachelor's degree and an approved program of professional study;
- Passes required tests for teachers; and
- Is recommended by the Certification Officer in the office of the dean of the School of Education and Professional Studies.

The Subject-Matter Major Requirement

School teachers in the state of Connecticut are required to have a major in a particular subject field. This is referred to as the subject-matter major. The various subject-matter majors are listed under [teacher education](#).

Therefore, CCSU teacher candidates seeking a degree in education must:

- Successfully complete all professional course work and fieldwork experiences in education; and
- Fulfill all requirements for a subject-matter major.

Conceptual Framework

The conceptual framework is the guiding document that shapes and informs both the programs and the philosophy of the School of Education and Professional Studies. It also aligns closely with the professional standards that define program quality. Directly linked to our curriculum, the conceptual framework provides a basis for rigorous program assessment and consequently, for improvement of program outcomes.

The unifying theme for the conceptual framework is "Preparing Professionals for Service in Our Communities." The conceptual framework is comprised of the following themes (outcomes) and connected elements (proficiencies):

1. The education professional as active learner
 - a. possesses strong content knowledge in the arts and sciences;
 - b. communicates in multiple forms to diverse audiences;
 - c. possesses pedagogical knowledge for content to be taught; and
 - d. engages in habits of critical thinking and problem solving.
2. The education professional as facilitator of learning for all students
 - a. applies knowledge of human development across the life span (including physical, cognitive, social, and emotional growth);
 - b. respects and values all learners;
 - c. addresses the diversity of learning environments; and
 - d. understands the learning process and applies instructional and assessment strategies and technologies to facilitate learning.
3. The education professional as reflective and collaborative practitioner
 - a. makes informed and ethical decisions;
 - b. accepts responsibility for student learning;
 - c. engages in opportunities for professional growth; and
 - d. collaborates with colleagues, families, and the school community.

Undergraduate Degree Programs Leading to Teacher Certification

The following programs lead to a BS degree and prepare a student for teacher certification in the state of Connecticut:

- Elementary education grades K-6 (013)
- Secondary education grades 7-12 in the following subjects: biology (30), chemistry (031), earth science (033), English (015), French (018), general science (034), German (019), history and social studies (026), Italian (020), mathematics (029), physics (032), and Spanish (023)
- All level subjects: art (042), music (049), physical education (044), and technology education (047)

Students who are interested in becoming special education teachers must complete teacher certification at the graduate level. Contact the Department of Special Education (860-832-2400) or refer to the graduate catalog for further information.

Although requirements vary from program to program, in general each undergraduate teacher preparation program adheres to the policies outlined below.

General Education

All teacher candidates are expected to satisfy the University's general education program. Most of this work is completed during the student's first three years at CCSU, or through transfer credit.

Subject-Matter Majors

All teacher candidates are required to complete a subject-matter major. These requirements vary from subject to subject and are described in the School of Arts and Science and the School of Engineering and Technology sections of this catalog.

Selective Admission to Professional Program for Teacher Certification

The state of Connecticut requires that students be admitted to teacher preparation programs only after they have met admission criteria. These criteria and the admission process are outlined in the link below. Admission as a student to CCSU does not automatically guarantee admission to a professional program. The selective admission process requires considerable advanced planning.

Restricted Professional Course Work

Most education courses offered in particular teacher preparation programs are open only to students who have been formally admitted to a professional program. Students who have not been admitted to a professional program may not enroll in restricted courses.

Retention Criteria and Good Academic Standing

Once admitted to a teacher education professional program, a teacher candidate is expected to maintain a cumulative 2.70 grade-point average for all coursework completed at CCSU and elsewhere. If a teacher candidate's GPA drops below this level, he or she may be denied enrollment in restricted courses and student teaching until the GPA reaches the approved level. Teacher candidates must receive grades of C or better in all professional education courses required by the School of Education and Professional Studies. If they do not achieve the required grades, teacher candidates may not proceed to the next sequence of courses. Professional education courses may be repeated, but only with the consent of the chair of the Department of Teacher Education and other appropriate subject-matter department chair, as applicable.

[Admission to a Teacher Preparation Professional Program](#)

Performance Assessment

The School of Education and Professional Studies may require teacher candidates to complete performance assessments in order to qualify for student teaching and to complete the professional program.

Teacher candidates must maintain good standing in the program in order to qualify for student teaching and for a recommendation from CCSU for state of Connecticut certification. In addition to maintaining good academic standing, teacher candidates must demonstrate the following:

- Positive professional attitudes, attributes, and dispositions that affect her or his performance as a teacher;
- Conduct that demonstrates professional behavior appropriate to the context;
- Conduct that demonstrates an understanding of the fact that one's actions reflect directly upon the status and substance of the profession;
- Confidentiality of all information concerning colleagues and students obtained in the educational process; and
- Integrity and honesty in written and verbal communication, documentation, and coursework related to the professional program for teacher certification.

Admission to a Teacher Preparation Professional Program

Many of the criteria and procedures for admitting students to a professional program leading to teacher certification are governed by state of Connecticut regulations. Admission in a timely fashion requires advanced planning on the part of students. Once students are admitted to the professional program they are considered teacher candidates. The procedures outlined in the links below do not apply to programs in athletic training, health fitness, nursing, or social work. These programs have their own admission procedures, which are described elsewhere in this catalog. For clarification, please contact the office of the dean of the School of Education and Professional Studies.

The professional program is subject to change based on Connecticut regulations. Students must complete the professional program in place at the time they apply to the professional program, regardless of when they were admitted to the University.

[The Admission Process, Phase 1: Pre-Application](#)

[The Admission Process, Phase 2: Application](#)

[The Admission Process, Phase 3: Admittance](#)

[Revocation of Admission to the Professional Program](#)

The Admission Process: Phase I: Pre-application

When students first enter the University, they select a program and subject-matter major and pursue course work in general education and in the major under the guidance of an advisor in the department where the major is housed. Toward the end of their second year or in their third year of study, most full-time students are ready to apply for admission to a professional program. Prior to this application, students are required to:

- Complete 45 credits, of which 15 have been earned at Central Connecticut State University (with the exception of elementary education). Graduates of Connecticut community colleges may have this requirement waived; contact the office of the dean of the School of Education and Professional Studies for details.
- Pass the Praxis I Pre-professional Skills Test (PPST)-basic skills testing in reading, writing, and mathematics-or be qualified to have this test waived. This must be done at least one semester before application can be made to the professional program. Praxis I (PPST) may be waived if the one of the following conditions is met:
 - (1) SAT Waiver: A combined verbal and mathematics score on the SAT of 1,100 or more with no less than 450 on either the verbal or the mathematics subtests on tests taken on or after April 1, 1995, or a total score of 1,000 on the SAT, with neither the mathematics nor the verbal subtest scores below 400 points on tests taken on or prior to March 31, 1995.
 - (2) Satisfactory scores on ACT, Prueba De Aptitud Academica (PAA), or GRE. See the Connecticut State Department of Education website at www.ctcert.org for score requirements and further details. Praxis I waiver information is also available in the information rack outside the dean's office (HB 203).
- Have a cumulative grade point average (GPA) of 2.70 at CCSU and a cumulative 2.70 GPA including all undergraduate coursework taken at all institutions (including CCSU). Students may appeal for a waiver of the GPA requirement based on demonstrated academic ability and intervening life experience; [see "Appeals Process" web page](#). Some programs have additional GPA requirements. See requirements specific to each program for details.
- Submit two recommendations (signed originals) related to the student's ability to work with children and adults. Some programs have specific recommendation requirements. See requirements specific to each program for details.
- Successfully complete an essay demonstrating the student's command of the English language. Some programs have additional essay requirements. See requirements specific to each program for details.
- Pass an interview, conducted after the professional program application is submitted, with a faculty team demonstrating an acceptable standard of knowledge, skills, and professional dispositions important to effective teaching performance.

Additional Program Specific Requirements

Art Education:

- Successful completion of ART 112, ART 113, ART 120, PSY 236, EDTE 314, and ART 301. Students may be enrolled in these courses at time of professional program application but must complete them before professional program admission will be granted;
- Successful completion of departmental portfolio review; and
- Minimum major GPA of 3.00 calculated on all courses with the ART prefix (or its equivalent for transfer courses).

Biology, Chemistry, Earth Science, General Science, or Physics Education:

- Submission of a recently written original laboratory report (or program-approved substitute) of which the student is the sole author; and
- For post-baccalaureate students, no more than three courses remaining in the certification content area at the time of professional program application.

Elementary Education:

- A grade of C or better in the following courses: ENG 110, American history survey course, MATH 113, PSY 236, EDT 210, EDTE 210, and PSY 362 or 361. Students may be enrolled in the above courses at the time of professional program application but must complete them before professional program admission will be granted; MATH 213 may be used in place of MATH113;
- A major GPA of 2.70 calculated on a minimum of 15 credits required in the subject-matter major. The 2.70 subject-matter major GPA, with no grade less than a C-, must be maintained throughout the professional program. Students may be enrolled in the 15 credits of subject-matter courses at the time of professional program application, but must complete the 15 credits at this standard before professional program admission will be granted;
- Two recommendations on the program-approved recommendation form. One recommendation must be from a faculty member in the subject-matter major. The other must come from a professional individual who has observed the student's work with children;
- Successful completion of a second on-site departmental essay after professional program application is submitted; and
- Documentation of 30 hours of quality experience with children on the program-approved experience documentation form.

English Education:

- A minimum major GPA of 3.00 calculated on all courses with the ENG and LING prefixes (or their equivalents on transfer courses);
- Successful completion of the following courses before applying to the professional program: LING 200, all four required sophomore surveys (ENG 203 or 204, ENG 205, ENG 210, and one course from among ENG 203, 204, 206, or 211), ENG 220, and ENG 449; and
- Of the two required letters of recommendation, one recommendation from a CCSU English faculty member.

History/Social Studies Education:

- A minimum major 3.00 GPA calculated on all courses with the ANTH, ECON, GEOG, HIST, SOC, and PS prefixes (or equivalent transfer courses);
- Of the two required letters of recommendation, one recommendation from a full-time faculty member in the Department of History;
- A grade of B or better in HIST 301 or a department-approved equivalent. Undergraduate students must have met this requirement before applying to the professional program. Post-baccalaureate students may request a waiver from the history department to take HIST 301 in the semester of professional program application but the course must be completed before full professional program admission will be granted. Any student wishing to substitute a class from another university as an equivalent to HIST 301 must get approval from the department before submitting a professional program application; and
- Additional post-baccalaureate student requirement only: Submission of passing scores on Praxis II (test 0081) *with* the professional program application.

