



# Northwestern

Health Sciences University



College of Undergraduate Health Sciences

College of Chiropractic

College of Acupuncture and Oriental Medicine

School of Massage Therapy

2014- 2015 Catalog

# Explore Northwestern Health Sciences University

For nearly 75 years, Northwestern Health Sciences University has been building an international reputation for excellence in professional education, patient care, clinical research and community engagement. Our University is committed to providing students with individual attention from an outstanding faculty and staff; with a rigorous, well-rounded curriculum; and with hands-on clinical training designed to prepare students to become skilled, knowledgeable health care providers.

Many faculty members and instructors are active health care practitioners, blending real-world experiences with technique and skill in the classroom and lab.

As you explore Northwestern you'll discover an exceptional educational experience and an unwavering commitment to excellence embodied in our students, faculty and staff.

## **OUR MISSION**

Northwestern Health Sciences prepares and serves the next generation of professionals and leaders to become vital contributors to the delivery and advancement of health care. Our mission is accomplished through educational excellence, innovative research, evidence-informed patient-centered care, public health advocacy and collaborative community engagement.

## **GENERAL INFORMATION**

Admissions:  
The Office of Admissions  
Northwestern Health Sciences University  
2501 West 84<sup>th</sup> Street  
Minneapolis, MN 55431  
Telephone: (952/800) 888-4777, ext. 409  
FAX: (952) 888-6713

Email: [admit@nwhealth.edu](mailto:admit@nwhealth.edu)  
Web site: <http://www.nwhealth.edu>  
Publication date: September 2014

## **PROGRAM CHANGES**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

## **ACADEMIC CALENDAR**

The full academic calendar including information on tuition deadlines, board exams and dates of commencement, is available online at <http://www.nwhealth.edu>

# Catalog Contents

## Explore Northwestern Health Sciences University

General Information.....	2	Foot Levelers Bookstore .....	16
Academic Calendar.....	2	Greenawalt Library .....	16
<b>OUR FOUNDATION STATEMENT</b>			
Mission Statement.....	6	The Center for Health Care Innovation and Policy .....	16
Vision Statement .....	6	The Wolfe-Harris Center for Clinical Studies.....	17
Core Responsibilities.....	6	H.C. Sweere Center for Clinical Biomechanics and Applied Ergonomics.....	17
Northwestern's Commitment to Diversity and Inclusion .....	7	Human Performance Center.....	17
<b>ABOUT THE UNIVERSITY</b>			
About the University .....	8	De Rusha Clinical Education Center .....	17
University Facilities.....	8	Bloomington Natural Care Center .....	18
About the College of Chiropractic.....	8	The Edith Davis Herbal Dispensary.....	18
About the College of Acupuncture and Oriental Medicine.....	9	<b>OUR LOCATION: MINNESOTA AND THE TWIN CITIES .....</b>	
About the School of Massage Therapy .....	9	<b>19</b>	
About the College of Undergraduate Health Sciences .....	10	<b>EXPERIENCE IN A PIONEERING CLINIC SYSTEM.....</b>	
Accreditation, Approvals and Legal Status.....	10	<b>20</b>	
Yellow Ribbon .....	11	<b>HELPING TO GUIDE YOUR CAREER PATH</b>	
<b>MORE THAN SEVEN DECADES OF EXCELLENCE</b>			
University History .....	12	Continuing Education Department .....	21
<b>A VIBRANT STUDENT LIFE</b>			
Student Life .....	13	Alumni Associations .....	21
Orientation.....	13	Career Services .....	21
Student Handbook.....	13	Occupational Outlook.....	22
Student Conduct.....	13	College of Chiropractic .....	22
Services of Student Affairs .....	13	College of Acupuncture and Oriental Medicine .....	22
Peer Tutoring Service.....	13	School of Massage Therapy.....	22
Counseling Service .....	13	<b>OUR FINANCIAL POLICIES .....</b>	
Students with Disabilities: Applicants and Students .....	14	<b>23</b>	
Student Leave of Absence .....	14	Audit Policy .....	23
International Students .....	14	Withdrawal Policy.....	24
Student and Exchange Visitor Information System (SEVIS).....	14	Withdrawal from a Course.....	24
Student Government and Organizations .....	15	Withdrawal from the University.....	24
Student Government .....	15	Conditions for Determining Tuition Refunds.....	24
Student Organizations.....	15	Return of Title IV (Federal) Aid.....	24
University Health Services.....	15	Financial Aid Programs .....	26
Information Technology.....	15	Financial Aid Eligibility.....	26
E-mail Policy.....	15	Enrollment Status Definitions .....	27
Personal Computer Requirement .....	15	Financial Aid and Satisfactory Academic Progress .....	27
The Campus.....	16	Financial Aid Warning Status .....	28
		Financial Aid Probation Status .....	28
		SAP Appeal.....	28
		Federal Student Aid at a Glance .....	28
		Grants .....	29
		Federal PELL/SEOG .....	29
		Minnesota State Grant Program .....	29
		Scholarships.....	29

Federal Perkins Loan .....	29
Federal Direct Subsidized and Unsubsidized Loans ....	29
Annual Subsidized Limits .....	29
Annual Unsubsidized Limits .....	30
Aggregate Loans Limits .....	30
Interest Rate .....	30
Loan Fees .....	30
Loan Repayment .....	30
Parent PLUS Loan.....	30
Graduate PLUS Loan .....	30
Federal Work-Study (FWS) .....	30
Alternative Loan Programs .....	30
Student Educational Fund Program (SELF) .....	31
Canadian and International Students .....	31
Requirements for Prorating Annual Federal Subsidized And Unsubsidized Loan Limits.....	31
Financial Aid Counseling.....	31
Cohort Default Rate.....	31
Tuition and Fees.....	31
Special Circumstances and Budget Adjustments .....	31
Student Eligibility (Drug Conviction).....	31
Managing Your Financial Aid.....	31
Frequently Requested Telephone Numbers.....	32
Useful Web Sites and Consumer Information .....	32

## College of Undergraduate Health Sciences

Mission Statement.....	34
Vision .....	34
Admission Information.....	34
Application Procedure .....	34
Qualifications.....	34
Minnesota Immunization Requirement .....	34
Responsibility of Applicant .....	35
Academic Policies .....	35
Trimester Credits .....	35
Attendance Policy.....	35
Academic Evaluation and Grades .....	35
Academic Standing.....	35
Program Changes .....	35
Course List.....	36
Course Descriptions.....	38

## College of Chiropractic

Strong Academic Education, Philosophy and Experience .....	44
Admission Information.....	45
Admission to the College.....	45
Entrance Requirements.....	45
Qualifications.....	46
Responsibility of Applicant.....	47

Minnesota Immunization Requirement .....	47
Application Procedure .....	47
Selection of Candidates .....	47
Tuition Deposit Policy.....	47
Transfer Students.....	48
Transfer Policy .....	48
Advanced Placement .....	48
Non-Program Students.....	48
International Students .....	49
Educational Requirements of Non-US Citizens .....	49
Bachelor of Science Degree in Human Biology Completion Program .....	50
Statement of Purpose.....	50
Course Requirements and Curriculum Overview .....	50
Admission Requirements .....	51
Graduation Requirements .....	51
Program Changes .....	51
Clinical Experience.....	52
University Health Services.....	52
Northwestern's Natural Care Centers and Community Based Internship .....	52
Clinical Rotations.....	52
Preceptorship Program .....	52
Academic Policy.....	53
Trimester Credits.....	53
Attendance Policy.....	53
Academic Evaluation and Grades .....	53
Academic Honors.....	53
Academic Standing .....	53
Regulations Concerning Probationary Status.....	53
Graduation .....	53
Graduation Requirements .....	53
Graduation Rate .....	53
Licensure .....	54
Curriculum Overview.....	54
Course Load.....	54
Course Sequence .....	55
Curriculum Organization .....	55
Department of Basic Science .....	55
Department of Chiropractic Studies.....	55
Department of Diagnostic and Clinical Sciences .....	55
Department of Health Promotion and Wellness.....	55
Department of Diagnostic Imaging .....	56
Department of Business and Professional Foundations.....	56
Department of Clinical Education .....	56
Elective Courses .....	56
Program Changes .....	56
Course List.....	57
Course Descriptions.....	62
Electives.....	72

# College of Acupuncture and Oriental Medicine

Statement of Purpose.....	75	Admission to the School.....	106
Goals.....	75	Entrance Requirements.....	106
Educational Objectives.....	75	Qualifications.....	107
Programs of Study.....	75	Responsibility of Applicant.....	107
Admission Information.....	76	Minnesota Immunization Requirement.....	107
Admission to the College.....	76	Application Procedure.....	108
Entrance Requirements.....	76	Selection of Candidates.....	108
Qualifications.....	77	Tuition Deposit Policy.....	108
Responsibility of Applicant.....	78	Transfer Students and Transfer Policy.....	108
Minnesota Immunization Requirement.....	78	Payment.....	109
Application Procedure.....	78	Readmission.....	109
Selection of Candidates.....	78	Non-Program Students.....	109
Tuition Deposit Policy.....	78	Academic Policy.....	109
Transfer Students.....	79	Academic Policy Credits.....	109
Transfer Policy.....	79	Grading Policy.....	110
Transfer Credit.....	79	Notes on Grading.....	110
Non-Program Students.....	80	Use of the Grade I.....	110
International Students.....	80	Academic Standing.....	110
Academic Policy.....	81	Course Attendance and Punctuality.....	110
Trimester Credits.....	81	Graduation.....	111
Attendance Policy.....	81	Graduation Requirements.....	111
Academic Evaluation and Grades.....	81	Graduation Rate.....	111
Academic Honors.....	81	Professional Licensure, Registration, or Certification.....	111
Academic Standing.....	81	Study Time.....	111
Regulations Concerning Probationary Status.....	82	Curriculum Overview.....	111
Graduation.....	82	Two Convenient Program Options.....	112
Graduation Requirements.....	82	Massage Therapy Certificate Program.....	112
Graduation Rate.....	82	Associate of Applied Science in Massage Therapy.....	112
Certification and Licensure.....	82	Electives.....	112
The Programs.....	82	Program Changes.....	112
Master of Oriental Medicine.....	82	Course List: Day Schedule.....	113
Master of Acupuncture.....	83	Electives.....	114
Herbal Medicine Certificate.....	83	Course List: Evening Schedule.....	115
Clinical Experience.....	83	Course Descriptions.....	118
Program Changes.....	83		
Course List: Master's Degree in Acupuncture.....	84		
Course List: Master's Degree in Oriental Medicine.....	89		
Course List: Herbal Medicine Certificate.....	95		
Course Descriptions.....	96		

## School of Massage Therapy

Mission Statement.....	105
Educational Objectives.....	105
Massage Therapy as Health Care.....	105
Massage Therapy as a Profession.....	106
Approach to Learning.....	106
Class Size and Attendance.....	106
Admission Information.....	106

## Northwestern Health Sciences University

Board of Trustees.....	124
Senior Leadership.....	124
Administration.....	125
Faculty.....	126
Credential References.....	133
Nondiscrimination Policy.....	134
Student Right to Know.....	134
Family Educational Rights and Privacy Act (FERPA) and Student Education Records.....	134

# Explore Northwestern

## Our Foundation Statement

### MISSION STATEMENT

Northwestern Health Sciences prepares and serves the next generation of professionals and leaders to become vital contributors to the delivery and advancement of health care. Our mission is accomplished through educational excellence, innovative research, evidence-informed patient-centered care, public health advocacy and collaborative community engagement.

### VISION STATEMENT

Building upon our legacy of natural approaches to health care, Northwestern Health Sciences University provides world-class professional education and research, as well as comprehensive multi-specialty, integrative health and wellness services for the benefit of society.

We offer our students and alumni a rich variety of learning opportunities, preparing them to practice at the highest level of their professions.

We provide leadership and advocacy for the scientific and societal advancement of our health care professions.

We graduate health care professionals, prepared for career success, who demonstrate critical thinking and employ the best clinical and business practices, becoming national and international leaders within their specialties.

Through its continual pursuit of excellence, Northwestern Health Sciences University is recognized as a model for market-driven innovation, discovery and creativity.

### CORE RESPONSIBILITIES

- Deliver exemplary health sciences education and model excellence in the delivery of multi-specialty care
- Transform students into proficient healthcare professionals and leaders, continuously connecting to generations of lifelong learners
- Demonstrate excellence in holistic, patient-centered care
- Support high-impact research and scholarship, and develop innovations to improve health and wellness
- Work continuously to innovate and improve
- Create an environment of teamwork, partnership, growth and learning
- Actively encourage diversity in thought and expression, respecting the unique contributions of all individuals
- Foster strong bonds with the people and communities we serve
- Practice fiscal responsibility and use resources wisely
- Exceed the expectations of our students, patients, employees, partners and society

## **NORTHWESTERN'S COMMITMENT TO DIVERSITY AND INCLUSION**

The commitment of the Northwestern community to integrate diversity and inclusion values into all aspects of the University's culture is comprehensive. It is demonstrated through curriculum development that addresses how we train health care providers for culturally competent health care delivery; university and program learning outcomes, which direct our awareness and sensitivity to the need for patient-centered health care practices; training, programs, and policies for professional development; the diversity scholarship program; student-run clubs, organizations, and publications; partnerships with schools, community service agencies, and organizations committed to diversity work; and an Office of Diversity & Inclusion to manage these initiatives and relationships.

The purpose of the Office of Diversity & Inclusion at Northwestern is to create a richer understanding of humanity, education, and health care.