Languages-French, German, Italian, or Spanish Education:

These programs have no additional program requirements.

Mathematics Education:

- A minimum major GPA of 2.70 calculated on mathematics courses counting toward major, with no more than two repeats;
- Three mathematics courses at CCSU with a grade of C- or better in each. This requirement may be waived with prior department approval;
- Calculus II (MATH 221) with a grade of C- or better before applying to the professional program;
- Of the two required letters of recommendation, one recommendation from a faculty member in the CCSU Department of Mathematical Sciences; and
- Passing score on a second mathematics essay written on the program-approved essay form.

Music Education:

- Passing scores on at least 60% of piano proficiency exam; and
- Successful completion of MUS 101, MUS 216, MUS 222, and MUS 278 before admission to the professional program.
- Successful completion of EDTE 314 and MUS 310 with a grade of C or better. Student may be enrolled in these at the time of application but must complete them before admission will be granted.

Physical Education:

- A minimum major GPA of 3.00 on all courses in the physical education major;
- Successful completion of EXS 213 (formerly PE 213), PE 111, and two skills courses in the physical education major before applying to the professional program; and
- Successful completion of PE 299 and EDTE 314. Student may be enrolled in these at the time of application but must complete them before admission will be granted.

Special Education:

The special education certification program is only offered at the graduate level. See the graduate catalog for details.

Technology and Engineering Education:

- Non-transfer undergraduate students: Completion of (or enrollment in) 15 credits at CCSU in TE, MFG, EMEC, GRT, or TC prefixed courses at time of professional program application;
- Undergraduate transfer students: Completion of (or enrollment in) 9 credits at CCSU in TE, MFG, EMEC, GRT, or TC prefixed courses at time of professional program application; and
- Post-baccalaureate certification students: Completion of (or enrollment in) six credits at CCSU in TE, MFG, EMEC, GRT, or TC prefixed courses at time of professional program application.
- Successful completion of EDTE 314 and TE 299.

TESOL:

The TESOL (Teaching English to Speakers of Other Languages) certification program is only offered at the graduate level. See the graduate catalog for details.

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

The Admissions Process: Phase II: Application

Students should note the following information regarding application to a teacher preparation professional program, which is conducted twice a year.

- Applications are due September 10 or February 10 (or the next regular day of classes if the date falls on a weekend or holiday) and are submitted to the office of the dean (HB 203).
- Application packets are available in the information racks outside the dean's office (HB 203) and on the CCSU School of Education and Professional Studies website at www.education.ccsu.edu under academic advising.
- Once the application packet is submitted, it will be reviewed by the office of the dean. Fulfillment of Praxis I and a cumulative grade point average of 2.70 or better for all attempted college work will be verified. Students who fulfill these admission requirements will have their applications forwarded to the respective department.
- The office of the dean forwards the application to the appropriate department for evaluation and scheduling of an interview. Once the department completes their review, the admission recommendation is forwarded to the office of the dean. The assistant dean of the School of Education and Professional Studies makes the final decision.

The Admissions Process: Phase III: Admittance

Before the end of the semester in which they apply, applicants will receive a letter from the office of the dean indicating whether they have been admitted, deferred until certain requirements have been fulfilled, or denied admission. *Only teacher candidates who are fully admitted to the professional program may register for professional courses in education.*

Conditions Under Which Admission to the Professional Program May Be Revoked

The dean of the School of Education and Professional Studies may revoke admission to the professional program for the following reasons:

- Failure to maintain an overall or professional program GPA of 2.70;
- Falsification of information or documentation;
- Inappropriate or unprofessional behavior, attitudes, or attributes that negatively impact performance as a teacher;
- Inappropriate responses in various contexts that negatively affect performance as a teacher;
- Unacceptable performance during a field experience or student teaching;
- Unacceptable performance on performance assessments;
- Failure to adhere to the Connecticut Code of Professional Responsibility for Teachers;
- Failure to maintain confidentiality of all information concerning colleagues and students obtained during the educational process;
- Failure to demonstrate at all times integrity and honesty in written and verbal communications, documentation, and coursework related to the professional program;
- Conviction of crime of moral turpitude or crime that in the opinion of the University would impair the standing of the School of Education and Professional Studies; or
- Other due and sufficient cause.

[Fingerprint-Based Background Check](#)

Post-Baccalaureate Programs Leading to Teacher Certification Only

Students who already hold a bachelor's degree may pursue teacher certification through our post-baccalaureate programs. These programs prepare students for teacher certification and do not result in a master's degree. Students may seek certification in the following fields:

- Elementary education;
- Secondary education in the following subjects: biology, chemistry, earth sciences, English, French, general science, German, history/social studies, Italian, mathematics, physics, and Spanish;
- All level subjects: art, music, physical education, TESOL, and technology education;
- Special education.

Admission to a post-baccalaureate teacher certification professional program depends upon and follows admission to the School of Graduate Studies. Post-baccalaureate teacher candidates must meet all course and fieldwork requirements specified in particular teacher preparation programs and governed by state of Connecticut regulations. This includes satisfying certain general education and subject-matter major requirements.

Post-Baccalaureate Program of Study

For students seeking certification in elementary and secondary education, a program of study is determined and filed with the School of Education post-baccalaureate advisor.

For students seeking certification in art, music, physical education, and technology education, a program of study is determined and filed with the chair of the department that offers their program. The program of study (which must be approved by the office of the School of Graduate Studies) ensures that all certification requirements are satisfied and becomes a contract between the student and his or her advisor. The program of study is subject to revision to address any changes in the state of Connecticut certification regulations.

Post-baccalaureate students must meet the following general education requirements:

- At least 39 credits of general education coursework including a U.S. history survey course, and
- Courses in each of the following areas: English, mathematics, natural sciences, and social sciences, and one course in foreign language or fine arts.

Coursework in developmental or life span psychology is a prerequisite for the professional program.

For information regarding requirements and admission to the professional program, refer to the webpage [Admission to a Teacher Preparation Professional Program](#).

Repeat Policy

An exception to the [course repeat policy](#) exists in the Department of Teacher Education, which requires that departmental permission be granted to repeat any professional program course. Teacher candidates must submit the request for permission to repeat any of these courses to the chair of teacher education before adding the course to their schedule for a second time. Once teacher candidates have the chair's approval, the School of Education and Professional Studies will utilize the most recent CCSU GPA in its calculations of the 2.70 minimum total GPA requirement for continuation in the professional program.

Appeals Process for All Students and Professional Programs

Denial of admission to the professional program for teacher certification, removal from the professional program, denial of approval to participate in field experiences or student teaching, or removal from field experiences or student teaching are academic decisions that reflect careful and deliberate judgment by faculty. Factors that are considered in such decisions include, but are not limited to, the adequate development of the student, professional program requirements and performance standards, the Connecticut Code of Professional Responsibility for Teachers, professional performance standards and attributes mandated by the Connecticut State Department of Education, National Council for the Accreditation of Teacher Education standards, and the professional program's unique responsibilities to children and schools.

The University recognizes that on occasions there may be an error or palpable injustice in the determination of denial of admission to the professional program, removal from the professional program, denial of approval to participate in field experiences or student teaching, or removal from field experiences or student teaching. A student who believes that an error or a palpable injustice has occurred in procedures in arriving at a decision may pursue an appeal. A copy of the full appeals policy may be obtained from the office of the dean of the School of Education and Professional Studies.

In addition to appeals based on error or palpable injustice, a student whose undergraduate cumulative GPA is below 2.70 may appeal for a waiver of the admission GPA requirements. Students who have been denied admission because of the GPA requirement may write a letter of appeal to the dean of the School of Education and Professional Studies for a waiver of the GPA requirement presenting compelling evidence of both of the following:

- Demonstrated academic ability in recent coursework showing an exemplary pattern of performance different from prior undergraduate coursework; and
- Intervening life experience, e.g., working with children or in a profession/vocation that has contributed to the applicant's growth and maturity as a prospective teacher.

The appeal will be reviewed by the School of Education and Professional Studies appeals committee. The committee will make a recommendation to the dean, who will make the final decision. The decision regarding the appeal of the GPA requirement will be communicated in writing to the student by the dean of Education and Professional Studies or designee and the department.

Students who are denied admission to the professional program for reasons other than GPA may contact the assistant dean to discuss issues concerning the application.

Connecticut Certification Procedures

To be eligible for Connecticut certification, a teacher candidate must be recommended by the certification officer in the office of the dean of the School of Education and Professional Studies. Teacher candidates are urged to apply for certification during their last semester of enrollment. However, please note that teacher candidates must have received the BS degree in an approved program and have passed the applicable Praxis II test* in order to complete their application for certification.

To apply for certification, undergraduate teacher candidates should:

- Obtain a *Steps to Certification* information sheet from the information rack outside of the dean's office (HB 203). Complete and submit the state of Connecticut certification application to the dean's office;
- Pass the appropriate Praxis II or ACTFL test and have the scores reported to CCSU; and
- Submit application to the CCSU certification officer for review and signature; then submit signed application to the Connecticut Bureau of Teacher Certification with the applicable fee.

When registering for Praxis II test, student should request that their score reports be sent to:

Central Connecticut State University (Score Recipient Code Number R3898) and Connecticut State Department of Education (Score Recipient Code Number R7050).

The Initial Educator Certificate will be issued by the Connecticut State Department of Education.

State of Connecticut certification regulations require that certification applicants meet the regulations in place at the time the certification application is submitted to the Connecticut State Department of Education, regardless of when the certification program was completed. State regulations, including course and testing requirements, may change at any time. Teacher candidates enrolled in the professional program at the time of a regulatory change will be notified of any changes, and their curriculum adjusted to address the changes. Teacher candidates and alumni may apply for certification in the last semester of the program or at any time after completing the program. CCSU does not notify alumni of changes in regulations but alumni must meet regulations in place at the time they apply for certification. Therefore, teacher candidates are urged to apply for Connecticut certification during their last semester of coursework or immediately upon completion of the program, even if they do not plan to teach in Connecticut.

*Information concerning Praxis II is available at the office of the dean or via the Educational Testing Services (ETS), Praxis Series website: <http://www.ets.org>.

Out-of-State Certification Procedures for CCSU Graduates

Any application or portion of an application that requires an institution recommendation or attestation concerning the completion of an "approved program" should be referred to the office of the dean of the School of Education and Professional Studies. Students must provide full information about the graduate's name at the time of completion of CCSU's program, date of program completion, CCSU student ID number or social security number, current name and address, and any particulars concerning the other state's information requirements.

Regulatory Changes and the Professional Program

State of Connecticut certification regulations require that certification applicants meet the regulations in place at the time the certification application is submitted to the Connecticut State Department of Education, regardless of when the teacher candidate completed the certification program. State regulations, including course and testing requirements, may change at any time. Teacher candidates enrolled in the Professional Program at the time of the regulatory change will be notified of any changes so their curriculum can be adjusted to address the changes. Teacher candidates are responsible for insuring that their Planned Programs are adjusted to meet all certification requirements that will be in effect at the time they plan to complete their certification programs. CCSU does not notify alumni of changes in regulations.

Teacher candidates and alumni may apply for certification at any time after completing their certification program. Teacher candidates are urged to apply for Connecticut certification during their last semester of coursework or immediately upon completion of the program to avoid possibly being required to meet additional certification requirements. Teacher candidates who do not plan to teach in Connecticut immediately should still obtain Connecticut certification so they are covered by reciprocity agreements with other states.

Cooperative Education Program

Cooperative Education is an academic program that integrates classroom study with career-related work experiences. Co-op work experiences are paid, full-time, six-month positions related to academic and career interests. Co-op is an optional and, in most cases, non-credit program. The program is coordinated through the Center for Advising and Career Exploration (CACE).

CCSU's program consists of professional preparation one semester before going out to work, with six months of paid co-op employment. Thus, students apply textbook learning to on-the-job training. The money earned often helps students finance their University education.

Co-op students are assigned to a CACE Advisor/Cooperative Education coordinator who guides their career development and develops appropriate co-op placements. Students receive instruction in skills that make the difference in today's job market: résumé writing, interviewing techniques, career planning, and job-seeking strategies.

Through participation in the co-op program, students can graduate with up to two years of career-related work experience and, possibly, with a job offer. Many of CCSU's co-op students are offered permanent positions with their co-op employers upon graduation. Nationwide, graduates of co-op programs are hired at higher salaries and promoted faster than other employees. For students unsure of a career, co-op is a no-risk way to test job options. For those set in their goals, co-op provides a direct route from campus to career.

How Co-op Works

- Co-op work blocks run from January through June (Group A) and from July to December (Group B);
- Students may participate in one to four co-op work blocks;
- Students may enroll in the co-op program after they have completed 45 credits; and
- Students must enroll in the program one full semester prior to the first work experience.

Enrolling in the Co-op Program

Once enrolled at CCSU, the first step in becoming a co-op student is to attend a Co-op Information Session. These are offered at the start of each new academic semester. The session provides details about how the program works, how to enroll, and the benefits the student can expect as a co-op student at CCSU. It gives students an opportunity to ask questions and receive current literature about the program.

After the information session, students meet with a coordinator to formally enroll in the program. Students should plan to enroll in the program at least one semester prior to the first planned work block. Group A students must apply no later than the third week of the fall semester; Group B students must apply no later than the third week of the spring semester. Applying a semester in advance of the work block ensures a place in the program, sufficient time for the co-op staff to develop appropriate co-op positions, and sufficient time for students to complete required workshop preparation (résumé writing, effective interviewing, career exploration, and decision-making) prior to their work experience.

Cost and Eligibility

The co-op program is available to all full- and part-time undergraduate students in good academic standing, who have completed 45 credits. Students are billed \$200 for each semester of work placement in the program.

Cooperative (Interinstitutional) Programs

CCSU/Tunxis Community College Honors Computer Science/Mathematics Program

Under the provisions of a signed articulation agreement with Central Connecticut State University, graduates of Tunxis Community College who have successfully completed this program with a grade point average of 2.70 or better may enter the University, as third-year students, into the Carol A. Ammon School of Arts and Sciences,* applying their credits toward one of these degree programs:

- BS in mathematics for secondary teaching certification
- BS in computer science honors
- BS in computer science alternative

Prospective students must complete the required admission process. For more information, contact Professor Laura Gambino, Tunxis Community College (860-255-3651), CCSU Professor Bradley Kjell, chair, Department of Computer Science (860-832-2717), or CCSU Professor Jeffrey McGowan, chair, Department of Mathematical Sciences (860-832-2850).

*subject to space availability

State College/University Reciprocity Program

Under certain conditions, CCSU students may take courses at another state college or university without paying additional tuition. Only courses not offered at CCSU may be taken, and courses must be applicable to a student's degree. Students pay for books and any course or lab fees.

Admission to the courses will be on a space-available basis within pre-established class limits. To be eligible, CCSU students must be Connecticut residents and have paid maximum tuition and fees for full-time study. A dean and/or department chair may need to verify a student's qualifications for a course. Registration begins the Friday before the start of classes.

Interested students should contact the Registrar's office for more information.

Hartford Consortium for Higher Education

This program, sponsored by the Hartford Consortium for Higher Education, allows undergraduate students at CCSU to cross-register for courses at other local campuses for selected courses in environmental studies, international studies, modern and classical languages, religious studies, urban studies, and women's studies. Courses are available at Capital Community College, Goodwin College, Hartford Seminary, Saint Joseph College, Trinity College, University of Connecticut-Hartford, Saint Thomas Seminary, and University of Hartford. Use of consortium courses for meeting general education requirements will be considered on a case-by-case basis.

To be eligible, a student must be a full-time undergraduate at a participating institution. No tuition or registration fee is paid by the student to the host school. Transportation, books, and lab fees are the responsibility of the student. Courses taken through the Hartford consortium are considered institutional credit; therefore, the grades appear on the transcript, affect the GPA, and apply towards residency graduation requirements and graduation honors. Central Connecticut State University students may cross-register for no more than two courses each semester.

Students may obtain a brochure containing eligible courses and cross-registration forms at the CCSU registrar's office. For more information, visit the consortium web site at www.hartfordconsortium.org.

Reserve Officers Training Corps (ROTC)

Army and Air Force ROTC programs are offered to CCSU students at University of Connecticut's main campus at Storrs. Class instruction occurs on the UConn campus; however, the courses are considered to be those of Central Connecticut State University. Registration is done in the same manner as other CCSU courses, via the web. Final grades will appear on the CCSU transcript and are included in the calculation of the CCSU GPA. Upon completion of coursework at the end of each semester, ROTC students need to request that an official transcript be sent from UConn to the CCSU office of the Registrar.

Air Force Reserve Officer Training Corps (AFROTC)

Air Force ROTC is offered to Central Connecticut State University students at UConn's main campus at Storrs.

CCSU students may pursue a commission as an officer in the United States Air Force. The 100- and 200-level courses carry no military

obligation and are open to all students. The 200-level courses have prerequisites and require permission of the appropriate instructor.

Qualified students may compete for scholarships that pay up to full tuition and fees, plus tax-free stipends of \$250 to \$500 per month, and \$600 per year toward books.

Students must complete at least three years of ROTC prior to graduation. Students commute to Storrs for classes on Thursday afternoons.

Interested students should contact the Air Force ROTC office at 860-486-2224 or visit the website at www.airforce.uconn.edu.

For more information, contact AFROTC Dept. 115, 362 Fairfield Way U-2081, Storrs, CT 06269-2081.

Army ROTC

CCSU students may pursue commissions in the Active Army, Reserve forces, or Guard forces. Army ROTC classes are offered at the UConn campus, located in Storrs. Army ROTC trains college students to become leaders and Army officers, and teaches the leadership and management skills needed to become leaders in the civilian sector and the skills to be a quality officer.

ROTC is a four-year program. The four-year on-line application can be found at www.armyrotc.com. Applicants who wish to receive four-year scholarships are encouraged to fill out the on-line application prior to entering as freshmen. The first two years consist of one-credit military science classes. These classes are open to all students and incur no military obligation for students. Junior and senior cadets, upon contracting, take the three-credit class/lab once a week. Contracted cadets receive a scholarship that pays 100% tuition and fees (or up to \$5,000 a semester toward room and board), as well as \$1,200 a year for books and a monthly stipend of \$300 to \$500. A student who completes the program can be commissioned as a Second Lieutenant in the Active Army, National Guard, or Army Reserves.

Army ROTC has two-, three- and four-year scholarships available. Juniors and graduate students can attend a four-week summer Leaders Training Course (LTC) and become eligible for a two-year scholarship. Information can be found at www.leaderstrainingcourse.com.

Students who are active members of the Connecticut Army National Guard receive free tuition at any state school, as well as \$4,500 a year toward fees. National Guard cadets can combine their tuition waivers with ROTC National Guard scholarships and receive up to \$5,000 a semester toward room and board regardless of whether they live on or off campus. These are Army benefits and do not apply to other branches of service. Army ROTC cadets are non-deployable until they have graduated from college.

Reserve soldiers from any branch of the military can break their current enlisted contracts in order to remain in school and can pursue an Active Duty Commission through Army ROTC.

For more information on ROTC, call Major Glenn A. Colby at 860-486-6081; email: glenn.colby@uconn.edu, or visit www.armyrotc.uconn.edu.

Air Force Aerospace Studies

AFAS 113 Aerospace Studies I 1

One 1-hour class period and one 2-hour leadership laboratory period. A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Both semesters. One credit each semester.

AFAS 114 Aerospace Studies II 1

One 1-hour class period and one 2-hour leadership laboratory period. A survey course designed to facilitate the transition from Air Force ROTC cadet to Air Force ROTC officer candidate. Featured topics include Air Force history from the early 20th century through today, Air Force leaders, group leadership problems, and continuing application of communication skills. Both semesters. One credit each semester.

AFAS 123 Aerospace Studies III 3

Prereq.: Air Force Aerospace Studies I and II, and completion of field training. One 3-hour class period and one 2-hour leadership laboratory period. A study of leadership and quality management fundamentals, professional knowledge, leadership ethics, and communication skills required of an Air Force officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Both semesters. Three credits each semester.

AFAS 124 Aerospace Studies IV 3

Prereq.: Air Force Aerospace Studies III. One 3-hour class period and one 2-hour leadership laboratory period. Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communication skills. Both semesters. Three credits each semester.

Aviation Ground School

AVGS 201 Aviation Ground School 3

Designed for private pilot applicants and students interested in acquiring an understanding of the principle of flight. Provides the necessary aeronautical knowledge for students preparing for the Federal Aviation Administration written test for private pilot certification. Meets the requirements for pilot applicants who must present evidence showing completion of a course of study (required by Federal Aviation regulations). One 3-hour class period per week for 12 weeks.

Military Science

MISI 1101 General Military Science I - A 1

This introductory course focuses on the organization of the Army, values and ethical decision making, leadership doctrine, and communication. There are also opportunities for experience in land navigation, physical fitness, field training exercises, and drill and ceremony. One credit. One class period. No military obligation.