Our responsibility to Northwestern is to ensure that we have an inclusive, a diverse, and a safe environment for all members of the university community and communities we serve.

To fulfill the purpose and responsibility:

- We treat everyone with genuine respect and dignity.
- We foster cultural competency.
- We challenge unconscious bias.
- We cultivate local and global access to health care and education.
- We champion equity in all that we do.

The Northwestern community acknowledges the dignity of all human beings and resolves to treat all people with respect and equality. We recognize and value the diversity of identities among us. Some of these identities include but are not limited to: culture, race, ethnicity, nationality, age, ideology, socioeconomic status, sex, gender, sexual orientation, abilities, religion, spirituality, and family. We welcome everyone to our university.

# Explore Northwestern

## ABOUT THE UNIVERSITY

Northwestern Health Sciences University was organized in 1999 to provide education, research, clinical care and community service in natural health care disciplines. Northwestern offers its students leadership in educational program standards, a commitment to limited enrollment and an emphasis on ethical, successful practice. The University accepts the challenge of extending this leadership role to meet its new and broader mission and purposes.

The University is comprised of:

- The College of Chiropractic, offering the Doctor of Chiropractic degree;
- The College of Acupuncture and Oriental Medicine, offering the Master of Acupuncture, Master of Oriental Medicine, and Herbal Medicine Certificate;
- The School of Massage Therapy, offering a professional certificate program and Associate in Applied Sciences degree;
- College of Undergraduate Health Sciences, including the Bachelor of Science in Human Biology degree completion program and a Post-Baccalaureate Pre-Health program;
- The Wolfe-Harris Center for Clinical Studies;
- The University public clinic system, including two Natural Care Centers, University Health Services, Pillsbury House Integrated Clinic, Salvation Army Harbor Light Clinic, and the Human Performance Center;
- The University central administration and services, including Admissions, Alumni Relations, Career Services and Development, Continuing Education, Foot Levelers Bookstore, Greenawalt Library, Human Resources, Information Technology, Marketing and Communications, Registrar and Student Financial Services, and Student Affairs.

### UNIVERSITY FACILITIES

The University's principal facility resides on a 25-acre site in Bloomington, Minnesota. The 300,000-square-foot facility includes nine lecture halls, biological science laboratories, methods laboratories, library, computer labs, athletic facilities, swimming pool, auditorium, cafeteria and three clinical environments. The University maintains additional clinical facilities around the Twin Cities metropolitan area.

### ABOUT THE COLLEGE OF CHIROPRACTIC

The College of Chiropractic at Northwestern Health Sciences University is a visionary school whose innovative ideas and practices have led, and will continue to lead, generations of chiropractic doctors to the forefront of their profession. Northwestern's basic sciences, clinical, chiropractic and business education is superb in preparing students to pass the National Boards and successfully enter clinical practice.

For more than seven decades, excellence has been nurtured and inspired at the College of Chiropractic. The international reputation we have earned has been created in large part by our approach to educating our students.

Northwestern has pioneered an extraordinary and unique clinical system, with two Natural Care Centers, a growing number of interdisciplinary community clinic partnerships, more than 150 community-based private-practice clinics, and final term preceptorship opportunities around the world. The University's public clinic system is the largest provider of natural health care services in Minnesota.

Northwestern's Doctor of Chiropractic program is a full-time day program consisting of more than 4,300 contact hours over 10 trimesters. The University admits new chiropractic students in January and September of each calendar year. Classes are held Monday through Friday.

Chiropractic students at Northwestern may also complete a bachelor's of science degree in human biology while enrolled in the chiropractic program.

## **ABOUT THE COLLEGE OF ACUPUNCTURE AND ORIENTAL MEDICINE**

The College of Acupuncture and Oriental Medicine is the largest and oldest school in the state of Minnesota offering master's degree programs accredited by the Accreditation Commission for Acupuncture and Oriental Medicine. Founded in 1990 as the Minnesota Institute of Acupuncture and Herbal Studies, the College has established itself in the Twin Cities area as a premier provider of education and clinical services in acupuncture and Oriental medicine. Student interns provide acupuncture and Oriental medicine services in the University's on-campus clinics, as well as in a variety of health care clinics, hospitals and community service agencies throughout the area.

The College offers two graduate programs, leading to the Master of Acupuncture and the Master of Oriental Medicine. The College also offers an Herbal Medicine Certificate for licensed acupuncture practitioners who want to expand their skills in Chinese herbal medicine.

The master's degree programs in acupuncture and Oriental medicine emphasize the unified understanding of the mind, body and spirit inherent in traditional Chinese medicine. The College has gathered a multi-national faculty committed to academic and professional excellence and to teaching the extensive body of knowledge and skills necessary for safe and effective practice. Our graduates have the education and skills necessary to develop a successful practice.

The curriculum for the Master of Oriental Medicine program provides more than 3,000 hours of didactic and clinical instruction in acupuncture, Chinese herbology, biomedical clinical sciences and related studies. The program takes three years of full-time enrollment to complete.

The curriculum for the Master of Acupuncture program is similar to that of the Oriental Medicine program, but does not include herbal studies. This program includes more than 2,300 hours of instruction, taking two and two-thirds years of full-time enrollment to complete.

The curriculum for the Herbal Medicine Certificate program provides licensed acupuncturists with almost 500 hours of instruction and 240 hours of clinic internship with which to develop the skills necessary for the safe and effective practice of herbal medicine.

The University admits new acupuncture and Oriental medicine students in September and January of each calendar year. Transfer students may be admitted at the beginning of any trimester. Students in the Herbal Medicine Certificate program take courses according to the schedule for the Master of Oriental Medicine.

## **ABOUT THE SCHOOL OF MASSAGE THERAPY**

Students seeking a rigorous professional massage therapy curriculum will find quality and excellence in Northwestern's School of Massage Therapy. The certificate program at the School of Massage Therapy is accredited by the Commission on Massage Therapy Accreditation (COMTA).

The School of Massage Therapy admitted its first group of students in September of 2000. The massage therapy program is dedicated to advancing the public's perception and acceptance of massage therapy as an important health care option. Massage therapists fill an increasingly important role in the health care field. A growing number of medical doctors and doctors of chiropractic are referring patients to massage therapists all around the United States.

This 43 minimum trimester-credit certificate program (952.5 minimum hours) and 61.5-credit Associate in Applied Science program emphasize a solid foundation in the basic sciences, long a Northwestern hallmark; more than 400 hours of hands-on lab experience; and a structured clinical experience within the School of Massage Therapy Teaching Clinic and other community sites. The School of Massage Therapy has sought to provide widely experienced and prominent practicing therapists as instructors for the program.

The massage therapy program at Northwestern will challenge and inspire students towards becoming natural health care providers, while instilling the importance of actively managing and maintaining one's own health and wellness. Students are educated in interpersonal communication skills and in the necessity of communicating effectively with clients and the public.

There are three large massage labs equipped with a minimum of one massage table for every two students. The School also makes use of multiple lecture halls located throughout the University for classes held in a lecture format.

Students receive a professional certificate or Associate in Applied Science degree in massage therapy upon successful completion of the program. Students may enroll in day and evening scheduling options. The Associate in Applied Science degree requires three to five academic trimesters to complete depending on the individual student's schedule.

## **ABOUT THE COLLEGE OF UNDERGRADUATE HEALTH SCIENCES**

The College of Undergraduate Health Sciences offers a Bachelor of Science in Human Biology degree completion program and a Post Baccalaureate Pre-Health Program. The Bachelor of Science in Human Biology program (BS) offers students the opportunity to complete an undergraduate degree in human biology. The courses offered through the College are available to non-program students to take individually provided they meet the admissions requirements to the College and the prerequisites for the course.

## **ACCREDITATION, APPROVALS AND LEGAL STATUS**

**Northwestern Health Sciences University is accredited by the Higher Learning Commission and is a member of the North Central Association (NCA).** The NCA was founded in 1895 as a membership organization for educational institutions. The Association is one of six regional institutional accrediting associations in the United States. Through its Commissions, it accredits and grants membership to educational institutions in the 19-state North Central region. The Higher Learning Commission is recognized by the United States Secretary of Education and by the Council on Higher Education Accreditation. Accreditation was extended to Northwestern in 1988, and was renewed in 1993, 2001 and 2010.

Higher Learning Commission  
30 N. LaSalle St., Suite 2400  
Chicago, IL 60602-2504  
Voice: (800) 621-7440; (312) 263-0456  
Fax: (312) 263-7462  
Web: <http://www.ncahigherlearningcommission.org>

**The Doctor of Chiropractic program offered by the University is accredited by the Commission for Accreditation of the Council on Chiropractic Education (CCE).** The Council on Chiropractic Education is recognized by the United States Secretary of Education as the official accrediting body for chiropractic education. Northwestern has been a member of CCE since the Commission's inception in 1965. Accreditation was extended to

Northwestern in 1971, and renewed in 1974, 1978, 1982, 1985, 1991, 1998 and 2005. The next program evaluation is designated for the 2012-2013 academic year.

Council on Chiropractic Education  
Commission for Accreditation  
8049 N. 85<sup>th</sup> Way  
Scottsdale, AZ 85258-4321  
Voice: (480) 443-8877  
Fax: (480) 483-7333  
E-mail: [cce@cce-usa.org](mailto:cce@cce-usa.org)  
Web: <http://www.cce-usa.org>

**The Master of Acupuncture and Master of Oriental Medicine programs offered by the University are accredited by the Accreditation Commission for Acupuncture and Oriental Medicine (ACAOM),** which is the accrediting agency recognized by the United States Secretary of Education for the approval of programs preparing acupuncture and Oriental medicine practitioners. Program accreditation was extended in 2005 and 2010.

Accreditation Commission for  
Acupuncture and Oriental Medicine  
8941 Aztec Drive  
Eden Prairie, MN 55347  
Phone: (952) 212-2434  
Fax: (301) 313-0912  
email: [coordinator@acaom.org](mailto:coordinator@acaom.org)

**The School of Massage Therapy certificate program offered by the University is accredited by the Commission on Massage Therapy Accreditation (COMTA),** an agency recognized by the United States Secretary of Education for the accreditation of institutions that award post-secondary certificates, post-secondary diplomas, and academic associate degrees in the practice of massage therapy and bodywork. Program accreditation was extended in 2005, 2010 and 2014.

Commission on Massage Therapy Accreditation  
5335 Wisconsin Avenue NW, Suite 440  
Washington D.C. 20015  
Phone: (202) 895-1518  
Web: <http://www.comta.org>

**Northwestern Health Sciences University is registered as a private institution with the Minnesota Office of Higher Education** pursuant to Minnesota Statutes, sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

Minnesota Office of Higher Education  
1450 Energy Park Drive, Suite 350  
Saint Paul, MN 55108-5227  
Voice : (651) 259-3976  
Web: <http://www.ohe.state.mn.us>

**The Minnesota State Approving Agency has approved Northwestern Health Sciences University for Veterans' education benefits.**

Northwestern Health Sciences University is a not-for-profit corporation under articles and bylaws registered with the State of Minnesota, Office of the Secretary of State. The University is qualified as a 501C (3) tax-exempt organization with the Internal Revenue Service of the United States Department of Treasury. 501C (3) status is reserved for organizations operating for educational, religious or charitable purposes.

### **Yellow Ribbon**

The Yellow Ribbon Program was established by the Post-9/11 Veterans Educational Assistance Act of 2008. This program allows institutions of higher learning (such of colleges, universities, and other degree-granting schools) in the United States to voluntarily enter into an agreement with VA to fund tuition and fee expenses that exceed the tuition and fee amounts payable under the Post-9/11 GI Bill. The Institution can contribute a specified dollar amount of those expenses, and VA will match the contribution, not to exceed 50% of the difference. Northwestern Health Sciences University is a proud participant in the Yellow Ribbon Program.

In order to receive Yellow Ribbon benefits you must:

- Be accepted for admission to a degree granting program at Northwestern Health Sciences University, or be a current student in satisfactory academic standing, and
- Be eligible for the full amount (100%) of Chapter 33 Post-9/11 GI Bill benefits

Web: <http://www.nwhealth.edu/financial-aid/yellow-ribbon/>

# Explore Northwestern

## MORE THAN SEVEN DECADES OF EXCELLENCE

### UNIVERSITY HISTORY

Northwestern Health Sciences University was established in 1999, bringing together several natural health care programs into one academic institution. However, the roots of educational excellence at Northwestern trace back to 1941 with the founding of Northwestern College of Chiropractic. The College was founded in response to a need in the Midwestern states for an educational institution offering a broad program in clinical and chiropractic sciences. Our founder and first president was John B. Wolfe, DC. Starting with three students on the first day, a postwar influx of veterans raised the total enrollment to 280 by 1949. Rigorous academic goals, excellent faculty and quality students all helped Northwestern to grow and prosper. Northwestern reorganized as a non-profit organization in June of 1949.

Northwestern was established in a Minneapolis store-front space with three rooms. Growing enrollment led to a move to a new campus on Park Avenue in Minneapolis in 1964, then in 1974 to a larger campus on Mississippi River Boulevard in St. Paul. In 1983 Northwestern moved to its current location on a beautiful 25-acre campus in Bloomington, Minnesota. In addition to classrooms, lecture halls and labs, our campus includes a library, auditorium, cafeteria, gymnasium, fitness center, indoor swimming pool, the Foot Levelers Bookstore, and the Center for Diagnostic Imaging digital radiology lab/classroom. The beautiful grounds include a pond, a labyrinth, and a serene outdoor gathering space, the Standard Process Healing Garden.