MISI 1102 General Military Science I - B 1

This introductory course focuses on the leadership development program, squad tactics, writing in the Army style, land navigation, after-action reviews, and the duties of officers, warrant officers, and NCOs. Students may also participate in land navigation labs, physical fitness training, field training exercises, and drill and ceremony. One credit. One class period. No military obligation.

MISI 1201 General Military Science II - A 1

This intermediate-level course focuses on operations orders, squad movement techniques, leadership doctrine, officer and NCO duties, risk assessment, and training the individual and the team. There are opportunities to participate in land navigation labs, physical fitness training, field training exercises, and drill and ceremony. One credit. One class period. No military obligation.

MISI 1202 General Military Science II - B 1

This intermediate-level course focuses on counseling and motivation techniques, leadership doctrine, squad tactics resolving ethical dilemmas, land navigation, military customs and traditions, and briefing on military history. There are also opportunities for experience in land navigation, physical fitness, field training exercises, and drill and ceremony. One credit. One class period. No military obligation.

MISI 3301 General Military Science III - A 3

Prereq.: Permission of instructor. One 3-hour class period, physical training sessions, and leadership laboratory. One weekend field training exercise. Leadership principles, techniques and the responsibilities of command. Military instruction techniques. Includes student class presentations.

MISI 3302 General Military Science III - B 3

Prereq.: Permission of the instructor. One 3-hour class period, physical training sessions, and leadership laboratory. One weekend field training exercise. Dynamics of small unit tactics and branches of the Army.

MISI 4401 General Military Science IV - A 3

Prereq.: Permission of the instructor. One 3-hour class period, physical training sessions, and leadership laboratory. One weekend field training exercise. Army staff organization, unit administration and management, logistics, military intelligence, leadership seminar, the international

system, and strategic doctrine.

MISI 4402 General Military Science IV - B

3

Prereq.: Permission of instructor. One 3-hour class period, physical training sessions and leadership laboratory. One weekend field training exercise. Military law, obligations and responsibilities of an officer, contemporary human problems, and a staff ride.

Honors Program

Paul Petterson, *director* (phone: 860-832-2969, email: pettersomp@ccsu.edu)

The honors program provides an interdisciplinary, team-taught approach to general education for intellectually motivated and academically superior students. The program is open to all qualified students, regardless of major. Graduating high school students, students in their first year at the University, high school graduates returning from work or family responsibilities, and transfer students from community colleges or other universities are eligible to apply. Applicants must satisfy writing and interview requirements. A limited number of full or half merit scholarships are available. For more information on scholarships, please refer to the [financial aid section](#) of this catalog.

The honors program is divided into four general areas: western culture, science and society, world cultures, and the writing and research component. All honors program courses satisfy general education requirements, with modal and area restrictions where noted.

Successful completion of the entire honors curriculum satisfies all the student's general education requirements, with the exception of Skill Areas II, III, IV, lab science requirement, and any course requirements set by individual major programs or certifications.

Honors program students may choose to graduate without a minor. Students who complete the honors program with a grade-point average of 3.20 or higher for their honors courses and for all their university courses will receive the designation "Honors Program Scholar" on their diplomas. Additional information on the program is available at www.ccsu.edu/honors.

Programs

[Honors Program](#) (36 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Honors Program

Honors students are required to complete the following 36 credits of courses, which are offered over a three-year period and are available only to honors program students.

Western Culture

HON 110	Western Culture I	4
HON 210	Western Culture II: Topics in Western Culture	4
HON 250	Western/World Culture III: Comparative Topics	4

Science and Society

HON 120	Science and Society I	4
HON 220	Science and Society II: Social Sciences and Society	4

World Cultures

HON 130	World Cultures I	4
HON 230	World Cultures II: Topics in World Cultures	4

Writing and Research

HON 140	Writing and Research I	4
HON 440	Writing and Research II	1
HON 441	Writing and Research III: Honors Thesis	2
HON 442	Writing and Research IV: Thesis Workshop	1

Intensive English Language Program

The Intensive English Language Program (IELP) offers full-time and part-time English language and American culture instruction to international students and faculty, foreign professionals, and members of the Connecticut community.

The IELP is dedicated to ensuring that students have a positive experience. Drawing from a strong curriculum and professionally degreed faculty, each session's courses are tailored to meet the needs of the students enrolled at that time. Classes are small, so teachers get to know and offer support and encouragement to each student individually. Activities arranged by the IELP offer students the opportunity to meet and interact with American students and local culture.

Living in another country is an exciting adventure and a challenge. The members of the IELP understand this and are here to help in every way possible. The IELP and the George R. Muirhead Center for International Education staff are always available to answer questions about visas, adjusting to American culture, academic planning, and other issues.

For more information, please contact the IELP in Barnard Hall, Room 124, at 860-832-3376 or IELP@ccsu.edu.

OnlineCCSU

OnlineCCSU is the virtual classroom of Central Connecticut State University.

Responding to the emerging trends of learning-on-demand, CCSU offers courses that traditionally were only available in the classroom.

Online learning, also known as distance education, takes place using computer technology and the internet when the faculty and students are separated by distance, i.e., not in the same room. Within semester limits, OnlineCCSU offers asynchronous learning, which means the instructor and the students need not be in the same room at the same time or on the computer at the same time. This means students may sign on any time, 24 hours a day, seven days a week. Except where the faculty have set test dates, chat room sessions, etc., students do not need to sign on at the same time as other students or at the same time as the instructor.

OnlineCCSU offers both graduate and undergraduate courses, and new courses are added every semester. CCSU faculty, who design and teach the courses, are at the core of this distinctive learner-centered program. Credits earned online are eligible for credit towards a degree.

Full-time and part-time matriculated students (students who have formally applied and been admitted to CCSU) who already have a faculty advisor should continue to consult with that advisor regarding online courses.

Non-matriculated students do not need a faculty advisor to register for an online course.

For information on OnlineCCSU courses, visit www.ccsu.edu/onlineCCSU.

Pre-Professional Programs

Pre-Health/Pre-Medical

A Pre-Health Professional Advisory Committee is available to assist students interested in preparing for careers in medicine, dentistry, veterinary medicine, optometry, and related fields in the health sciences for which undergraduate training is required prior to admission to other institutions. The Pre-Health Professional Advisory Committee consists of faculty members from the departments of biology, biomolecular sciences, chemistry and biochemistry, physics, and psychology.

Students interested in pre-health professional programs should consult Dr. Peter Osei, program coordinator for the health professions, Department of Biology, NC 339 (860-832-2657), and Dr. Cheryl Watson, chair of the Pre-Health Professional Advisory Committee, Department of Biomolecular Sciences, NC 344 (860-832-2649). Additional information is available at <http://www.prehealth.ccsu.edu>.

Pre-Law

Students intending to apply to law school should consult with one of the pre-law advisors early in their academic careers, and no later than the junior year.

Since law schools do not prescribe a particular academic program, students considering a career in law may select any undergraduate major. Information regarding academic planning and requirements for application to law school is available from the pre-law advisor, Robbin Smith, political science, and also from Kathleen Bantley, criminal justice; Katherine Hermes, history; Steven Horowitz, psychology, and Donna Sims, School of Business.

Special Studies Major

With the help of an academic advisor, an undergraduate student may design a major to fit his or her own interests and needs. A special studies major must consist of 36-42 credits if a conventional minor is taken, or 54-60 credits if no minor is taken. At least half of the program must consist of 300- or 400-level courses. A proposal for a special studies major will only be considered when it is clearly shown that no present major offered by the University meets the same need. The major will consist of existing courses and all academic requirements of the University, including all course requirements and prerequisites. All special studies programs total a minimum of 122 credits.

To be eligible for such a special studies major leading to a BS or BA degree, the student must be in good standing. The application must be approved by a faculty advisor, chairs of departments from which there are three or more courses in the major and the dean of the school of the advisor. Applications normally should be filed prior to the completion of 60 credits. The student must have completed at least 12 credits at CCSU or have transferred at least 30 credits prior to filing.

Approval of special studies majors is by a majority of a committee composed of the chair of the Curriculum Committee; the chairs of the Departments of Arts and Sciences, Business, Education and Professional Studies, and Engineering and Technology subcommittees; and the dean of the Carol A. Ammon School of Arts and Sciences or his or her representative. Information about special studies programs in all four schools is available in the office of the dean of the Department of Arts and Sciences.

Applications are reviewed once each semester; the deadlines are October 1 for fall and March 1 for spring. Completed applications, including signatures, must be submitted to the Dean's Office, Carol A. Ammon School of Arts & Sciences, by this date.

Study Abroad Programs

Students of Central Connecticut State University have the opportunity to enhance their education and improve their career options by studying abroad! The University offers a choice of CCSU-sponsored international programs: short-term *Courses Abroad* and semester- or year-long study at one of Central's *Partner Universities* overseas. In addition, study at an approved CCSU program can count in fulfillment of the International requirement for General Education.

Short-term programs, which are led by University professors, offer students a variety of credit-bearing courses in many locations around the world. These *Courses Abroad* are offered three times a year, during winter session, spring break, and summer session. Detailed information, including registration deadlines, program dates, cost, and sponsoring major departments, is available at the beginning of each academic year on the CIE website: <http://www.ccsu.edu/cie>.

Students may also elect to study abroad for a semester or a year at one of *CCSU's Partner Universities* located in Brazil, Chile, China, France, Germany, Hungary, Italy, Japan, Korea, Northern Cyprus, Poland, Spain, Sweden, and the United Kingdom. In general, students participating in one of these exchange programs pay tuition and fees to CCSU. Although variations in payment procedures occur, depending on the partner university, CCSU financial aid applies to most Exchange programs, and applications are due April 1. Courses earned at a partner university transfer as residency credits, and apply toward Central's graduation requirements.

To plan either type of study abroad program, contact the International Education Coordinator in the Center for International Education (CIE), Barnard Hall, Room 123, or call 860-832-2040. Specific program information for all international programs and dates of regularly scheduled information sessions can be found on the CIE website at: <http://www.ccsu.edu/cie>.