The College became a University in 1999 when it merged with the Minnesota Institute of Acupuncture and Herbal Studies. The following year the School of Massage Therapy was established, making Northwestern the first academic institution to offer multiple natural health care programs.

In 1965 Northwestern introduced a new two-year pre-professional requirement for all incoming students, and adopted objectives that would ensure the development of a quality education program designed to meet the needs of the profession. Northwestern pioneered the six-year chiropractic academic program, which several years later became a requirement of all chiropractic programs by the Council on Chiropractic Education.

Northwestern pioneered and is a leader in community-based clinical education, and established the final trimester preceptorship for chiropractic interns, partnering with practitioners and clinics across the United States and in several other countries. Presently Northwestern owns and operates two public clinics, on the Bloomington campus and on the HealthEast Woodwinds Health Campus in Woodbury, Minn.

As we approach our 75<sup>th</sup> anniversary in 2016, the University is poised for growth in new programs and clinical services. The sixth President took office in July 2014. Faculty and Staff are dedicated to providing an engaging and supportive learning environment. Enrollment has grown to nearly 1,000 students. We offer certificate programs, an Associate of Applied Sciences degree, a Bachelor of Science degree, two Master's degrees, and a doctor of chiropractic degree. Starting with our initial three student class to today's alumni community of more than 7,500, Northwestern has a rich history and exciting future.

# Explore Northwestern

## A VIBRANT STUDENT LIFE

### STUDENT LIFE

#### Orientation

New Student Orientation is designed to acquaint students with each other, as well as with the campus. Students meet members of the administration, faculty and staff, and students from all programs in the Northwestern community. Various administrative tasks are also resolved at orientation, including payment of fees, acquisition of books and taking of student ID photos. Upcoming orientation dates are available at <http://www.nwhealth.edu> (follow the links for Student Affairs).

#### Student Handbook

The University Student Handbook contains rules, regulations, procedures and academic standards that affect students of the University. The topics contained in the Student Handbook are clarified during New Student Orientation and students are responsible for being aware of the policies contained in the Student Handbook and noting changes as they occur. The University Student Handbook is available online at <http://www.nwhealth.edu> (follow the links for Student Affairs) and copies are available in the Office of Student Affairs.

#### Student Conduct

Students at Northwestern Health Sciences University are preparing for health care professions, with all the privileges, responsibilities, confidence and trust that implies. Northwestern expects each student to exhibit maturity, intelligence, integrity and concern for the rights of others. Students are expected to conform to the legal and ethical standards of their professional and academic community.

Disciplinary regulations at the University are set forth in the Student Handbook in order to give students general notice of prohibited conduct. The regulations should be read broadly and are not designed to define misconduct in exhaustive terms. The University reserves the right to interpret what constitutes a violation of these regulations and to determine the appropriateness of student behavior.

Northwestern is committed to cooperation with federal, state and local authorities in their efforts to enforce existing laws and regulations. Students are expected to abide by these laws and regulations and to accept responsibility for their own conduct. Violations of federal, state or local laws may be reported to appropriate outside agencies for disposition in addition to any University disciplinary action.

### SERVICES OF STUDENT AFFAIRS

#### Peer Tutoring Service

The Peer Tutoring Service is provided by the Office of Student Affairs to facilitate the learning experience of all students. The service is provided free of charge and a current list of tutors is available in the Office of Student Affairs. The Office of Student Affairs recruits tutors from the student body, and selects tutors who have demonstrated academic success and a desire to help others.

#### Counseling Service

The University offers counseling services for all current students who experience academic, personal or relationship concerns. Short-term counseling and educational programs are provided free of charge. On occasion, referrals may be made to outside services. The University does not cover the cost of outside services.

Counseling services available to students include help with study skills, short-term individual counseling, and joint counseling with a partner. Counseling services are provided with the strictest confidentiality. Unless requested by the student, no information will be released without the student's written permission, except in the following circumstances: risk of imminent harm to self or others, a court order, the report of abuse or neglect of a minor or vulnerable adult, or an at risk pregnancy due to the use of certain classes of illicit drugs. Additional information on student rights, confidentiality, clinical record policy and emergency counseling services can be obtained in the Office of Student Affairs.

Educational workshops are offered periodically to students who are interested in improving their performance in areas such as study skills, test anxiety and life stresses. Suggestions for special interest workshops are welcomed. Appointments for counseling with the university counselor are scheduled through the Office of Student Affairs.

### **Students with Disabilities: Applicants and Students**

Qualified persons shall receive reasonable accommodations for access to educational opportunities, programs and activities of Northwestern. The Office of Disability Services is responsible for the coordination of programs and services for qualified applicants for admission and enrolled students with disabilities. In order for the University to provide reasonable accommodations for students with disabilities, the following process will be used:

1. The Office of Admissions will notify accepted students of the procedures to receive needed support services.
2. It is the responsibility of the individual student to inform the Office of Disability Services of accommodations that he/she may need as the result of a disability.
3. Students must submit directly to the Office of Disability Services a written request for accommodations or auxiliary aids. Students may be required to submit medical or other diagnostic documentation of disability and/or limitations. This information will remain confidential to the Office of Disability Services, except as permitted by the student expressly for providing support services to that student.
4. As needed, the Office of Disability Services will discuss the student's request for accommodation with the student and faculty member or department involved to determine appropriate accommodation. If there is a question about the appropriateness of a student's requested accommodation, the Office of Disability Services will inform the student of the University's decision. Northwestern will comply with applicable legal requirements in considering requests for accommodations. However, Northwestern will not waive requirements that are integral to the educational program.
5. Requests must be made in a timely manner. Students are encouraged to submit a request for accommodation at least 30 days prior to the beginning of a course/program. Untimely requests may result in delay of accommodation.

6. Complaints concerning the provision of accommodations to students with disabilities will be handled through the Student Complaint process specified in the University Student Handbook.

Applicants are encouraged to review each program's specific "Qualifications" section (listed under "Admissions Information") to determine if he/she is able to meet the qualifications with or without reasonable accommodations. Questions regarding the accommodations process should be directed to the Office of Disability Services.

### **Student Leave of Absence**

During times of serious illness or when extended time is needed to deal with a personal crisis, students have the option to take a Short Term Leave of Absence of up to seven calendar days. A student must call the Program Dean to request this leave and the Program Dean will notify the student's instructors. The Program Dean may grant an extension of the Leave of Absence, if necessary. Once the student returns to classes, they are responsible for contacting their instructors to create a plan to complete the work that they missed.

### **International Students**

The Office of Student Affairs provides assistance to international students seeking temporary admission to the United States to pursue a full course of study. Forms are generated and student records are continually maintained to assure proper student status and compliance with the Department of Homeland Security, United States Citizenship and Immigration Services (USCIS).

### **Student and Exchange Visitor Information System**

Northwestern Health Sciences University has full approval from the USCIS to enroll foreign students. The Student and Exchange Visitor Information System (SEVIS) is an Internet-based application for electronically tracking and reporting on foreign students in the United States. SEVIS enables schools and program sponsors to transmit electronic information to the USCIS and United States Department of State throughout a student's program in the United States.

SEVIS enables schools to submit school certification applications, update certification information, submit updates to the USCIS that require adjudication, and create and update F-1 (academic) student and dependent records. Designated School Officials (DSOs) maintain the SEVIS program.

## **STUDENT GOVERNMENT AND ORGANIZATIONS**

### **Student Government**

The mission of the University Student Senate is to function as a liaison between the student body and the Northwestern community, while enhancing the student experience.

The University Student Senate represents the student body by promoting communication within the University community, coordinating student activities, advocating for student concerns and needs, developing leadership, and setting examples of professional responsibility. Through the Student Senate, students participate in the development of recommendations to the Northwestern administration. Senate-appointed representatives serve on many University committees. Within the Senate, numerous committees exist to address a variety of student needs. Various activities are held throughout the year, giving students an opportunity to socialize and interact with one another. The Senate utilizes the student activity fee to help support these activities and organizations. The Senate includes representatives from each class in each program and elections for all officers are held annually.

### **Student Organizations**

Groups of students who share a common interest, either social or professional, may organize and seek recognition as a student organization through the Office of Student Affairs. These approved organizations reflect a wide range of interests, including an array of professional, political, social and recreational groups. Each term, the University welcomes a number of distinguished lecturers from a variety of fields, who are sponsored by student organizations. The University recognizes the need to keep informed on a full range of professional issues and encourages participation in these events.

Student organizations provide an opportunity for students to participate and contribute in student leadership and governance. By way of student organizations, the student body enjoys the benefits of those contributions that enhance the quality of student life and improve the educational program.

Special interest student organizations plan programs, guest speakers and events with their corresponding local and national professional organizations. They work to form mutually beneficial, reciprocal relationships between students, practitioners and the general public by becoming involved in community activities. They are an important voice of leadership on issues regarding professional practice and education.

The University sponsors extracurricular clubs and activities throughout the year including aerobics, hockey, baseball, softball, volleyball, basketball, soccer and martial arts. The Fitness Center is a facility that is fully funded by the student body through activity fees. The Fitness Center promotes physical and mental well-being for the campus community. The Fitness Center offers aerobic exercise, weight machines and free-weight equipment. Students can receive information about using the Fitness Center from the Office of Student Affairs.

### **University Health Services**

A variety of health care options are available to students and employees through University Health Services, located on campus in the De Rusha Clinical Education Center. Chiropractic, acupuncture and Oriental medicine, massage therapy, and advance practice nursing services are available. Upper-term students under the supervision of faculty clinicians/supervisors provide the chiropractic, acupuncture and massage therapy care.

## **INFORMATION TECHNOLOGY**

### **E-mail Policy**

Northwestern students are assigned a Novell GroupWise e-mail account for the purpose of receiving official University correspondence. Students are responsible for all information, including attachments, transmitted to them via their e-mail account. E-mail accounts can be accessed at <https://mail.nwhealth.edu> on the World Wide Web. The Information Technology Department provides support for GroupWise e-mail users.

### **Personal Computer Requirement**

Northwestern requires that all students have access to a computer for research, training, independent study and institutional services. Students satisfy the access requirement in a variety of ways, including the use of computers in the campus library, public libraries, various computer labs or their own personal computer.

Computer literacy is expected of all students. Computer tutoring is available from the Help Desk Training and Support Specialist. Tutoring is available on the following topics:

- Internet basics;
- Introduction to computers;
- Moodle, a course management system;
- Using Microsoft Word; and
- Creating a PowerPoint presentation.

Students are expected to use computers for various purposes, depending upon the academic program. For specific information about the expectations in your program, please consult the program office.

Qualifying students may purchase a personal computer through Title IV financial aid. Students selecting this option should consult with a representative in the Student Records and Financial Services Office. Students may only exercise this option once during their educational program at Northwestern Health Sciences University.

## **THE CAMPUS**

### **Foot Levelers Bookstore**

The Foot Levelers Bookstore offers the books, equipment and resources that our students need for classroom lecture, laboratory and clinical practice. The Foot Levelers Bookstore also carries Northwestern insignia apparel, school supplies, portable tables, anatomical models, diagnostic equipment & clinic supplies for varied practitioners, nutritional supplements, gifts, health and beauty items, snacks and beverages. Students may also purchase discount movie tickets, bus passes, postage, copy and fax service. Textbooks and equipment may be ordered online for shipment or store pickup via our e-commerce site at [www.nwhealthbookstore.com](http://www.nwhealthbookstore.com).

The Foot Levelers Bookstore is also open to the public and mail order service is available.

### **The Greenawalt Library**

The [Greenawalt Library](#) ensures access to information to advance the University's mission and to prepare current and future professionals to become vital contributors to the delivery and advancement of health care. The library is available to all students, faculty, administration, staff, alumni and natural health care providers. Members of the general public may also use the library's resources.

An online catalog provides easy access to the library's specialized collection of approximately 20,000 books and periodicals. The library provides electronic full-text access to over 30,000 journals and subscribes to approximately 150 journal titles relating to natural health care, health sciences and life sciences. Interlibrary loan services link Northwestern to local, regional, national and international networks of libraries, providing students, faculty and staff with resources beyond the library's holdings. The University network connects library users with selected health science databases, class-related materials and standard office software.

Professional librarians provide group and individual instruction to students, faculty and staff in the use of library resources. The library's web site offers information on library services and access to the online catalog, as well as research guidance and links to pertinent Internet resources. The site highlights ejournal subscriptions (with links to full-text articles where available), new materials and an Interlibrary Loan Request form. The Greenawalt Library offers a collection of DVDs, Club materials, software, and the appropriate equipment and facilities for their use. 14 rooms are available for audiovisual viewing and for group study. Library users enjoy seating at tables and carrels for quiet study.

The Greenawalt Library is named after Monte H. Greenawalt, DC and his son, Kent S. Greenawalt, President of Foot Levelers, Inc. Their generous gift made it possible to expand this outstanding library facility in 1996. In 2008, the library moved into a larger 14,000 square-foot location in the University's newest addition.

### **The Center for Healthcare Innovation and Policy**

The Center for Healthcare Innovation and Policy (CHIP) was established in 2010 in response to healthcare reform and the rapidly changing market environment. Working closely with members of the faculty and administration, CHIP is the primary health policy and advocacy division of the University. By developing strategic relationships with stakeholder groups and disseminating information to health professionals, policymakers and organizations, CHIP seeks to ensure that patients have adequate access to the quality care provided by our graduates.

The proximity of campus to the Minnesota State Capitol facilitates the ability for Northwestern students to meet with legislators and participate in annual lobbying days for their professions. Additionally, CHIP is involved in national advocacy efforts and annually organizes and accompanies a large contingent of Northwestern students who travel to Washington, D.C., to participate in the National Chiropractic Leadership Conference.

On campus, CHIP hosts workshops, lectures and forums to expose students and other members of the campus community to health policy discussions that are relevant to their careers. Through leadership in several regional and national professional organizations and committees, CHIP has an extensive network to facilitate opportunities for Northwestern students and graduates.

## **The Wolfe-Harris Center for Clinical Studies**

The Wolfe-Harris Center for Clinical Studies (WHCCS), named for William Harris, DC, one of the University's largest benefactors, and John B. Wolfe, DC, the founder and first president of Northwestern College of Chiropractic, was constructed in 1991 as part of the 50-year celebration of Northwestern's founding.

The WHCCS serves the University as a dedicated research center focused largely on the conduct of clinical studies and dissemination of research through their commitment to translating research into clinical practice. The WHCCS faculty and staff engage in studies investigating treatments and diagnostic tools for back, neck and headache pain conditions. Their clinical trial work is recognized in the scientific community as some of the highest quality evidence impacting natural health care delivery. Faculty members participate in systematic reviews of the literature and are actively involved in integrating research evidence into Northwestern's curricula and clinical settings.

Working with local, national and international collaborators over the past 15 years, they have acquired more than \$22 million in research funding from the National Institutes of Health, the Health Resources and Services Administration and other agencies. Since 2007, the WHCCS faculty has been engaged in a research education partnership project totaling \$1.5 million from the National Center for Complementary and Alternative Medicine. The project is charged with the development of an innovative research curriculum that spans all of Northwestern's academic programs. This landmark project, in collaboration with the University of Minnesota, will create a generation of health care providers who are able to effectively use research evidence and integrate it with patient preferences and their own clinical expertise.

## **H. C. Sweere Center for Clinical Biomechanics and Applied Ergonomics**

In 2013, the University established a new clinical specialty center providing the local business community a variety of services focused improving the health and safety of their employees. With funding provided by the estate of Mr. Harry Sweere, founder of the Ergotron Corporation, the H. C. Sweere Center for Clinical Biomechanics and Applied Ergonomics offers customized prevention and wellness services including work-site training and educational seminars; ergonomic intervention; employee wellness coaching; and on-site health care. The Sweere Center also offers a needs

assessment and loss source analysis service designed to assist employers in identifying solutions best suited to meet their specific needs.

By collaborating with clinicians in Northwestern's Human Performance Center and the Wolfe-Harris Center for Clinical Studies, the Sweere Center also conducts biomechanics research focusing on three dimensional gait analysis using an instrumented treadmill and sophisticated motion capture video technology.

## **Human Performance Center**

The Human Performance Center offers multiple specialty services, including a sport and performance clinic for competitive and recreational athletes whose needs include care for acute and chronic injuries, rehabilitation and prevention. Faculty clinicians, residents and student interns also provide pre-participation examinations, concussion baseline screening, sideline coverage for local high schools and support for professional and amateur sports organizations. By providing advanced rehabilitation and active care services, the clinic is also a referral resource for local practitioners and faculty caring for patients within Northwestern's other health centers.

The clinical specialists of the Human Performance Center also serve as a resource for the professional and post-graduate academic programs of the university by contributing curriculum content and providing instruction. In addition, by offering opportunities to assist faculty clinicians and residents in performance testing and patient care, students gain invaluable clinical and research experience.

With a primary focus on serving athletes through injury prevention, recovery interventions and performance enhancement, collaborating in research with the Wolfe-Harris Center for Clinical Studies and the H.C. Sweere Center for Clinical Biomechanics and Applied Ergonomics is an important activity of the Center for Human Performance.

## **De Rusha Learning Center**

The J. Lamoine De Rusha Learning Center is a 9,000-square-foot, multi-disciplinary, patient care and instructional environment. Services offered are student chiropractic, student acupuncture/Oriental medicine and student massage therapy. The De Rusha Learning Center features 29 treatment rooms (14 acupuncture/massage therapy and 15 chiropractic), all equipped with terminals for EHR; a digital X-ray suite; a student work room equipped with networked PCs and Internet access and conference room. Several treatment rooms are wired

for recording clinical encounters between students and simulated patients during instructional laboratory sessions and competency examinations. The De Rusha Learning Center is part of the University Health Services.

The De Rusha Learning Center is named in honor of J. Lamoine De Rusha, DC, a long-time professor and dean emeritus at Northwestern. Dr. De Rusha committed his life to Northwestern College of Chiropractic and along with his wife, Klara, became an integral part of the campus culture. Dr. De Rusha was recognized internationally for his knowledge of chiropractic and neurology.

### **Bloomington Natural Care Center**

The Bloomington Natural Care Center (BNCC) is an integrative health clinic of Northwestern Health Sciences University, which is located on the University campus in Bloomington, Minnesota. It is also an instructional facility providing patient care and experience for student interns in the College of Acupuncture and Oriental Medicine (CAOM) and the College of Chiropractic. All interns are closely supervised at all times by highly experienced faculty clinicians. BNCC is a fee for service clinic, open to the public and provides the community with an opportunity to receive quality chiropractic and/or acupuncture treatment and traditional Chinese medicine services, while providing an invaluable, hands-on clinical experience for student interns.

### **The Edith Davis Herbal Dispensary**

The Herbal Dispensary is named in honor of Edith Davis, BA, LAc, DiplAc (1921–2008), the founder and first president of the Minnesota Institute of Acupuncture and Herbal Studies (MIAHS), which is now known as the College of Acupuncture and Oriental Medicine. Davis was a licensed acupuncture practitioner and teacher. Beginning in 1982, she became directly involved with the evolution of national acupuncture policy development and national certification standards and was the founding member of the Acupuncture Association of Minnesota. Davis was presented with the Acupuncturist of the Year Award by the American Association of Acupuncture and Oriental Medicine in 1985. The dispensary is dedicated to her leadership and contribution to the acupuncture and Oriental medicine community in Minnesota.

The Edith Davis Herbal Dispensary is open to the public, and provides a valuable teaching environment for students learning

The Edith Davis Herbal Dispensary is an on-site Chinese herbal dispensary stocked with an extensive selection of top quality herbal products. We carry over 250 commonly used "loose" Chinese herbs (consisting of various raw and prepared materials which are boiled together to make a decoction or tea) as well as over 120 formulas and over 300 individual herbs in concentrated, powdered extract form. We also carry 200 prepared medicines (pills, capsules, and tinctures) which include over-the-counter topical plasters and liniments. The Herbal Dispensary fills herbal prescriptions for patients from licensed acupuncture practitioners and provides a valuable learning environment for students.

# Explore Northwestern

## OUR LOCATION: MINNESOTA AND THE TWIN CITIES

Minnesota offers a wealth of indoor and outdoor activities year-round, whether your interest lies outdoors or in the culture of the city. Get ready to pack up and portage a canoe as you explore Minnesota's breathtaking Boundary Waters Canoe Area Wilderness in northern Minnesota. Camp on the banks of the Mississippi or indulge in a nature hike in one of the dozens of nearby state, county and city parks. Walk, canoe, sail, ski, skate or snowmobile at one or more of the not 10,000, but 15,000 famed Minnesota lakes – many located in the greater Twin Cities area.

Northwestern's location places you in the heart of Minneapolis and Saint Paul, a rapidly growing metropolitan area of nearly three million people. Minnesota enjoys a broad ethnic diversity in its population, which includes a large number of Native Americans, Hispanic Americans, African Americans and Asian Americans. Historically, Minnesota has had one of the strongest economies nationally; as well as an excellent public school system with one of the highest high school graduation rates in the United States. In the Twin Cities, you'll find a friendly community atmosphere amid big city opportunities. Your options are limitless.

Take in a game of your favorite professional sport: baseball, football, basketball, hockey, soccer and more. Enjoy excellent music, theater and dance throughout the year. The Twin Cities is home to the internationally recognized Guthrie Theater, Children's Theater and the Ordway Theater, as well as numerous smaller theaters and a variety of dance companies. Nightlife in the Twin Cities will catch your interest, offering entertainment from coffeehouses to nightclubs, with dancing from salsa to swing.

Minnesota's theater of seasons caters to the individual adventurer in all of us. With the snow and cold weather, winter also brings great opportunity to get outside. Skating, skiing, sledding, ice fishing, hunting and snowmobiling are just a few activities available right in the cities. Saint Paul's annual

Winter Carnival celebrates the season with parades, ice sculptures and fun cold-weather activities. Minneapolis' annual celebration of the state's water heritage, the mid-summer Aquatennial, is a party of parades, concerts and made-to-order water events.

Minnesota has for many years been one of the leading states in the country for both traditional and innovative natural health care. It is the home of the Mayo Clinic, the University of Minnesota Hospitals and the Sister Kenny Institute; and was the birthplace of Group Health, one of the nation's earliest HMOs.

The Twin Cities area also ranks high in quality-of-life ratings, with a cost of living that is modest in comparison with that of many large cities. The cities are served by a network of buses and a light rail line for public transportation and freeways provide easy access to different parts of the Twin Cities, with downtown Minneapolis and downtown Saint Paul only 20 minutes apart.

The Minnesota outdoors is hard to avoid. One has a choice of two zoos, picnic grounds, amusement parks, art fairs, music festivals and a Renaissance Festival. Indoor events beckon, too. A number of museums, including a hands-on Science Museum, art centers, and any one of the 22 colleges and universities in the metropolitan area all offer a wealth of choices. Take your pick from hundreds of incredible restaurants serving up dishes from Scandinavia, Thailand and Greece (just to name a few). And don't forget the internationally recognized Mall of America, the largest indoor shopping mall in the United States, located only minutes from campus.

Whatever season you choose, or whatever activity captures your imagination, you'll find it close at hand in Minnesota

# Explore Northwestern

## EXPERIENCE IN A PIONEERING CLINIC SYSTEM

The Northwestern Health Sciences University Clinic System is comprised of:

- The Bloomington Natural Care Center, located on the University campus;
- The Natural Care Center at Woodwinds, located on the Woodwinds Health Campus in Woodbury;
- The Edith Davis Teaching Clinic of the College of Acupuncture and Oriental Medicine, located on the University campus;
- University Health Services, located in the De Rusha Clinical Education Center on the University campus; and
- Human Performance Center which provides a comprehensive sports medicine program located on the University campus.

Northwestern's Natural Care Centers are unique, integrative natural health care clinics providing chiropractic, acupuncture, Oriental medicine, massage therapy, physical therapy, sports medicine, naturopathic medicine, healing touch, and advanced practice nursing services. In addition, the clinics make available to patients a variety of natural health care products. It is an important part of the University's mission to explore integrative care delivery models, in which a spectrum of natural health care providers work collaboratively with other health care providers to provide the best possible comprehensive care. The Natural Care Centers are innovative in recognizing that natural health care professions are a part of the broader health care system.

Northwestern's teaching clinics provide exceptional clinical internships and students benefit from the low student-supervisor ratio in the clinical setting. Students have the opportunity to provide care to fellow Northwestern Health Sciences University students and employees of the University, as well as the community at large. Northwestern is unique in offering clinical experiences early in the academic program and in providing a learning atmosphere where students are able to demonstrate and utilize clinical skills throughout their education.

Northwestern's public clinic system is the largest provider of natural health care services in Minnesota.

In addition to the University clinic system, students also serve in community-based internships and preceptorships, under the guidance of associate clinical faculty. University students provide care in varied community settings, such as an HIV/AIDS service agency, an oncology center, a rehabilitation facility for the disabled, community clinics in under-served areas of Minneapolis, inpatient hospital settings, a senior care facility and at community events. Northwestern has established clinics at Pillsbury House and at the Salvation Army's Minneapolis Harbor Light Center where students provide free care to a diverse patient population. Northwestern also strengthens its community involvement through partnerships with other organizations committed to natural health care such as HealthEast, Abbott Northwestern Hospital and the University of Minnesota, where more clinical opportunities for our students exist.

Overall, the University clinic system functions under the highest standards, advocating "best practices" in health care which incorporates patient preferences, clinical judgment and research evidence within an ongoing clinical integrity program.

# Explore Northwestern

## HELPING TO GUIDE YOUR CAREER PATH

### **CONTINUING EDUCATION DEPARTMENT**

Northwestern Health Sciences University recognizes that continuing education is vital to the future of natural health care. Northwestern's continuing education programs promote the professional and personal growth for our students and practitioners by providing diverse educational opportunities.

The Continuing Education Department sponsors more than 275 live seminars/programs each year, as well as over 90 distance learning courses, both online and on DVD. Topics for these courses include nutrition, orthopedics, neurology, sports injuries, pediatrics, chiropractic acupuncture, rehabilitation, occupational health, evidence informed practice, radiology, professional boundaries, Oriental medicine, ethics, advanced needling, and massage therapy, among others. In addition to providing practitioners with applicable and appropriate knowledge, these programs often fulfill licensure renewal requirements established by state and/or national licensing authorities.

When appropriate, Northwestern students may augment their education by attending continuing education courses on a non-credit basis. Often continuing education course material can expand the classroom experience. Students who qualify may attend predetermined courses for a nominal charge or assist as monitor free of charge. For one year following graduation, a 50 percent discount is given off the cost of seminars offered exclusively by the Continuing Education Department. We encourage students to visit our office to find out more about these opportunities.