SPECIAL PROGRAMS

[Cooperative Education Program](#)

[Cooperative \(Interinstitutional\) Programs](#)

[Honors Program](#)

[Intensive English Language Program](#)

[OnlineCCSU](#)

[Pre-Professional Programs: Pre Health/Pre-Medical; Pre-Law](#)

[Special Studies Major](#)

[Study Abroad Programs](#)

School of Engineering & Technology

Zdzislaw Kremens, *Dean*

Olusegun Odesina, *Associate to the Dean*

Nancy Krackowsky, *Associate Dean*

Phone: 860-832-1800

Fax: 860-832-1804

Website: www.set.ccsu.edu

The School of Engineering and Technology prepares graduates in scientific and professional engineering and technological fields. It is constantly evolving and expanding its programs in response to rapidly changing technologies and workforce demands. The school consists of five departments: Biomolecular Sciences, Computer Electronics and Graphics Technology, Engineering, Manufacturing and Construction Management, and Technology and Engineering Education. The school offers degrees in science, engineering, engineering technology, and technology leading to a wide variety of careers. In conjunction with the School of Education and Professional Studies, the BS degree (in education) prepares individuals for teaching careers in technology and engineering education.

The school provides students with an opportunity to earn baccalaureate degrees in dynamic fields of engineering, science, and technology. The range of undergraduate programs accommodates a wide variety of student skills and interests. The teaching and research of our faculty focus on both theory and its practical application to solving problems. We prepare students to meet dynamic engineering, technological, and scientific challenges as leaders and members of engineering, technical, management, research, biomedical, and educational teams. A career in engineering, science, or technology can be very rewarding--personally and financially. Preparation for these careers can indeed be challenging and will require hard work but it will ultimately make graduates invaluable members of the workforce that is demanded by the state, the country, and indeed the world.

Designated as a "Center of Excellence" by the state of Connecticut, CCSU's School of Engineering and Technology has taken great pride in its ability to offer a broad range of curriculum options that provide students with a careful balance of classroom theory and practical application

[Biomolecular Sciences](#)

[Computer Electronics & Graphics Technology](#)

[Engineering](#)

[Manufacturing & Construction Management](#)

[Technology & Engineering Education \(K-12\)](#)

Cooperative Technology Programs:

[The College of Technology](#)

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Biomolecular Sciences

Faculty

J.P. Mulrooney, Chair; M. A. Davis, B. L. Dobbs-McAuliffe, B. Hoopengardner, M. A. Kapper, T. R. King, K. A. Martin, C. L. Watson (*Dept. phone: 860-832-3560 ; fax: 860-832-3562*)

Department Overview

The Department of Biomolecular Sciences offers instruction in molecular biology, microbiology, cell biology, genetics, development, and physiology that is strongly integrated with the theory and practice of molecular biological research. The department offers two BS degrees in biomolecular sciences and participates in an additional interdisciplinary program that leads to a BS degree in biochemistry. In addition, the department offers a minor in biomolecular science appropriate for students with majors other than biomolecular science. In addition, the department is pleased to offer health-related courses to support undergraduate programs in gerontology, nursing, physical education, athletic training, and other non-science majors.

Student-centered research is a feature of all undergraduate programs in biomolecular sciences. Located in Copernicus Hall, the Department of Biomolecular Sciences includes a wide range of modern research equipment in laboratories designed both for class instruction and for independent student research. Special facilities include a protein purification and analysis facility, a cell culture facility, a histology facility, a molecular genetics research laboratory, a laboratory animal care suite, a zebrafish facility, a microbiology laboratory that is certified by the Connecticut Department of Public Health, and several computer laboratories. Student-centered biomolecular research activity is also promoted, fostered, and supported by the Biotechnology Institute at CCSU, an interdisciplinary organization (housed in the Department of Biomolecular Sciences) that is dedicated to developing college graduates with excellent research skills. The Department of Biomolecular Sciences is strongly committed to student advising and routinely promotes and participates in academic and extracurricular activities aimed at facilitating student learning, community engagement, and success.

Programs

[Major in Biomolecular Sciences, BS](#) (Non-teaching, 35 credits)

[Major in Biochemistry, BS](#)

[Minor in Biomolecular Sciences](#) (Non-teaching, 20 credits)

[Minor in Gerontology](#)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Computer Electronics and Graphics Technology

Faculty

K. C. Tracey, *Chair*; O. Odesina, D. Zanella (*Dept. phone: 860-832-1830; fax: 860-832-1806; website: www.technology.ccsu.edu*)

Department Overview

The Department of Computer Electronics and Graphics Technology offers the following undergraduate BS degree and graduate MS degree programs:

- BS in electronics technology
- BS in computer engineering technology
- BS in industrial technology with specializations in
 - graphics technology
 - networking technology
- MS in computer information technology (see the *Graduate Catalog* for more information)

The mission of the Department of Computer Electronics and Graphics Technology is to provide educational opportunities in computer engineering, electronics, graphics, networking, and interrelated technological and managerial disciplines. We prepare students to meet dynamic technological challenges as leaders and members of technical design, engineering, and management teams. The programs respond to an increasing industry demand for highly qualified personnel who have a combination of technical and managerial skills. Therefore, this study includes a comprehensive knowledge of industrial processes and applied technologies, in addition to a background in general education. Providing a broad range of educational and career enhancement opportunities, the department prepares graduates for careers in rapidly changing technical fields.

Plans of Study

Students interested in technology programs may attend Central Connecticut State University full- or part-time. Part-time study permits a student to keep a full-time day job and enroll in courses in the late afternoon or evening. Full-time students may complete the programs in four years.

Programs

[Major in Electronics Technology, BS](#) (122 credits)

[Major in Computer Engineering Technology, BS](#) (124 credits)

[Major in Industrial Technology, BS](#) (122 credits)

[Minor in Networking Technology](#) (18 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Manufacturing & Construction Management

Faculty

J. P. Kovel, P.E., *Chair*; M. Emiliani; E. D. Kirby; R. Miers; R. J. Perreault; P. J. Resetarits; L. Reeder; E. Sarisley, P.E.; R. Thamma; H. Wang (*Dept. phone: 860-832-1830; fax: 860-832-1806; e-mail: Kovelj@ccsu.edu; website: www.technology.ccsu.edu*)

Department Overview

The Department of Manufacturing and Construction Management offers the following undergraduate BS degree and graduate MS degree programs:

- BS in construction management
- BS in industrial technology with specializations in
 - manufacturing
 - environmental and occupational safety
 - electro-mechanical technology
 - technology management
- MS in technology management (see the *Graduate Catalog* for more information)
- MS in construction management (see the *Graduate Catalog* for more information)

The Department of Manufacturing and Construction Management offers programs designed to prepare students for technology-oriented supervisory, management, and leadership positions. The programs respond to an increasing industry demand for highly qualified personnel who have a combination of technical and managerial skills. Therefore, this study includes a comprehensive knowledge of manufacturing and construction processes and applied technologies, in addition to a background in general education. Providing a broad range of educational and career enhancement opportunities, the department prepares graduates for careers in rapidly changing technology fields.

Plans of Study

Students interested in the technology programs may attend Central Connecticut State University full- or part-time. Part-time study permits a student to keep a full-time day job and enroll in courses in the late afternoon or evening. Full-time students may complete the 122-credit or 130-credit undergraduate programs in four years.

Programs

[Major in Construction Management, BS](#) (78 credits)

[Major in Industrial Technology, BS](#) (63 credits)

[Major in Robotics and Mechatronics Engineering Technology, BS](#) (81 credits)

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Technology & Engineering Education (K-12)

Faculty

J. A. DeLaura, Chair (860-832-1850); M. Dischino, P. Foster, D. Sianez, M. C. Vincenti (Dept. phone: 860-832-1850; fax: 860-832-1811; website: www.technology.ccsu.edu)

Department Overview

The Department of Technology and Engineering Education (K-12) offers the following programs of instruction:

- BS degree in technology and engineering education (K-12);
- Post baccalaureate certification program in technology education;
- MS degree programs in technology education; and
- Planned post master's-no certificate or degree.

Specific requirements for MS degree programs and planned post master's programs in technology education are stated in the *Graduate Catalog*.

The technology and engineering education (K-12) curriculum prepares individuals for teacher certification, grades K-12. Emphasis is placed on designing, developing, and utilizing technological systems; open-ended problem-based design activities; cognitive, manipulative, and affective learning strategies; and applying technological knowledge and processes to real-world experiences utilizing up-to-date resources. Technology and engineering education (K-12) majors complete a core of technology courses involving classroom and laboratory experiences with the materials, machines, systems, and concepts related to technology. In general education, technology majors experience courses in the humanities, social and behavioral sciences, mathematics, natural sciences, fine arts, and physical education. Preparation as a technology educator culminates with a core of professional education courses involving teaching strategies, evaluation, curriculum development, and student teaching.

Individuals who already have a bachelor's degree who desire to meet certification requirements for teaching technology and engineering education (K-12) in Connecticut should contact Dr. James DeLaura (860-832-1850).

Program

Major in Technology Education (K-12), BS (130 credits)

General Education Requirements (44-46 credits)

ENG 110	Freshman Composition	3
COMM 115	Fundamentals of Communication	3
or		
COMM 140	Public Speaking	3
PE 144	Fitness/Wellness Ventures	2
or		
CET 113	Introduction to Information Processing	3
HIST 161	American History to 1877	3
or		
HIST 162	American History from 1877 to Present	3
MATH 115	Trigonometry	3
or		
MATH 119	Pre-Calculus with Trigonometry	4
PSY 236	Life-Span Development	3
TE 110	Technological Systems	3
PHYS 111	Introductory Physics I	3
CHEM 111	Introductory Chemistry	3
STAT 104	Elementary Statistics	3

These courses count toward the overall general education requirements.

Note: This major does not require a minor.

Technology Education (K-12) Professional Requirements

TE 399	Teaching Technology & Engineering (K-12) Teaching	3
TE 400	Professional Practices and Responsibilities in Technology and Engineering Education (K-12)	3

Note: Both of these courses may not be available each semester and are seldom available during the summer sessions; refer to the course description section of this catalog for information.

Technology Education (K-12) Technical Requirements

CET 223	Basic Electrical Circuits	3
ENGR 150	Introduction to Engineering	3
ET 241	Applied Statics and Strength of Materials	3
MFG 121	Technical Drafting & CAD	3
MFG 216	Manufacturing Processes	
TE 115	Electronic Portfolio Assessment	3
TE 155	Integrating Engineering Concepts for K-8 Students	3
TE 215	Materials Processing	3
TE 221	Innovation & Invention	3
TE 245	Building Design & Construction	3
TE 299	Technology & Engineering Education Practicum	
TE 310	Communication Systems	3
TE 330	Transportation Design	3
TE 417	Robot Design & Construction	3
TE 498	Technology & Engineering Education Senior Design Project	3

Students may take additional technical courses approved by their Technology Education advisor to fulfill their General Education requirements.

Professional Education Requirements

SPED 315	Introduction to Educating Learners with Exceptionalities	3
EDF 415	Educational Foundations	3
EDTE 314	Applied Learning Theories (K-12 Programs)	4
EDSC 414	Preliminary Student Teaching (Technology Education)	6
EDSC 415	Student Teaching (Technology Education)	6
EDSC 425	Principles of Secondary Education	3
RDG 440	Literacy in the Secondary School	3

Admission to the Professional Program

Students must make formal application for admission to the Professional Program of Technology Education after completion of 45 credits in course work. At least 15 of these credits must be in TE courses. Applications are available from the Dean of Education and Professional Studies, Barnard Hall, and must be filed prior to September 21 or February 21. Acceptance is prerequisite to taking TE 400, EDSC 414, 415 and 425, EDF 415, RDG 440, and SPED 315. Students must maintain a minimum 2.50 grade point average in all technology courses. See School of Education and Professional Studies, Admission to Professional Program for additional information.

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Cooperative Technology Programs

The College of Technology

Public Act 92-126 created the "Connecticut College of Technology," a unique pathway curriculum that allows individuals to begin their studies at a community technical college and transfer directly to CCSU's School of Engineering and Technology.

The technology pathway for entry into CCSU's School of Engineering and Technology consists of core courses that will serve as the foundation of the BS degree in biomolecular sciences, engineering, engineering technology, industrial technology, and technology and engineering education. Continuation at CCSU will require a minimum course grade of C and completion of the college credits listed below.

The College of Technology offers students:

- a clear pathway from a two-year college to a four-year university, without loss of credits or repeated coursework;
- the opportunity to begin their education on a full- or part-time basis at any of Connecticut's 12 community-technical colleges;
- low costs by completing the first two years of study at a community-technical college; and
- direct admission into CCSU's School of Engineering and Technology.

A student can complete a minimum of 30 credits or up to 60 credits at any CSU campus with at least a grade C in each course before continuing at CCSU.

The pathway coordinator has been identified at each CSU campus. For information, contact the associate dean of the School of Engineering and Technology at CCSU.

Biomolecular Sciences Pathway/Degree Program

The Biomolecular Sciences Pathway, for entry into CCSU's undergraduate BS degree programs in biomolecular sciences and biochemistry, consists of coursework in mathematics and the natural sciences-biology, chemistry, and physics.

General Education Core (69 credits)

Arts/Humanities/Social Science/Behavioral Science/Communication:

English Language (Freshman Composition)	3
Philosophy or Fine Arts Electives	6
History	3
Psychology, Sociology, or Anthropology	3
Economics, Geography, or Political Science	6
Public Speaking	3
Technical Writing	3
Subtotal (maximum)	27

Mathematics/Science:

General Chemistry I	4
General Physics I	4
Statistics	3
Trigonometry or Pre-Calculus	4
Subtotal (minimum)	15

Technology:

Microbiology	4
Directed Elective-General Biology I	4
Directed Elective-General Biology II	4
Subtotal (minimum)	12

Specialization

Electives:

Genetics	3
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General	4
Physics II	
General	4
Chemistry II	
Molecular	
and Cellular	
Biology or	4
Anatomy and	
Physiology I	
Subtotal	15

* Major-specific electives appropriate for this pathway may be different for each community-technical college. Consult your College of Technology site co-coordinator for further information.

Engineering Science Pathway/Degree Program

The Engineering Pathway, for entry into CCSU's School of Engineering and Technology and the Schools of Engineering at University of Connecticut, University of New Haven, Fairfield University, and University of Hartford, consists primarily of coursework in engineering, mathematics, and the sciences. In addition to the courses shown below, a grade average of B is required for continuation at UConn's School of Engineering to earn a bachelor's degree. Credit is awarded for all courses in which a grade of C or above is earned.

Engineering Science Programs:

- Chemical engineering
- Civil engineering
- Computer science and engineering
- Electrical engineering
- Mechanical engineering
- Material engineering (as a double major with one of the above)
- Acoustic (University of Hartford only)
- Biomedical (University of Hartford only)

Engineering Science Curriculum (63 credits)

Arts/Humanities/Social Science/Behavioral Science/Communication:

Composition	3
Fine Arts Elective	3
Philosophy and Ethical Analysis	3
Western Culture	3
Social Science Elective	3
Subtotal	15

Mathematics/Science:

Calculus I	3 or 4
Calculus II	3 or 4
Multivariable Calculus (Calculus III)	4
Differential Equations	4
General Chemistry I and II with Laboratory	4/4
Engineering Physics I and II	4/4
Subtotal (minimum)	30

Engineering Science:

Introduction to Engineering or equivalent	3 or 4
Applied Mechanics I and II	3/3
Computer Programming	3
Subtotal (minimum)	12

Major-specific electives	6
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Note: The engineering science curriculum may require additional coursework beyond the College of Technology. These extra credits can be

acquired as part of the College of Technology consortia arrangement. Consult your College of Technology site co-coordinator for additional information.

Technology Studies Pathway/Degree Program

The Technology Studies Pathway prepares students for entry into the Department of Engineering in CCSU's School of Engineering and Technology. After completion of two years of initial study at a community college and another two years at CCSU, the student will receive a BS degree with a major in any one of the three programs listed below. The civil, manufacturing, and mechanical engineering technology programs are accredited by TAC of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202; phone: 410-347-7700. A minimum grade of C in the courses listed below will transfer into any of the five engineering technology programs currently offered at CCSU.

Engineering Technology Programs:

- Civil
- Manufacturing
- Mechanical
- Computer

General Education Core (65-69 credits)

Arts/Humanities/Social Science/Behavioral Science/Communication:

English Language (Freshman Composition)	3
Technical Writing	3
Public Speaking	3
Philosophy and Fine Arts	6
History	3
Economics, Geography, Political Science, or History	6
Anthropology, Psychology or Sociology	3
Subtotal (maximum)	27

Mathematics/Science:

General Chemistry I with Laboratory	4
General or University Physics I with Laboratory	4
Statistics	3 or 4
Pre-calculus or Pre-calculus with Trigonometry	3 or 4
Subtotal (maximum)	16

Technology:

Technical Drafting or CAD	3
Directed Elective	3
Directed Elective	3
Subtotal	9

Specialization Electives:

Physics II or General Physics II	4
Calculus I	4 or 5
Calculus II	4 or 5
Technical Elective-Dynamics	3
Subtotal	15-17

Technology Studies Pathway/Degree Program

The Technology Studies Pathway, for entry into CCSU's School of Engineering and Technology or Charter Oak State College, consists of courses that provide for a BS degree from Charter Oak State College, with a minor in technology, or from CCSU in one or more of the fields listed below. A minimum course grade of C and the credits described below are required for continuing at CCSU's School of Engineering and Technology or at Charter Oak State College.

Technology

- Construction management

- Electronics technology

Industrial Technology Specializations

- Computer networking
- Electro-mechanical technology
- Environmental/occupational safety
- Graphics technology
- Manufacturing
- Technology management**

**Two-year associate degree plus two years of CCSU coursework. For more information, see www.technology.ccsu.edu.

General Education Core (62-68 credits)

Arts/Humanities/Social Science/Behavioral Science/Communication:

English Language (Freshman Composition)	3
Public Speaking	3
Technical Writing	3
Philosophy and Fine Arts	6
History and Economics	6
Geography, Political Science, or History	3
Psychology or Sociology	3
Subtotal	27

Mathematics/Science:

Introduction to Chemistry or General Chemistry I*	3 or 4
Introduction to Physics or General Physics I*	3 or 4
Statistics	3 or 4
Trigonometry or Pre-Calculus	3 or 4
Subtotal	12-16

Technology/Management Core:

Technical Drafting/CAD	3
Directed Electives	6
Subtotal	9

Specialization Electives:

Technical Electives	15
Subtotal	15

*General Chemistry I and General Physics I are required for construction management majors; and General Chemistry I and II are required for biomolecular sciences majors

Technology and Engineering Education K - 12

The program prepares its graduates for teacher certification to teach technology and engineering education in grades K-12 in the public schools of Connecticut. In addition to careers in public school teaching, technology education graduates may also function as instructors or supervisors in private and post-secondary schools, industry, government, and rehabilitation programs.

General Education Core (64-65 credits)

Arts/Humanities/Social Science/Behavioral Science/Communication:

English Language (Freshman Composition)	3
Public Speaking	3
Philosophy and Fine Arts	6
U.S. History	3
Economics, Geography, Political Science, or History	6
Psychology-Life Span Development	3
Anthropology, Psychology, or Sociology	3
Subtotal	27

Mathematics/Science:

Introduction to Chemistry	3
Introduction to Physics	3
Statistics	3-4
Pre-calculus with Trigonometry	4
Subtotal	13-14

Technology:

Technical Drafting/CAD	3
Directed Electives	6
Subtotal	9

Specialization Electives:

Material Science	3
Material Processing	3
Basic Electrical Circuits	3
Applied Statics and Strength of Materials	3
Directed Elective	3
Subtotal	15

Technology Pathway Program

The CSU-CCSU Technology Pathway program is an integrated curriculum allowing individuals to begin their studies at any CSU campus (Southern, Eastern, or Western) and advance directly to any program in the School of Engineering and Technology at Central Connecticut State University. The pathway program provides the foundation or the initial two years of a BS degree.

The School of Engineering and Technology at CCSU offers the only programs of study in biomolecular sciences, engineering, engineering technology, industrial technology, and technology and engineering education in the Connecticut State University System. Each degree program has a variety of technical specializations designed to provide students with a balance of classroom learning (theory) and activity-based laboratory (practical application) courses. In addition, the School of Engineering and Technology's cooperative education program provides opportunities for students to work with major industries in a variety of technical and engineering areas. Graduates of the programs enter the workforce with the knowledge and confidence needed to compete and succeed in today's dynamic fields of engineering, science, and technology.

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Course Offerings in Vocational-Technical Education

Office of Continuing Education (860-832-2256)

The course offerings in vocational-technical education are designed to prepare teachers of occupational subjects (skilled trades) and trade-related subjects for Connecticut's technical high schools, teachers of trade and industrial occupational subjects for comprehensive high schools, and health occupation educators for their state of Connecticut certification. All certification advisement is done at the Connecticut Technical Schools Central Office. Contact J. Gottlieb at (860-807-2230).

Suggested initial courses are:

VTE 113	Introduction to Teaching Vocational-Technical Education	4
VTE 116	Teaching Vocational-Technical Education	2
SPED 315*	Introduction to Educating Learners with Exceptionalities	3

Course suggestions for individuals seeking certification as a teacher-coordinator of cooperative work education include:

VTE 415	Principles of Career & Technical Education	3
VTE 450	Principles and Organizations of Cooperative Work Education	3
VTE 455	Labor Market Trends and Student Job Readiness	3
SPED 315*	Introduction to Educating Learners with Exceptionalities	3

This certification is obtained directly from the Connecticut State Department of Education Bureau of Educator Preparation, Certification, Support, and Assessment.