### **ALUMNI ASSOCIATIONS**

After graduation, Northwestern students can look forward to continuing contact with the University through the alumni association. Service to the University and to our alumni is at the heart of the alumni association chapters of the College of Chiropractic, the College of Acupuncture and Oriental Medicine, and The School of Massage Therapy. Each alumni chapter strives to build and foster understanding of the University and to provide and facilitate communication between alumni and their alma mater. They also provide a forum that encourages identity and pride in the University.

They assist in fundraising and financial support, student recruitment, scholarship support and are an excellent networking resource for career opportunities. Northwestern Health Sciences University is committed to providing quality programs and services to all alumni.

Each of the alumni chapters provides networking opportunities throughout the year for students through multiple events such as brown bag lunches, panel discussions, coffee chats, ice cream socials and all-campus luncheons. They also encourage students to participate in their annual events: the College of Chiropractic Homecoming and Winter Gathering, the Acupuncture and Oriental Medicine Great River Symposium and the School of Massage Therapy Winter Symposium. These events provide opportunities for students to network and socialize with future colleagues.

### **CAREER SERVICES**

The Career Services Center, located in the Office of Alumni, Development and Career Services, assists students and alumni in helping with their career-related decisions. The Center offers assistance with practice and business management and brings in speakers on topics related to business success. The Center also facilitates contact with professionals who provide counseling and advice on starting or purchasing a practice, associate opportunities, employee contracts and general business questions.

There are numerous employment opportunities available across the United States, Canada, and internationally for doctors of chiropractic, practitioners of Oriental medicine, acupuncturists and massage therapists. The Center publishes an online Practice Classified resource available at: <http://www.nwhealth.edu/classifieds/> and provides one-on-one job search assistance.

The department is a resource to students, graduates and other health professionals and can assist in acquiring information on licensure laws and regulations, professional boards and associations, demographic profiles from state populations and developing relationships with companies associated with the profession. The department also provides assistance with networking opportunities and mentor relationships.

## **OCCUPATIONAL OUTLOOK**

### **College of Chiropractic**

The United States Department of Labor Occupational Outlook Handbook for 2014 states that “Employment of chiropractors is projected to grow 15 percent from 2012 to 2022, faster than the average for all occupations. People across all age groups are increasingly becoming interested in chiropractic care, because chiropractors use nonsurgical methods of treatment and do not prescribe drugs.”

Doctors of Chiropractic have many different practice opportunities, from solo practice to group offices, from integrative health care clinics to employment in medical clinics. With licensure opportunities in all 50 states, Puerto Rico and many foreign countries, chiropractic is a maturing, growing and widely accepted profession. Insurance coverage is broadly available.

### **College of Acupuncture and Oriental Medicine**

Graduates face a marketplace where these professions are enjoying widening acceptance. Currently, most practitioners have private practices, while an increasing number are employed or collaborate with community service institutions, major health care agencies and health maintenance organizations. Regulation of acupuncturists and Oriental medicine practitioners varies widely: from licensure, to regulation, to being unregulated. Insurance coverage for acupuncture services is gradually increasing.

There is a growing interest in integrative health care nationwide. In Minnesota, Hennepin County Medical Center has long offered Oriental medicine treatment by licensed acupuncturists and has built a national name in addiction treatment and research. Woodwinds Natural Care Center also provides inpatient care services. Acupuncture is widely seen as a profession on the rise and is emerging as an important health care profession that stands on its own and can integrate well with conventional health care services.

### **School of Massage Therapy**

Massage therapy is a profession that is rapidly maturing. Educational programs have proliferated in recent years across the nation, and with national program accreditation recognition by the Commission on Massage Therapy Accreditation, an important step for stabilizing and standardizing massage therapy education and practices has been taken.

Graduates have many opportunities for private solo practice, working with other health care professionals (doctors of chiropractic are the single largest health care profession that employ massage therapists), or working in health care institutions such as clinics and hospitals. Insurance coverage for some conditions and types of injuries is available in certain states and increasing, especially in alliance with medical referrals.

The United States Department of Labor Occupational Outlook Handbook for 2014 notes “Employment of massage therapists is projected to grow 23 percent from 2012 to 2022, much faster than the average for all occupations. Continued growth in the demand for massage services will lead to new openings for massage therapists.”

# Explore Northwestern

## OUR FINANCIAL POLICIES

Northwestern Health Sciences University is a private, non-profit institution that derives its financial resources from alumni gifts, private foundation grants, clinic fees, student tuition and the benevolence of the University's alumni and friends.

All tuition and fees are due and payable the end of the third week of class. After the completion of the third week of class, if tuition has not been paid or if arrangements for payment have not been made with the Accounting Office, a \$150 (US dollars) late fee will be assessed and registration for that trimester will be canceled. To be reinstated, the student must pay tuition and fees in full or make payment arrangements with the Accounting Office.

Any student with a balance due at the time of graduation will not receive a diploma and copies of official transcripts will be withheld until the balance is paid in full.

Tuition and fees are subject to change at any time. As a general rule, costs will be adjusted once a year to be in effect for fall, winter and summer terms of the entire academic year. New tuition and fee rates are announced in the summer prior to the beginning of the upcoming academic year.

To find out current tuition and fees for all programs at Northwestern, go to <http://www.nwhealth.edu> and follow the Admissions links, or contact the Financial Aid Office at (952/800) 888-4777, ext. 440.

### **AUDIT POLICY**

Students may audit a class with the permission of the instructor and department, if space is available. Students who wish to audit a course should request audit status at registration. As an auditor, a student will pay current tuition and fees for the course. Auditors are subject to all course prerequisites and any other conditions established by the department or the instructor. The symbol AU will appear in the grade column of the student's transcript when all course conditions are met. Audited courses may not be used for credit, will not transfer to other colleges and do not meet the requirements for a degree. Financial aid is not available for audited courses.

This policy does not include students who are encouraged or required to audit a course for the purpose of remediation or mitigating academic deficiencies. Students who wish to audit a course for which transfer credit has previously been granted may submit a written request and explanation to the program dean for exemption from tuition. If approved, the student will be charged an administrative fee of \$100 per course in lieu of tuition. All other requirements apply.

## **WITHDRAWAL POLICY**

The University recognizes that a decision to withdraw for any reason, financial or personal, is a difficult one. It is advisable for a student to share thoughts about potential withdrawal with their program office and the Office of Student Affairs as early as possible so that the University may offer counsel on different alternatives and the student may derive maximum benefit under the University's refund policy.

Students may officially withdraw from the University by completing the withdrawal process which includes submitting the withdrawal paperwork which can be obtained in the Office of Student Affairs. The date of withdrawal will be noted as the date on which the student officially begins the withdrawal process, not the date the student stopped attending classes.

If, at the time of withdrawal, the student's payments for the trimester exceed the amount of liability, he or she will be entitled to a refund of the excess; if the student's payments are less than the liability, the balance will be due and payable as of that date.

Students withdrawing from the University will be considered in good standing, unless they have failed to clear up any probation notation on their record or failed to pay a tuition and fees liability. Students in good standing may reenter the University upon application for readmission. Students not in good academic standing may be required to complete conditions imposed by the Academic Standards Committee. Students not in good financial standing are required to clear their financial obligations prior to readmission.

### **WITHDRAWAL FROM A COURSE**

Students must complete a drop form to withdraw from a course. The official date of withdrawal from a course is determined by the date the drop form is received by the Registrar's office during regular office hours.

### **WITHDRAWAL FROM THE UNIVERSITY**

Students may withdraw from Northwestern Health Sciences University (that is, withdraw from all classes) at any time by completing an official withdrawal notice with the Student Affairs Office. The official date of withdrawal is date the student began the withdrawal process, not the date the student ceased attending classes. Students who withdraw from all classes must return any items that belong to the university. Tuition refunds, if any, are established by the tuition refund schedule posted later in the section.

Financial aid recipients who withdraw from Northwestern Health Sciences University should be aware that they may need to return part or all of the funds they were awarded. Before officially withdrawing from classes, we recommend that you contact the Student Affairs Office. Students are also encouraged to be aware of the Financial Aid Satisfactory Academic Progress Policy. Students must complete at least 67% of all attempted credits in order to remain eligible for financial aid.

## **CONDITIONS FOR DETERMINING TUITION REFUNDS**

Students are responsible for all tuition and fees incurred by registration in a course. Failing to attend or ceasing to attend a course does not constitute a withdrawal from the course. Only the official date of withdrawal determined by Student Affairs Office or the by the Registrar's reception of a Change in Registration form will determine whether a full refund, a partial refund, or no refund will be available based on the date of withdrawal.

Tuition refunds (if any) for dropped courses are determined by the standard refund calendar available

- 100 percent of tuition charges will be refunded if the student withdraws on or before the first day of classes.
- 90 percent of tuition charges will be refunded if the student withdraws after the first day of class but before 10 percent (in time) of the enrollment period.
- 50 percent of tuition charges will be refunded if the student withdraws during the time between 10 percent (in time) and 25 percent (in time) of the enrollment period.
- 25 percent of tuition charges will be refunded if the student withdraws during the time between the end of the first 25 percent (in time) and the end of the first 50 percent (in time) of the enrollment period.
- No refund will be granted, if withdrawal is made after 50 percent of the enrollment period has passed.
- All percentages will be rounded.

## **RETURN OF TITLE IV (FEDERAL) AID**

If the students withdrawals from Northwestern Health Sciences University during a trimester, a calculation of "earned" versus "unearned" federal aid must be determined. This federal policy assumes the student earned aid based on how much time has elapsed in the term. If the student received federal financial aid, that aid may be reduced as a result of the withdrawal.

There are three steps that Northwestern Health Sciences University must complete to comply with the federal policy:

1. Determine the withdrawal date and/or last date of attendance or academic activity. The financial aid office must first verify with the student's instructor(s) that s/he attended or participated in academic activities related to their class(es) for the term.
2. Determine the amount of earned federal aid.
3. Return unearned federal funds to the appropriate program(s).

The student must withdraw officially by contacting the Office of Student Affairs. The withdrawal date is the date the student began the withdrawal process. If the student failed to withdraw officially, the withdrawal date will become the midpoint of the term, unless the university can document a later date. In cases where an earlier date of last attendance or academic activity is determined, this date will be used in the calculation of "earned" federal aid.

If the student withdrew or last attended before completing 60 percent of the term, s/he "earned" federal funds in direct proportion to the length of time s/he was enrolled. The percentage of earned aid is determined by dividing the total number of calendar days in the term enrolled by the total number of calendar days in the term. If the student completed 60 percent of the term, she earned all of their federal financial aid for the term.

The responsibility to repay unearned aid is shared by the institution and the student. The institution's share is the lesser of unearned aid or unearned institutional charges. The institution's share must be repaid to the federal aid programs in the following order, before the student's share is considered:

1. Federal Direct Unsubsidized Loan
2. Federal Direct Subsidized Loan
3. Federal Perkins Loan
4. Federal Direct GRADPLUS/Parent PLUS Loan
5. Federal Pell Grant
6. Supplemental Educational Opportunity Grant (SEOG)
7. Other Title IV Aid

If a student is required to repay a portion of the loan through the student's share calculation, the student is not expected to return those funds immediately, but rather begin repayment according to the terms and conditions of the promissory note. If a portion of the unearned Federal Loan funds must be returned

by the school, the student is responsible for repaying the money back to Northwestern Health Sciences University. If this causes undue hardship, a satisfactory payment arrangement can be made with the Accounting Office.

## FINANCIAL AID PROGRAMS

Northwestern Health Sciences University provides a wide variety of financial aid programs to assist students in meeting their educational and cost of attendance needs. For those who qualify, financial aid is available through federal, state, institutional and private sources. Only students who have been accepted to Northwestern and have submitted their tuition deposit will be considered for financial aid assistance. For more details, visit our web site at <http://www.nwhealth.edu> and follow the Financial Aid links.

For federal and state assistance, each student must complete the Free Application for Federal Student Aid (FAFSA) at <http://www.fafsa.ed.gov>. Students may also call (800) 433-3243 for further assistance

The Northwestern Health Sciences University school code is 012328.

All students are responsible for checking on the status of their financial aid to insure that funds are available at the start of a term. Northwestern follows federal, state, private and institutional policies and procedures. Financial aid funds, ready for disbursement are posted to the student's account after the start of the trimester. If the amount of financial aid received is more than the balance due, a refund check will be released to the student within 14 days of the date the overage was created.

## FINANCIAL AID ELIGIBILITY

Students must meet all federal, state, private and institutional eligibility criteria to qualify for financial aid.

To be eligible a student must:

- demonstrate financial need (for most programs);
- be a U.S. citizen or an eligible noncitizen;
- have a valid Social Security number (with the exception of students from the Republic of the Marshall Islands, Federated States of Micronesia, or the Republic of Palau);
- be registered with Selective Service, if you're a male (you must register between the ages of 18 and 25);
- be enrolled or accepted for enrollment as a regular student in an eligible degree or certificate program;

- be enrolled at least half-time to be eligible for Direct Loan Program funds;
- maintain satisfactory academic progress;
- sign statements on the Free Application for Federal Student Aid (FAFSA<sup>®</sup>) stating that
  - you are not in default on a federal student loan and do not owe money on a federal student grant and
  - you will use federal student aid only for educational purposes; and
- show you're qualified to obtain a college or career school education by
  - having a high school diploma or a recognized equivalent such as a General Educational Development (GED) certificate or
  - completing a high school education in a homeschool setting approved under state law.

## ENROLLMENT STATUS DEFINITIONS

The enrollment status of Northwestern students is defined according to the credit loads shown in the following table:

Academic Program	Less than half-time credits	Half-time credits	Three-quarter time credits	Full-time credits
College of Chiropractic				
Trimesters 1-9	<7.49	7.5 - 9	10 - 14	15+
Trimester 10				10+
Acupuncture and Oriental Medicine	<4.99	5 - 6	7 - 8	9+
Massage Therapy	<5.99	6 - 10	9 - 11	12+
Undergraduate	<5.99	6 - 10	9 - 11	12+

Financial assistance will be adjusted for each trimester of enrollment according to the student's enrollment status and the regulations that govern each program.

## FINANCIAL AID AND SATISFACTORY ACADEMIC PROGRESS

The Higher Education Amendments that govern Title IV Financial Assistance Programs state that "a student shall be entitled to receive federal student assistance benefits only if that student is maintaining progress in the course of study he/she is pursuing, according to the standards and practices of the institution." Northwestern Health Sciences University's Policy of Satisfactory Academic Progress requires a student to meet both qualitative (grade requirement) and a quantitative (work completed) standards. Supportive services are available at Northwestern Health Sciences University to help ensure academic success. Information about these services is available in the Student Affairs Office. Satisfactory Academic Progress will be monitored at the end of each grading period to establish the student's eligibility to continue receiving financial aid.

Students may continue to receive financial aid by meeting all of the following criteria which have been established as the minimum standards for making SAP at Northwestern Health Sciences University. This policy replaces all previous SAP policies.

1. **Minimum Cumulative Grade Point Average Requirement:** A student must maintain a minimum cumulative grade point average (GPA) to retain financial aid eligibility. A minimum CGPA must be earned in the following programs:

College of Chiropractic	2.0
College of Acupuncture and Oriental Medicine	2.0
College of Undergraduate Health Sciences	2.0
School of Massage Therapy	2.0
College of Graduate Studies	2.0

2. **Minimum Cumulative Pace Requirement:** A student must successfully complete at least 67% of cumulative attempted hours by the end of each trimester. The completed percentage is determined by dividing credits earned by the number of credits attempted. **Note:** While grades of W, WP, and WF may have no impact in the academic GPA calculations, these grades are included as attempted credits, as required by Federal regulations.
3. **Maximum Time Frame Requirement**  
The maximum number of credit hours allowable to complete a degree is 150% of the credit hours normally required to complete the degree program.

## Financial Aid Warning Status

A student who fails the SAP evaluation at Northwestern Health Sciences University may be placed on Financial Aid Warning status. Financial Aid Warning lasts for one trimester and does not require action (such as an appeal) by the student. This option is permitted at Northwestern Health Sciences University since SAP is reviewed at every payment period/trimester.

- A student on Financial Aid Warning is notified of the status at the beginning of the trimester.
- There is no limit to the number of Financial Aid Warnings a student can receive during his or her enrollment and it is possible that a student could receive more than one Financial Aid Warning period, but not in consecutive trimesters.
  - For example, if a student is not making SAP after the fall trimester, the student may be placed on Financial Aid Warning. The student could make SAP during the spring and then fail to make SAP during the subsequent fall. The student could again be placed on Financial Aid Warning after the subsequent fall. The student could not have successive trimesters in Financial Aid Warning status.

## Financial Aid Probation Status

- After a Financial Aid Warning, a student who continues to fail SAP must successfully appeal to be placed on Financial Aid Probation and be permitted to receive financial aid. Financial Aid Probation status is not granted automatically at Northwestern Health Sciences University. At the end of one trimester on Financial Aid Probation, the student must make SAP or must be meeting the requirements of the academic plan set in the appeal for probation.
  - Generally speaking, a student granted Financial Aid Probation status should be given two academic requirements during the probation trimester, in addition to fulfilling the academic plan:
    - Complete all coursework with passing grades (e.g., no W or F grades)
    - Achieve a trimester GPA of 2.0 or higher.
- After trimester on Financial Aid Probation, a student that is still not making SAP cannot be automatically placed on another trimester of Financial Aid Probation. The student would have to successfully appeal to be eligible for financial aid.
- Appeals submitted for students who continue to fail SAP after a probation period must contain information about why the student failed to make

SAP at the end of the Financial Aid Probation period, including what had changed that caused the student to not make SAP during the probationary period and why the student will be able to meet SAP on the terms of the academic plan.

If the Academic Program determines, based on the appeal, that the student will require more than one payment period to meet SAP, it may recommend the student remain on probation and develop an academic plan for the student. The Financial Aid Office is required to review his/her progress at the end of probation period, to determine if the student is meeting the requirements of the academic plan. If the student is meeting the requirements of the academic plan, the student is eligible to receive Title IV aid as long as the student continues to meet those requirements and is reviewed according to the requirements specified in the plan.

## SAP Appeal

When a student becomes ineligible for financial aid due to failure to meet SAP standards, an opportunity is given to appeal for further financial aid consideration. A student may file a SAP Appeal with the Office of Financial Aid on the basis of:

- Death of a relative
- Injury or illness of the student
- Other special circumstances (such as difficult transition to NWHSU, family issues, legal troubles, work or budget problems, etc.)

Completed SAP appeals will be reviewed within 15 business days. The student will be notified by campus email if the appeal is accepted or denied. If the email is returned undeliverable, a letter will be mailed to the student's current residing address as listed on the Free Application for Federal Student Aid (FAFSA).

## FEDERAL STUDENT AID AT A GLANCE

Federal Student Financial Aid (SFA), <http://www.studentaid.ed.gov>, is assistance for students enrolled at least half-time in participating schools. It helps to cover school expenses, including tuition and fees, room and board, books and supplies, and transportation. Most aid is need-based and the three types of aid are grants, loans and work-study.

## GRANTS

A grant is a type of gift aid that does not require repayment. Each grant has different requirements for eligibility. Eligibility for need-based grants is determined using federal and/or state formulas and the information the student provided on the [FAFSA](#). Completion of the FAFSA is the only application required to be considered for the specific grant programs listed below.

### **FEDERAL PELL/SEOG** (School of Massage Therapy/College of Undergraduate Health Sciences)

The Federal Pell and SEOG grants are federally funded grants that are credited to a student's account after the Financial Aid Office verifies the student's information with the federal processor.

Beginning in Fall 2012, students are now limited to 12 semesters (or 600%) of Pell Grant eligibility. This change affects all students regardless of when or where they received their first Pell Grant. Students that have received the Pell Grant in the academic year 2011-2012 and have already used 600% of their Pell Grant eligibility will no longer be eligible to receive a Pell Grant starting Fall 2012.

Students may view their percentage of Pell Grant used by logging into [www.nsls.ed.gov](http://www.nsls.ed.gov). 'Lifetime Eligibility Used' percentage will be displayed in the 'Grants' section. Visit the Federal Student Aid website for more information.

### **MINNESOTA STATE GRANT PROGRAM** (School of Massage Therapy/College of Undergraduate Health Sciences)

The Minnesota State Grant Program provides undergraduate students with assistance in meeting the cost of attendance at eligible Minnesota public and private post-secondary institutions of their choice. In order to receive an award, the student must demonstrate financial need, be a Minnesota resident attending an eligible Minnesota institution, be making satisfactory academic progress, and meet any federal and state requirements.

## SCHOLARSHIPS

Northwestern Health Sciences University offers a wide variety of institutional aid including scholarships and endowments. Northwestern Health Sciences University scholarships are awarded based on financial resources, academic performance, service/leadership involvement, trimester level, scholarship history and faculty/clinic recommendation. Funds from outside agencies may also be available.

Institutional scholarships and grants are intended to encourage geographical, cultural and socioeconomic diversity at Northwestern Health Sciences University. Please note that the availability of funds is based on contributions, interest bearing accounts and institutional funding. Actual amounts may vary.

Students may contact the Financial Aid Office for more information about scholarships.

## FEDERAL PERKINS LOAN

A Federal Perkins Loan is a low-interest loan for students with exceptional financial need (undergraduate or graduate). Eligibility for the Federal Perkins Loan, as determined by the Financial Aid Office, is considered when students apply for other forms of federal financial aid. The Financial Aid Office, along with funding levels from the Department of Education, determines the standard Federal Perkins Loan amount awarded per academic year. Interest starts accumulating nine months after the student is no longer enrolled. Repayment begins 9 months after the borrower graduates or drops below half-time status.

## FEDERAL DIRECT SUBSIDIZED AND UNSUBSIDIZED LOANS

Federal Direct Loans are long-term, low-interest loans designed to provide additional funds for post-secondary education.

For the Direct Subsidized Loan the government pays the interest while you are in school at least part-time and during the grace period.

For the Direct Unsubsidized Loan the interest is the responsibility of the student while in school, during the grace period, and during repayment. The interest may be postponed while in school at least part-time. If the interest is postponed it will be capitalized (added to the principal) only once, at repayment.

### **ANNUAL SUBSIDIZED LIMITS** (School of Massage Therapy/College of Undergraduate Health Sciences)

- 1st Year Undergraduates = up to \$3,500
- 2nd Year Undergraduates = up to \$4,500
- Remaining Undergraduate Years = up to \$5,500
- Preparatory Coursework Needed to Enroll in Graduate/Professional Program = up to \$5,500

## **ANNUAL UNSUBSIDIZED LIMITS** (School of Massage Therapy/College of Undergraduate Health Sciences)

- **Dependent undergraduates = up to \$2,000**
- **1st and 2nd year independent students = up to \$6,000**
- **Remaining years for independent students = up to \$7,000**
- **Preparatory Coursework Needed to Enroll in Graduate/Professional Program = up to \$7,000**

## **ANNUAL UNSUBSIDIZED LIMITS** (Graduate Programs)

- **College of Acupuncture and Oriental Medicine = up to \$20,500**
- **College of Chiropractic = up to \$33,000**

## **AGGREGATE LOANS LIMITS**

- **College of Chiropractic** - The overall aggregate maximum is \$224,000 (including undergraduate loans).
- **College of Acupuncture and Oriental Medicine** - The overall aggregate maximum is \$138,500 (including undergraduate loans).
- **School of Massage Therapy/College of Undergraduate Health Sciences** - The overall aggregate maximum is \$31,000 for a dependent student and 57,500 for an independent student (including undergraduate loans).

## **INTEREST RATE**

Congress has passed and the President has signed the Bipartisan Student Loan Certainty Act of 2013, which ties federal student loan interest rates to financial markets. Under this Act, interest rates will be determined each spring for new loans being made for the upcoming *award year*, which runs from July 1 to the following June 30. Each loan will have a fixed interest rate for the life of the loan. For current rates visit: [www.studentloans.gov](http://www.studentloans.gov).

## **LOAN FEES**

Most federal student loans have loan fees that are a percentage of the total loan amount. The loan fee is deducted proportionately from each loan disbursement received.

## **LOAN REPAYMENT**

Repayment begins six months (grace period) after the month in which you cease attending school at least half time. The standard repayment period is 10 years and an extended plan up to 25 years is available to students. During repayment a variety of plans will be available to assist borrowers in meeting repayment obligations, including: Income Based Repayment (IBR), graduated repayment, and standard plan.

## **PARENT PLUS LOAN**

A Parent may borrow a PLUS Loan up to the student's cost of education minus other financial aid for the loan period. The parent must specify the amount he/she wants to borrow. A PLUS loan may not be made for more than the parent requests.

To borrow a PLUS loan, the parent must not have adverse credit.

## **GRADUATE PLUS LOAN**

For graduate and professional students only, students may borrow under PLUS program eligibility criteria and other federal guidelines.

## **FEDERAL WORK-STUDY (FWS)**

This is a federally funded, campus-based work program that provides jobs on campus for financially eligible students to work up to an average of 20 hours per week. The University provides positions for students in the library, admissions, building maintenance and laboratory assistance, among others. To determine Federal Work Study eligibility, students must stop in the Student Records and Financial Aid Office. All FWS funds are subject to IRS tax rules and regulations. The Human Resources Department determines wages.

Northwestern Health Sciences University also participates in the community service program, which encourages students to be involved in community service activities. There are many opportunities, including community events, literacy or reading programs, clinic receptionists and more. Contact the Financial Aid Office for more details.

## **ALTERNATIVE/PRIVATE LOAN PROGRAMS**

There are alternative loans available. You may contact the Financial Aid Office and or the school website for more information.

## **STUDENT EDUCATIONAL FUND PROGRAM (SELF)**

The SELF loan program helps students who need assistance in paying for education beyond high school. To be eligible for the SELF program, a student must be either a:

- Minnesota resident who is enrolled at least half-time in a certificate, associate, bachelor or graduate degree program at an eligible school; or
- Non-Minnesota resident who is enrolled at least half-time in a certificate, associate, bachelor or graduate degree program at an eligible school located in Minnesota.

To be eligible for a SELF loan, the student must have a creditworthy cosigner and may not be delinquent or in default on a SELF or any other outstanding student loan. SELF loan counseling is also required.

The State of Minnesota also requires the completion of the FAFSA. More information and other resources available, go to <http://www.ohe.state.mn.us/>

## **CANADIAN AND INTERNATIONAL STUDENTS**

For those who qualify, students may apply for Canadian and Provincial Loans, Northwestern Health Sciences University International Scholarships and Canadian Tuition Reciprocity (if available). Private loans may be available based on credit rating, a United States citizen or permanent resident cosigner, or other limitations.

## **REQUIREMENTS FOR PRORATING ANNUAL FEDERAL SUBSIDIZED AND UNSUBSIDIZED LOAN LIMITS** (School of Massage Therapy/College of Undergraduate Health Sciences)

NWHSU is required to prorate Federal Subsidized and Unsubsidized Loan when it is known in advance that a student is enrolled for a final period of study that is shorter than an academic year in length.