*VTE students, formally identified as such, are exempt from admission to the professional program.

[CLICK HERE FOR COURSE DESCRIPTIONS](#)

Major in Biomolecular Sciences, BS (Non-teaching, 35 credits)**Core** (11 credits):

BMS 102*	Introduction to Biomolecular Science	3
BMS 103*	Introduction to Biomolecular Science Laboratory	1
BMS 190	Introduction to Research I	0.5
BMS 201	Principles of Cell and Molecular Biology	4
BMS 290	Introduction to Research II	0.5
BMS 390	Independent Research in Biomolecular Science	1
BMS 491	Advanced Independent Research in Biomolecular Science	1-3

and either the **General Program** or the **Biotechnology Specialization**, which follow.

*BIO 121 may be substituted for BMS 102/103.

General Program

This program offers a curricular focus on molecular and cellular mechanisms that is integrated with organismal physiology and emphasizes hands-on learning through laboratory instruction and independent student research. This degree is appropriate for students wishing to prepare for professional training in medicine or for graduate study in such areas as genetics, microbiology, molecular biology, or cell physiology.

This program requires completion of the core, plus three laboratory courses.

General Program Requirements

BMS 306	Genetics	3
or		
BMS 307	Genomics	4
BMS 311	Cell Biology	4
BMS 316	Microbiology	4

Directed Electives (additional credits to total 35 credits in the major, chosen from the following):

BMS 306	Genetics	3
BMS 307	Genomics	4
BMS 308	Genetics Laboratory	1
BMS 318	Anatomy and Physiology I	4
BMS 319	Anatomy and Physiology II	4
BMS 320	Histology	2
BMS 321	Experimental Developmental Biology	2
BMS 322	Comparative Animal Physiology	4
BMS 340	Biomolecular Techniques	2
BMS 380	Emergency Medical Technician (3 credits only of this 6-credit course)	3
BMS 391	Internship in Biomolecular Science	1-3
BMS 412	Human Physiology	3
BMS 413	Human Physiology Laboratory	1
BMS 414	Pharmacology, Physiology, and Drug Development	3
BMS 415	Advanced Exploration in Cell, Molecular, and Physiological Biology	3
BMS 416	Experimental Microbiology	2
BMS 490	Topics in Biomolecular Sciences	3-4
BMS 492	Mentorship in Biomolecular Science	1

BMS 495	Capstone in Molecular Biology	4
BMS 496	Capstone in Biosynthesis, Bioenergetics and Metabolic Regulation	3
BMS 497	Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory	1
BMS 499	Undergraduate Thesis in Biomolecular Sciences	1
CHEM 320	Biophysical Chemistry	3
CHEM 354	Biochemistry	3
CHEM 455	Biochemistry Laboratory	1
CHEM 456	Toxicology	3
CHEM 458	Advanced Biochemistry	3
BIO 530	Immunology	3
BIO 449	Plant Physiology	3
BIO 450	Investigations in Plant Physiology	1

Biotechnology Specialization

This program offers a strong focus on the principles of cell and molecular biology and emphasizes the practice of biomolecular research. It is designed to prepare students for advanced study in the biomolecular sciences or careers that use the concepts and techniques of molecular and cellular biology.

This program requires completion of the core, plus four laboratory courses, including:

Biotechnology Specialization Requirements

BMS 306	Genetics	4
or		
BMS 307	Genomics	4
BMS 311	Cell Biology	4
BMS 316	Microbiology	4
BMS 495	Capstone in Molecular Biology	4

Directed Electives

BMS 306	Genetics	4
BMS 307	Genomics	4
BMS 320	Histology	2
BMS 321	Experimental Developmental Biology	2
BMS 340	Biomolecular Techniques	2
BMS 391	Internship in Biomolecular Science	1-3
BMS 415	Advanced Exploration in Cell, Molecular, and Physiological Biology	3
BMS 416	Experimental Microbiology	2
BMS 490	Topics in Biomolecular Sciences	3-4
BMS 496	Capstone in Biosynthesis, Bioenergetics, and Metabolic Regulation	3
BMS 497	Biosynthesis, Bioenergetics and Metabolic Regulation Laboratory	1
BMS 499	Undergraduate Thesis in Biomolecular Sciences	1
CHEM 354	Biochemistry	3
CHEM 455	Biochemistry Laboratory	1
CHEM 456	Toxicology	3
CHEM 458	Advanced Biochemistry	3
BIO 449	Plant Physiology	3
BIO 450	Investigations in Plant Physiology	1

Related Requirements (16-28 credits)

In addition to the 35 credits in the major, made up of the core and one of the advanced components described above, the student must take:

MATH 119	Pre-Calculus w ith Trigonometry	4
MATH 125	Applied Calculus	3
	or	
MATH 152	Calculus I	4
CHEM 161	General Chemistry I	3
CHEM 162	General Chemistry I Lab	1
CHEM 163	General Chemistry II	3
CHEM 164	General Chemistry II Lab	1
CHEM 210	Organic Chemistry I	3
CHEM 211	Organic Chemistry I Laboratory	1
CHEM 212	Organic Chemistry II	3
CHEM 213	Organic Chemistry II Laboratory	1
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4

Students must also maintain a student portfolio. While no minor is required for the BS in biomolecular sciences, a minor in science may be elected w ith a C- or better in related requirement courses CHEM 161, 162, 163, 164, PHYS 121, and 122. Some related requirement courses may also be counted to fulfill appropriate portions of the student's general education program.

Cross-listed Courses

BMS 318, 319, 412, and 413 are also listed in the course description section of the catalog w ith a BIO designator. These double- or cross-listed courses (i.e., BMS 318 and BIO 318) are considered fully equivalent.

500-Level Course Options

Undergraduate students w ho use the form, Enrollment in 500 Level Courses by Undergraduates, and w ho have at least 90 credits and a cumulative GPA of 3.00 or higher may (w ith the approval of the appropriate department chair and dean, School of Graduate Studies, and w ith appropriate prerequisites) choose any of the follow ing 500-level courses in the directed elective portion of the advanced component of their major program:

BMS 500	Seminar in Biomolecular Science	1
BMS 516	Medical Microbiology	3
BMS 519	Physiology of Human Aging	3
BMS 540	Advanced Topics in Biomolecular Science	3-4
BMS 562	Developmental Biology	3
BMS 570	Advanced Genetics	3

Major in Biochemistry, BS

The BS program in biochemistry provides a strong foundation in both molecular biology and chemistry and is based on faculty, facilities, and research resources in both the Department of Biomolecular Sciences and the Department of Chemistry and Biochemistry. In addition to in-class laboratory instruction, this interdisciplinary program emphasizes independent student research carried out under the guidance of a faculty member from either department. This program is designed to prepare students for careers or advanced study in biochemistry, molecular biology, or health-related fields. For more information, refer to the [biochemistry page](#).

Portfolio Requirement

The portfolio requirement in biomolecular sciences will be formally introduced to students during the BMS 190 and 290 introductory core component of all major programs in biomolecular sciences. Minimally, the student portfolio must include a current resume, a current student graduation evaluation or transcript, a planned program of academic study (program sheets available from the Department of Biomolecular Sciences), a narrative describing the student's goals for undergraduate education and graduate educational or career plans, abstracts of all independent study projects completed, and writing samples from one or more upper-level courses in the major. To fulfill the portfolio requirement in biomolecular sciences, the student portfolio must be reviewed with one or more faculty members in biomolecular sciences:

- As a course requirement in BMS 190 and 290;
- As a required component of all BMS 390, 391, or 491 independent studies or internships; and
- Prior to application for graduation, as evidenced by submission of a Portfolio Requirement Completed form (available from the Department of Biomolecular Sciences and signed by the major advisor) to the biomolecular sciences chair.

Minor in Biomolecular Sciences (Non-teaching, 20 credits)

BMS 102	Introduction to Biomolecular Science	3
BMS 103	Introduction to Biomolecular Science Laboratory	1
BMS 190	Introduction to Research I	1
BMS 201	Principles of Cell and Molecular Biology	4
BMS 290	Introduction to Research II	1

and 11 additional credits of BMS courses, as approved by the biomolecular sciences advisor. BIO 121 may be substituted for BMS 102/103.

Major in Electronics Technology, BS (122 credits)

Advisor: D. Zanella (860-832-1841)

Accredited by NAIT

This degree prepares students to work as a member of an engineering team in applied design, product development, manufacturing, maintenance, or technical support/sales services in the electrical and electronic industries, which include telecommunications, control systems, manufacturing of electromechanical devices and computer services. There is a graduation requirement of a capstone assessment during a student's final year of study.

Core Requirements (24 credits)

TM 190	Introduction to Quality Assurance	3
TM 310	Industrial Safety	3
TM 362	Leadership Skills for Supervisors	3
TM 401	Industrial Internship	3
MGT 295	Fundamentals of Management and Organizational Behavior	3
ENG 403	Technical Writing	3
AC 210	Principles of Industrial Accounting	3
MKT 295	Fundamentals of Marketing	3

Specialization Requirements (30 credits)

CEGT 200	Seminar	1
CET 113	Introduction to Information Processing	3
CET 223	Basic Electrical Circuits	3
CET 233	Advanced Electrical Circuits	3
CET 323	Electronic Circuits	3
CET 363	Digital Circuits	3
CET 443	Electronic Communication	3
CET 453	Microcomputers	3
EMEC 303	Electromechanical Converters	3
MFG 121	Technical Drafting & CAD	3
CS 151	Computer Science I	3
or		
CS 213	Applications of Computing I	3

Directed Electives (8 credits)

Chosen with an advisor.

General Education Requirements (44-46 credits)

ENG 110	Freshman Composition	3
COMM 140	Public Speaking	3
STAT 104	Elementary Statistics	3
MATH 115	Trigonometry	3
ECON 201	Principles of Economics II	3
CHEM 111	Introductory Chemistry	3
PHYS 111	Introductory Physics I	3

Note: A minor is not required for this major.

Major in Computer Engineering Technology, BS (124 credits)

The BS in computer engineering technology (CET) was granted licensure in November 2004. The CET degree responds to the fact that computers and networks have been two of the leading technologies driving engineering job markets. As with many of the programs in the School of Technology, students explore hardware and software in a hands-on dedicated networking laboratory. Students will use computational methods, computers, and modern technical tools in engineering practice, in addition to learning about state-of-the-art technology in the areas of wired and wireless network communication, engineering design, advanced PC operating systems, internet technology, and computer programming.