## **FINANCIAL AID COUNSELING**

Entrance and Exit Counseling are required for students who have or will obtain federal loans while attending Northwestern Health Sciences University. Loan counseling is particularly important for new students who have little or no experience with loan repayment and/or managing educational debt. Northwestern Health Sciences University must conduct Entrance Counseling before releasing the first disbursement of Stafford and Perkins Loans to all first year first time borrowers. The emphasis for Exit Counseling shifts to specific information about loan repayment and debt management. Student loan borrowers can access their federal aid history at <http://www.nslds.ed.gov>.

## **COHORT DEFAULT RATE**

For information regarding the University's Title IV Cohort default rate, feel free to contact the Financial Aid Office.

## **TUITION AND FEES**

For information on tuition and fees, visit the Admissions section of our web site at <http://www.nwhealth.edu> or contact the Office of Admissions at (952/800) 888-4777, ext. 409.

## **SPECIAL CIRCUMSTANCES AND BUDGET ADJUSTMENTS**

Students may contact the Financial Aid Office for special circumstances (reduced income, etc.) and/or budget adjustments (computer, board exams, required course work to complete a degree/certificate, day care, etc.).

## **STUDENT ELIGIBILITY (DRUG CONVICTION)**

Ineligibility resulting from drug conviction is limited to offenses that occurred while the student received Title IV assistance.

## **MANAGING YOUR FINANCIAL AID**

Student loan indebtedness can be burdensome. It is important to understand your loan status. To help manage your financial aid portfolio, you should:

- Apply only for the aid you need. Live like a student now so you don't have to later;
- Keep records of income, expenses and money borrowed;
- Complete all forms accurately and on time;
- Read everything sent to you by the servicer and institution;
- Become familiar with repayment terms of the loans;
- Take advantage of the access to website locations;
- Note that there are no penalties for early payment on your loans;
- Go to <http://www.nslds.ed.gov> to locate your servicer.
- If you are able, make interest payments while in school.
- Do not default on your student loan(s) as there are serious consequences.

## **Frequently Requested Telephone Numbers**

- General information about the federal student financial aid programs: (800) 433-3243.
- Free Application for Federal Student Aid (FAFSA on the Web) assistance: (800) 801-0576.
- Educational Computer Systems Incorporated for Perkins Accounts (888) 549-3274.

## **Useful Web Sites and Consumer Information**

- United States Department of Education and Consumer Information:  
<http://www.studentaid.ed.gov>
- Northwestern Health Sciences University:  
<http://www.nwhealth.edu>
- Completing the Direct Loan Master Promissory Note and Entrance Counseling, Loan Consolidation, Calculators:  
<http://www.studentloans.gov>

For further details on any programs, contact the Student Records and Financial Aid Office at (952/800) 888-4777, ext. 440.

***Please note that financial aid awarding and related processing is subject to change.***



# Northwestern

Health Sciences University



College of Undergraduate Health Sciences



# College of Undergraduate Health Sciences

## MISSION STATEMENT

The mission of the College of Undergraduate Health Sciences is to provide certificate, associate and baccalaureate education in support of students pursuing careers and professional opportunities in the health sciences.

## VISION

The vision of the College of Undergraduate Health Sciences is to be the undergraduate program of choice for health care education, either entirely within the College, or as preparation for advanced health related professions at Northwestern Health Sciences University and other institutions of higher learning.

## Admission Information

Northwestern admits women and men of good character who are qualified by previous education and experience. Enrolling an academically qualified, diverse student body is essential to the Northwestern's mission. Applicants are considered for admission to Northwestern's College of Undergraduate Health Sciences through an open enrollment process.

## Application Procedure

A complete application for admission to the College of Undergraduate Health Sciences must include:

1. \$50 non-refundable application fee
2. The application form filled out completely
3. The Immunization Record filled out completely
4. Official High School Transcript or GED transcript
5. Official College Transcripts (if applying for financial aid)

Application forms in pdf format can be found online at: <http://www.nwhealth.edu>. Admission to the College of Undergraduate Health Sciences is open enrollment. Students who follow the application procedure, submit all necessary documents to complete their admissions application file and meet the qualifications deemed necessary by Northwestern are admitted and can register for undergraduate courses.

## Qualifications

As a student, you must also possess the following abilities, with or without reasonable accommodation, for completion of undergraduate courses:

1. Ability to perform in all laboratory and classroom settings without posing a threat to herself/himself, to the safety and well-being of fellow students;
2. Ability to work cohesively and harmoniously in a team of two or more students in the performance of required classroom and laboratory activities;
3. Ability to see and hear, with or without reasonable accommodation, in order to fulfill classroom and laboratory requirements.

Qualified persons with disabilities, with or without reasonable accommodation, must be able to pass oral, written and practical examinations, and meet all of the classroom and laboratory requirements of Northwestern.

It is in the best interests of both the student and Northwestern to assess the degree of limitation caused by disability. However, Northwestern will make the final determination of whether or not an individual meets all qualifications for study at Northwestern. Additionally, questions regarding qualifications or accommodations should be directed to the Office of Student Affairs.

Northwestern will deny admission to applicants who have been convicted of a misdemeanor of a violent or sexual nature or any felony. The University therefore reserves the right to conduct a criminal background check on applicants or on any enrolled student at any time in the program.

## Minnesota Immunization Requirement

All students born in 1957 or later must comply with the Minnesota State College Immunization Law (Minn. Stat. 135A.14). An admitted student must show proof of DPT immunization within the past 10 years, as well as measles, mumps and rubella immunization after his/her first birthday. However, exemptions are permitted for philosophical or medical reasons.

## **Responsibility of Applicant**

It is the responsibility of the applicant to be aware of the entrance requirements and ensure that those requirements are met prior to enrollment. If Northwestern determines at any time that requirements are not met in full, the student will not be allowed to enroll or to continue enrollment at Northwestern.

## **ACADEMIC POLICIES**

The following provides a summary of our Academic Policies. The official policies are found in the University Student Handbook, which is available online at <http://www.nwhealth.edu>. The University Student Handbook is updated more frequently than the University catalog. In all cases, the Academic Policies as stated in the current University Student Handbook will be followed.

### **Trimester Credits**

The academic calendar includes fall, winter and summer trimesters of 15 weeks each. In general, one credit represents one lecture hour, two laboratory hours or three clinical hours per week.

### **Attendance Policy**

Students are required to fulfill all course responsibilities, including class attendance, which are described by faculty in the course syllabus.

### **Academic Evaluation and Grades**

Academic evaluation provides incentives to students, rewards achievement and identifies students who are having difficulty. Final grades in each subject are issued at the end of each trimester and reflect a student's performance in some combination of the following: comprehensive final examinations; announced tests, quizzes, assignments, classroom and laboratory work; participation in and contribution to class discussions; and attendance. Class grades summarize student achievement levels relative to objectives explained by the instructor. Students who complete all the work assigned in a course are graded as follows: A, B, C, or D (excellent, above average, average or minimal achievement, respectively). Students who fail to achieve minimal competency are graded with F for failure. An incomplete (I) indicates that the full work of the course has not been completed because of illness or some cause beyond the student's control. Students in some classes may be assigned either an S for Satisfactory or a U for Unsatisfactory. The grades of S/U are not included in determining grade point average (GPA). The final grade of U (unsatisfactory) is considered to be a grade of failure in the course. The criteria for assignment of grades are contained in each course syllabus.

## **Academic Standing**

Students must be in good academic standing to serve as Student Senate officers or as officers of approved student organizations. Students are considered in good academic standing when their cumulative grade point average is greater than 2.0 at the end of any trimester. Students are placed on academic probation when their grade point average is less than 2.0 at end of any trimester. The University Student Handbook provides details pertaining to probation, dismissal, and review procedures.

## **Program Changes**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

**UNDERGRADUATE STUDIES COURSE LIST:**

Course		Hours				
Number	Title	Credits	Contact	Lecture	Lab	Clinic
ANAT1001	Anatomy and Physiology 1	4	75	45	30	0
ANAT1002	Anatomy and Physiology 2	4	75	45	30	0
BIOC3110	Biochemistry	4	75	45	30	0
UGE3730	Bioethics	3	45	45	0	0
BIOL2020	Biology Today	2	30	30	0	0
CAP4900	Capstone Project	2	30	30	0	0
BIOL3010	Cell Biology	4	75	45	30	0
UGE3710	Communication Skills for Health Professionals	3	45	45	0	0
UGE3720	Critical Thinking for Health Professionals	3	45	45	0	0
ANTH1001	Cultural Anthropology	4	60	60	0	0
ANTH1005	Culture and Health	4	60	60	0	0
ENGL1001	English Composition	3	45	45	0	0
PHIL3010	Epistemology of Health	4	60	60	0	0
ETHC1001	Ethics	3	45	45	0	0
MATH1005	Foundations of Math	3	45	45	0	0
CHEM2048	General Chemistry 1	4	75	45	30	0
CHEM2049	General Chemistry 2	4	75	45	30	0
PHYS2040	General Physics 1: Fundamentals of Physics	4	75	45	30	0
PHYS2041	General Physics 2: Electricity and Magnetism	4	75	45	30	0

**UNDERGRADUATE STUDIES COURSE LIST (CONTINUED):**

Course Number	Title	Hours				
		Credits	Contact	Lecture	Lab	Clinic
PSYC1001	General Psychology	3	45	45	0	0
BIOL4410	Genetics	4	75	45	30	0
PSYC1002	Health Psychology	4	60	60	0	0
HIST3110	History of Health Care	3	45	45	0	0
ENGL1002	Human Communication	3	45	45	0	0
ANTH2005	Human Origins	4	60	60	0	0
BIOL2010	Introduction to Biology	4	75	45	30	0
MAND3310	Mandarin for Health Professionals	3	45	45	0	0
MEDT1001	Medical Terminology	1	15	15	0	0
BIOL4010	Microbiology	4	75	45	30	0
CHEM2058	Organic Chemistry 1	4	75	45	30	0
CHEM2059	Organic Chemistry 2	4	75	45	30	0
PSYC3210	Psychology of Addiction	3	45	45	0	0
SOC1006	Sex and Gender	3	45	45	0	0
SOC1001	Sociology	3	45	45	0	0
SPAN1001	Spanish for Health Professionals	3	45	45	0	0
CHEM1001	Survey of Biological Chemistry	1.5	22.5	22.5	0	0
UGE3740	Understanding and Using Research	3	45	45	0	0
HIST1003	World History since 1400	4	60	60	0	0

## COURSE DESCRIPTIONS

### **ANAT1001 Anatomy and Physiology 1**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: None

The first in a two-part sequence of courses introduces students to the organization of the body on a chemical, cellular, tissue and system level. Integrating structures (anatomy) and their function (physiology) is a focus of each course in this sequence with this course focusing the skeletal/articular, muscular, and nervous systems in detail. The laboratory portion of the course will include the opportunity to observe prosected human cadavers.

### **ANAT1002 Anatomy and Physiology 2**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: ANAT 1001 Anatomy and Physiology 1

This course builds on the material from Human Anatomy and Physiology 1 and explores the endocrine, cardiovascular, lymphatic/immune, integumentary, respiratory, digestive, urinary and reproductive systems. All systems are integrated using cross-sectional analysis of the human body. The laboratory portion of the course will include the opportunity to observe prosected human cadavers.

### **BIOC3110 Biochemistry**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: CHEM 2059 Organic Chemistry 2

This course will provide students with a solid background in fundamental biochemical concepts including amino acids, proteins, enzymes, biological buffers, carbohydrates, lipids, nucleotides, and metabolic cycles.

### **UGE3730 Bioethics**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course teaches students the structure and process of "doing ethics" relevant to real issues that emerge in professional health care settings. Students respond to case dilemmas, clarifying issues, values, and how they would resolve ethical conflicts. The course focuses on practical problem-solving. Students begin their preparation for professional life by anticipating ethical challenges and working on resolutions.

### **BIOL2020 Biology Today**

2 credits (30 hours): 30 lecture hours  
Prerequisite: BIOL 2010 Introduction to Biology

This is a course that will cover basic biological sciences current events, human environmental questions, and socio-cultural issues, such as (but not limited to) cloning, genetically modified organisms, pollution, climate change, biofuels, euthanasia, evolution, stem cell research, animal and human subjects in research, and health/health care decisions. The course will help students learn about the role biology plays in our society and why it is important to not just understand, but also critically think about it.

### **CAP4900 Capstone Project**

2 credits (30 hours): 30 lecture hours  
Prerequisite: May only take during your last trimester

The Capstone project is designed as the culminating experience for the bachelors candidate in Human Biology that provides the student the opportunity to do three things. First, to demonstrate a mastery of the concepts and skills associated with the Human Biology curriculum by doing a research project. Second, to synthesize the student's experiences and explorations as recorded in the student's portfolio into a story of the student's future pathways. Third, to communicate what the student has learned and accomplished in a report and presentation.

### **BIOL3010 Cell Biology**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: BIOL 2010 Introduction to Biology

This course is a study of eukaryotic cells from both structural and functional viewpoints. Course emphasis is placed on the molecular mechanisms of cell metabolism, growth, division, cell responses to diseases, cellular communication and how cells create and use energy. Labs will provide into insights into cell experiments and methods. Mastering the material presented in this course will aid students planning careers in health fields and enhance their ability to understand issues in biology today.

### **UGE3710 Communication Skills for Health Professionals**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course presents knowledge and skills for personal and professional communication. Students continue working to develop such clinical-practice-related written products as patient referral letters, clinic and educational pamphlets, press releases, cover letters, curriculum vitae, and letters to editors. Each student develops and gives an oral presentation including slides on a randomly-assigned general topic and audience type. All class slide presentations, often 20-30 talks, are then provided to all students in the class for their use as they begin marketing their practices.