As students gain knowledge of hardware and engineering processes and prepare to take industry-based certification exams, they can look forward to well-paying careers. Some will become systems administrators, network administrators, system designers, quality control engineers, and software developers. Others may find positions as information technologists, lab technicians, system maintenance experts, system testers, and help desk operators. There is a graduation requirement of a capstone assessment during a student's final year of study.

Core Requirements (27 credits)

ENGR 150	Introduction to Engineering	3
ET 251	Applied Mechanics I-Statics	3
ETM 260	CAD and Integrated Manufacturing	3
or		
MFG 121	Technical Drafting & CAD	3
CHEM 161	General Chemistry I	3
ET 357	Strength of Materials	3
STAT 104	Elementary Statistics	3
ENG 403	Technical Writing	3
CS 151	Computer Science I	3
or		
CS 213	Applications of Computing I	3
CS 152	Computer Science II	3
or		3
CS 214	Applications of Computing II	3

Specialization Requirements (42 credits)

CEGT 200	Seminar	1
CET 113	Introduction to Information Processing	3
CET 201	Photonics Principles	3
CET 229	Computer Hardware Architecture	3
CET 236	Circuit Analysis	3
CET 249	Introduction to Networking Technology	3
CET 323	Electronic Circuits	3
CET 339	Computer System Administration	3
CET 346	Signals & Systems	3
CET 349	Networking Devices	3
CET 363	Digital Circuits	3
CET 449	Advanced Networking	3
CET 453	Microcomputers	3
CET 466	Logic Design	3
CET 497	Senior Seminar	1
CET 498	Senior Project (Capstone)	2

Directed Electives (8 credits)

Suggested directed electives. Other courses may be selected in consultation with an advisor.

CET 301	Fiber-Optics Communications	3
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CET 459	Network Security Technologies	3
CET 479	Internet Technologies	3
CS 153	Computer Science III (MATH 152/221 required)	3
ETM 356	Materials Analysis	3

General Education Requirements (44-46 credits)

Computer engineering technology majors are required to complete the following courses as part of their general education for all baccalaureate degree programs:

ENG 110	Freshman Composition	3
COMM 140	Public Speaking	3
MATH 135	Applied Engineering Calculus I	3
and		
MATH 136	Applied Engineering Calculus II	3
or		
MATH 152	Calculus I	4
and		
MATH 221	Calculus II	4
PE 144	Fitness/Wellness Ventures	2
PHYS 121	General Physics I	4
and		
PHYS 122	General Physics II	4
or		
PHYS 125	University Physics I	4
and		
PHYS 126	University Physics II	4

Major in Industrial Technology, BS (122 credits)

Accredited by NAIT

Technology majors, regardless of the program selected, are required to complete a common core of 24 credits in technical and management courses as part of their program. The core courses and general education requirements for this degree are the same as those listed in the electronics technology major [on this page](#). There is a graduation requirement of a capstone assessment during a student's final year of study.

Specialization in Graphics Technology

Advisors: O. Odesina (860-832-1833) and K. Tracey (860-832-1842)

The graphics technology program prepares students for the field of graphic arts and printing technology, which transfers ink to paper and other substrates to make catalogs, brochures, broadsides, packaging, labels, magazines, signage, newspapers, and many other printed items. Students learn to work with as a design team on communications to be printed or manipulated digitally. The program offers a broad background of experiences and knowledge. Techniques covered include: flexography, photography, direct-to-press, digital imaging, offset lithography, sign making, color manipulation, typography, die-cutting, package design, electronic file manipulation, repurposing for web-page applications including virtual reality, 2D and 3D animation.

Specialization Requirements (31 credits)

CS 110	Introduction to Internet Programming & Applications	3
ART 120	Design I	3
CEGT 200	Seminar	1
CET 113	Introduction to Information Processing	3
GRT 112	Digital Imaging for Graphics Technology	3
GRT 212	Graphic Arts Processes	3
GRT 242	Introduction to Graphic Design and Color	3
GRT 342	Screen Printing and Post-Press Operation	3
GRT 362	Estimating and Scheduling for Graphics Technology	3
GRT 442	Print Production	3
GRT 462	Advanced Graphic Arts Techniques	3

Directed Electives (9 credits)

Selected in consultation with advisor

Specialization in Networking Technology

Advisor: K. Tracey (860-832-1842)

The networking technology specialization prepares individuals to enter into the evolving world of information technology, dealing with computer hardware and software, as well as the peripheral devices closely associated with computer-based systems. The curriculum focuses on local and wide area network design, administration, and internet technologies. Analytically based mathematics, computer science, electronics, and business courses round out the program.

Specialization Requirements (28 credits)

CEGT 200	Seminar	1
CET 113	Introduction to Information Processing	3
CET 223	Basic Electrical Circuits	3
CET 229	Computer Hardware Architecture	3
CET 249	Introduction to Networking Technology	3
CET 339	Computer System Administration	3

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CET 349	Networking Devices	3
CET 363	Digital Circuits	3
CET 449	Advanced Networking	3
CET 479	Internet Technologies	3

Directed Electives (11 credits)

Selected in consultation with advisor

Note: A minor is not required for this major.

Minor in Networking Technology (18 credits)

CET 223	Basic Electrical Circuits	3
CET 229	Computer Hardware Architecture	3
CET 249	Introduction to Networking Technology	3
CET 349	Networking Devices	3
CET 363	Digital Circuits	3
CET 449	Advanced Networking	3

Major in Construction Management, BS (78 credits)

Accredited by ACCE

Advisors: J. Kovel (860-832-0192), R. Miers (860-832-2624), R. J. Perreault (860-832-1836), L. Reeder (860-832-1835), E. Sarisley (860-832-1817)

This sequence of courses is designed to supply the student with knowledge and experiences that will enable him/her to operate effectively in a supervisory position in the construction industries. The emphasis is not on specialized skills, but rather on a broad spectrum of subjects pertinent to the field of construction management. This is a 130-credit program.

Core Requirements (57 credits)

CM 135	Construction Graphics/Quantity Take-Off	3
CM 155	Construction Documents	3
CM 235	Building Construction Systems	3
CM 245	Heavy/Highway Construction Systems	3
CM 275	Introduction to MEP Systems	3
CM 325	Building Construction Estimating	3
CM 335	Construction Safety	3
CM 345	Heavy/Highway Construction Estimating	3
CM 353	Introduction to Surveying	4
CM 355	Construction Planning	3
CM 356	Materials of Construction	4
CM 435	Construction Superintendency	3
CM 455	Construction Project Management	3
CM 465	Construction Internship	3
CM 475	Construction Business Principles	3
CM 485	Construction Management Senior Seminar	1
ET 241	Applied Statics and Strength of Materials	3
ETC 122	Introduction to CAD for AEC I	3
ETC 405	Applied Structural Systems	3

Electives (0-6 credits, unrestricted)**Other Required Electives (21 credits):**

AC 211	Introduction to Financial Accounting	3
CET 113	Introduction to Information Processing	3
ENG 403	Technical Writing	3
LAW 250	Legal Environment of Business	3
MGT 295	Fundamentals of Management and Organizational Behavior	3
MKT 295	Fundamentals of Marketing	3
MATH 125	Applied Calculus	3

Requirements in General Education (46-53 credits):

Study Area I: Arts & Humanities	9
3 credits of literature, 3 credits of arts and humanities, and PHIL 240	
Study Area II: Social Sciences	9
3 credits of history, and ECON 200 and 201	
Study Area III: Behavioral Sciences	6
3 credits of behavioral science and PSY 112	
Study Area IV: Natural Sciences	8
CHEM 161/162 or ESCI121, and PHYS 121	
Skill Area I: Communications Skills	6
ENG 110 and COMM 140	
Skill Area II: Mathematics	6
MATH 115 or MATH 119, and STAT 200	

Skill Area III: Foreign Language

0-6

Skill Area IV: University Requirement

2-3

PE 144

Additional Requirements

Students must complete an exit interview during April-May of the year of graduation.

Note: A total of 130 credits are required for the degree.

Major in Robotics and Mechatronics Engineering Technology, BS (81 credits)

This sequence of courses is designed to supply the student with knowledge and experiences that will enable him/her to work with and design robotic and mechatronic systems. The emphasis is on developing the practical, hands-on skills engineers need in order to meet modern industrial demands. This is a 130-credit program.

Major Requirements (39 credits)

ROBO 110	Introduction to Robotics and Mechatronics	3
ROBO 220	Parametric Modeling and Simulation	3
ROBO 240	Electro-Mechanical Converters and Drivers	3
ROBO 310	Data Acquisition & Processing	3
ROBO 330	Fluid Power Systems	3
ROBO 350	Applied Control Systems I	3
ROBO 370	Mechanisms for Automation	3
ROBO 380	Mechatronics	3
ROBO 460	Applied Control Systems II	3
ROBO 470	Robotics Systems Engineering and Analysis	3
ROBO 480	Industrial Robotics	3
ROBO 496	Industrial Internship	3
ROBO 497	Capstone Senior Project	3

Additional Requirements (42 credits)

CET 236	Circuit Analysis	3
CET 323	Electronic Circuits	3
CET 363	Digital Circuits	3
CET 453	Microcomputers	3
ET 251	Applied Mechanics I - Statics	3
ET 252	Applied Mechanics II - Dynamics	3
ET 354	Applied Fluid Mechanics	3
ET 357	Strength of Materials	3
ETM 358	Applied Thermodynamics	3
MFG 216	Manufacturing Processes	3
MATH 221	Calculus II	4
MATH 226	Linear Algebra and Probability for Engineers	4
MATH 355	Introduction to Differential Equations with Applications	4

Electives (1-7 credits, unrestricted)**Requirements in General Education (42-48 credits)**

Study Area I: Arts & Humanities (9 credits)

Literature	3
Philosophy or Fine Arts	6

Study Area II: Social Sciences (6 credits)

History, Economics or ET 399	6
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Study Area III: Behavioral Sciences (3 credits)

Anthropology, Psychology, or Sociology	3
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Study Area IV: Natural Sciences (8 credits)

Including PHYS 125, CHEM 161, and CHEM 162

Skill Area I: Communication Skills (6 credits)
Including ENG 110 and COMM 140

Skill Area II: Mathematics (8 credits)
Including MATH 119 and MATH 152

Skill Area III: Foreign Language (0-6 credits)
Foreign Language and Internation requirement

Skill Area IV: University Requirement (2 credits)
PE 144

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