### **UGE3720 Critical Thinking for Health Professionals**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

Introduction to scientific reasoning. Students are introduced to the skill of scientific critical thinking in everyday life, much as a scientist uses critical thinking to develop valid and reliable knowledge. Students practice the language or reasoning, and they identify and evaluate assumptions and statements presented as fact. Students evaluate patterns of reasoning and assess the credibility of causal inferences.

**ANTH1001 Cultural Anthropology**  
4 credits (60 hours): 60 lecture hours  
Prerequisite: None  
Cultural anthropology is a course that examines cultures from all over the world using anthropological concepts. The class will comparatively explore data, social patterns, history, diversity, and belief systems across cultures within their respective contexts. Topics to be discussed but are not limited to include culture, cultural change, religion and the supernatural, kinship, family, and descent, art, health and medicine, economics, politics, subsistence, gender, and language. Ethnography, the writing style of the discipline, will also be explored.

**ANTH1005 Culture and Health**  
4 credits (60 hours): 60 lecture hours  
Prerequisite: None  
Culture & Health is a course about how humans use their natural and social environments to maintain health and wellness, understand illness, and heal each other. Essentially, it is an introduction to medical anthropology, the study of medical and health care systems in a global context. We will examine topics such as CAM methods used in different cultures, how people handle life cycle events like birth, reproductive milestones, and death, and what types of medicines people use to treat illness. We will learn about medical disparities, or social inequalities in access to health care and how/why beliefs and personal perspectives on health care matter. We will also be doing applied research in this class on medical disparities.

**ENGL1001 English Composition**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None  
Good writing doesn't just communicate ideas – it also presents the writer as a person who deserves to be taken seriously. This course covers the basic mechanics of constructing sentences and stringing them together into arguments. Along the way we will consider issues such as audience, style, and the "rules" of writing, some of which are not really rules.

**PHIL3010 Epistemology of Health**  
4 credits (60 hours): 60 lecture hours  
Prerequisite: None  
This course introduces students to health and wellness through the lens of epistemology (the study of ways of knowing). Students will gain a sense of appreciation for the scope and subject of the many ways to understand and think about disease, illness, well-being, and healing.

Ways of knowing and thinking about the world inevitably influence our ways of acting in the world. This course will unpack various ways of thinking about the world to generate comparisons and analysis of some primary bodies of knowledge (modern biomedical sciences, indigenous sciences, etc.). We will critically examine selected knowledge systems to better understand their origins, as well as their perspectives of health and disease. An analysis of ways of knowing about health will also force students to examine their own ways of thinking and being.

**ETHC1001 Ethics**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None  
As human beings living among other human beings, we have obligations to one another. Unfortunately, it isn't always clear what those obligations are. This course proposes to help students think more clearly about ethics. We will assemble a toolbox by looking at some of the ethical thinking that has been done in the past, and we will use our tools to address contemporary issues.

**MATH1005 Foundations of Math**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None  
This course is designed to help students acquire fundamental mathematical skills necessary to be successful in undergraduate level courses. Topics include basic concepts of college algebra, trigonometry, analytical geometry, exponents, inequalities, functions including inverses, transformations, and compositions, graphs, vector, limits and an introduction to statistics. The course teaches to translate problem statements into mathematical equations and emphasizes on problem solving.

**CHEM2048 General Chemistry 1**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: None  
The first in a two course sequence in General Chemistry. This course investigates the composition, phases, and chemical reactions of matter. Topics include atomic structure, solution chemistry, moles, chemical reactions and chemical bonding. Students will also be introduced to Green Chemistry concepts and understand the importance of it.

**CHEM2049 General Chemistry 2**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: CHEM2048 General Chemistry 1  
This course continues the General Chemistry sequence with an emphasis on kinetics, solutions, acids and bases, equilibrium, environmental chemistry, modern chemistry and electrochemistry with introductions to organic and biochemistry. Practical real life examples of chemistry as newly reported will be introduced and examples of chemistry in the health sciences will be provided.

**PHYS2040 General Physics 1: Fundamentals of Physics**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: MATH1005 Foundations of Math  
The first in a two course sequence in Physics. This course focuses on classical mechanics and topics include matter, motion, force, work, energy, power, fluids and heat. Examples provided during the course will include the application of physics to the human body. The course has a laboratory component.

**PHYS2041 General Physics 2: Electricity and Magnetism**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: PHYS2040 General Physics 1: Fundamentals of Physics

This is the second in a two-course algebra-based general Physics sequence with lab with an emphasis on areas that apply to understanding the human body. The focus of this course is electromagnetic phenomenon including electricity, magnetism, waves, light and optics and also includes nuclear physics. Examples of electromagnetism in the human body and biomedical applications will be used. This course has a laboratory component.

**PSYC1001 General Psychology**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course provides a basic introduction to psychology. Topics discussed will include psycho-logical theories and clinical approaches to this science. Specific topics may also include historical foundations of psychology, physiological/biological psychology, developmental psychology, sensation and perception, learning theory, cognitive psychology, personality theories, abnormal psychology and health psychology.

**BIOL4410 Genetics**

4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: BIOL2010 Introduction to Biology

This course discusses the principles and methods used in the study of genetics in prokaryotic and eukaryotic model systems. The topics include: Mendelian genetics, population genetics and genetic recombination and mutation. The course will also include an in-depth discussion of genetic processes (the structure and function of DNA, genes and chromosomes, replication, transcription, and translation). Genetic methods (theory and use) will be discussed the use of genetic methods to analyze genes and protein function as well as gene regulation. The genetics of disease (viral, cancer and inherited single gene diseases) as well as the genetics of the immune system will be discussed. The laboratory will address: inheritance of traits, genetic recombination, transformation, transcriptional regulation, and biotechnology techniques.

**PSYC1002 Health Psychology**

4 credits (60 hours): 60 lecture hours  
Prerequisite: None

The field of health psychology includes five principle health domains: individual, community, environmental, health systems and health policy. The goal of this course is to familiarize students with each of these five domains through an examination of the theoretical, empirical and clinical aspects of health. Students will learn to identify and analyze the causes and correlates of health and disease in an increasingly, interrelated and diverse world using research techniques. This course will pursue a global approach towards wellbeing, taking into consideration the social, political and historical context of such issues in each environment. We will discuss the health status of different countries and the role of lifestyles and behaviors on individual outcomes, especially in industrialized countries.

**HIST3110 History of Health Care**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course surveys both theory and practice of health care from prehistoric times to the present day. Major topics will include herbalism, nutrition, childbirth, surgical procedures, pain management, sanitation, antibiotics, and mental illness. Perhaps the most important topic of all will be the history of disease, especially the Black Death and other pandemics. Special attention will be paid to the intersection of medicine and religion, the differences between allopathic and alternative forms of health care, and the historical roles of healers and health care institutions.

**ENGL1002 Human Communication**

3 credits (45 hours): 45 lecture hours  
Prerequisite: None

Of all the things that human beings do, communication may be the most complicated. This is a cross between an academic course and a speech course, combining theory and practice, and borrowing information and ideas from the disciplines of psychology, sociology, history, and cultural anthropology. Major topics include differences in communication styles, non-verbal skills, and the art of persuasion.

**ANTH2005 Human Origins**

4 credits (60 hours): 60 lecture hours  
Prerequisite: None

Human Origins is the study of biological or physical anthropology. This will be a course that examines how humans biologically evolve. The class will explore concepts in the philosophy of science, evolution, genetics, osteology (study of bones), primatology (study of primates), and paleontology (study of extinct organisms). Ultimately, we will be using the tools this discipline provides to make an attempt at answering the question, "What does it mean to be human?" Science writing, the writing style of the discipline, will also be explored.

**BIOL2010 Introduction to Biology**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: None

This course will cover the fundamental principles of biology, emphasizing the unity and diversity of living organisms from the molecular level of organization to the systemic level. Topics will include cell biology, genetics, evolution, and biodiversity. This course provides the foundation for future biology courses.

**MAND3310 Mandarin for Health Professionals**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None

Mandarin is the official language of China and is used by about one-fifth of the world's population. This course is designed for students who are interested in learning how to communicate in Mandarin at an introductory level in a healthcare setting. Students will learn the structure of the Mandarin language and how to express themselves accurately using simple sentences. Students will write and orally present a short story in written Mandarin characters. A working knowledge of Mandarin may be particularly useful for the student who plans to incorporate eastern approaches and modalities, such as acupuncture and Oriental medicine, into his or her practice.

**MEDT1001 Medical Terminology**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: None

An understanding of basic medical terminology is necessary for any education in the health sciences. Students will learn general medical terminology related to anatomy, physiology, pathology, treatments and medical specialties, including basic Latin and Greek roots, prefixes and suffixes. The online course will utilize written assignments, discussion forums and exams. Methods to analyze word structure as opposed to mere memorization of words serve as a foundation for this course.

**BIOL4010 Microbiology**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: BIOL2010 Introduction to Biology

This course is a study of micro-organisms. While the emphasis is on bacteria, the course will also cover viruses, fungi, and protozoa. Structure and function, metabolic pathways, information flow, and impact on society will be discussed.

**CHEM2058 Organic Chemistry 1**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: CHEM2049 General Chemistry 2

This course begins with a review of basic chemical concepts applied to organic molecules and then explores organic chemistry nomenclature, structural isomerism, and stereochemistry. The course includes an investigation of substitution, elimination, and addition reactions and examines the importance of these general concepts and reactions in biological systems. The laboratory component includes general lab techniques and understanding of basic laboratory concepts.

**CHEM2059 Organic Chemistry 2**  
4 credits (75 hours): 45 lecture hours  
30 laboratory hours  
Prerequisite: CHEM2058 Organic Chemistry 1

This course builds on the material covered in Organic Chemistry 1, focusing on the properties, reactions and synthesis of major organic functional groups and detailing the importance of these groups in biological systems. The laboratory component of this course provides experience in synthesis, purification, and instrumental analysis of organic molecules.

**PSYC3210 Psychology of Addiction**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This class will explore the construction, meaning, and impact of addiction in historical, cultural, psychological, and neurobiological perspective. Particular attention will be given to the proposed neurobiological mechanisms associated with addiction and consciousness altering substances and behaviors. Biological and psychological explanations that have been and continue to be used to explain the etiology and meaning of addiction will be examined. This exploration will include considerations of the role of social, cultural, and population differences as they may relate to addictive behaviors.

**SOC1006 Sex and Gender**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course is designed to introduce you to the psychological study of sex and gender. Topics will include: what it means to be a male or a female in our society and other societies around the world; how gender develops over the life span; how gender shapes our lives and how the social world shapes our construction of gender; how similar and different males and females are across a number of domains; and how culture, religion, and the media shape and reinforce ideas about gender.

**SOC1001 Sociology**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: None

This course will guide students through an introductory study of various elements of human interaction. Historical elements related to the development of social theories will be reviewed. This course will review the concepts of social stratification, class, race and ethnicity, gender, culture, and deviance as they relate to a study of sociology. The topics of science, medicine and health care as they relate to a study of sociology will provide a focus of this course. Fundamental concepts related to methodology of sociology research will be addressed. We will examine all topics through the lens of the sociological perspective, which is the ability to see and understand how general society works by observing the particular behaviors of people.

**SPAN1001 Spanish for Health Professionals**

3 credits (45 hours): 45 lecture hours

Prerequisite: None

This course is designed for students who are interested learning how to communicate in Spanish at an introductory level in a health care setting. Students will learn greetings, anatomy and medical terminology, how to take a health history and assess current health state, how to explain treatment, how to make appointments, and cultural competency. Students also will learn how to construct basic sentences, questions, and responses. No previous experience with Spanish is required.

**CHEM1001 Survey of Biological Chemistry**

1.5 credits (22.5 hours): 22.5 lecture hours

Prerequisite: None

A course designed to provide an overview of general, organic and biological chemistry and a preparation for biochemistry. Study of basic concepts related to atomic and molecular structure, bonding, gas laws, acids and bases, chemical thermodynamics, and chemical kinetics; survey of the structure and properties of representative organic molecules and functional groups; survey of the structure and function of biologically important molecules including proteins, carbohydrates, lipids and nucleic acids; overview of intermediary metabolic processes related to carbohydrate and fat metabolism; and an overview of protein synthesis.

**UGE3740 Understanding and Using Research**

3 credits (45 hours): 45 lecture hours

Prerequisite: None

This course includes the foundations of statistics as well as quantitative and qualitative research methods. The overall emphasis are upon (a) following your curiosity and the unknown of interest to formulate your question empirically; (b) assessing and acquiring research of interest and relevance; (c) critical thinking in evaluating the quality of the research; (d) lifelong learning in the context of research.

**HIST1003 World History Since 1400**

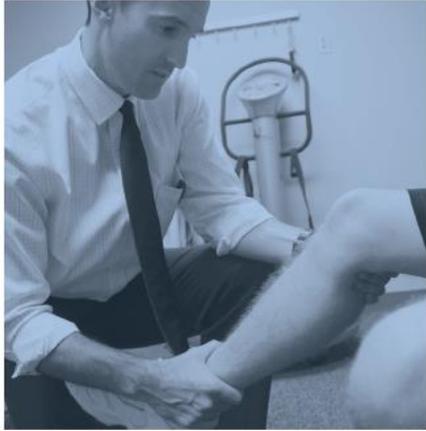
4 credits (60 hours): 60 lecture hours

Prerequisite: None

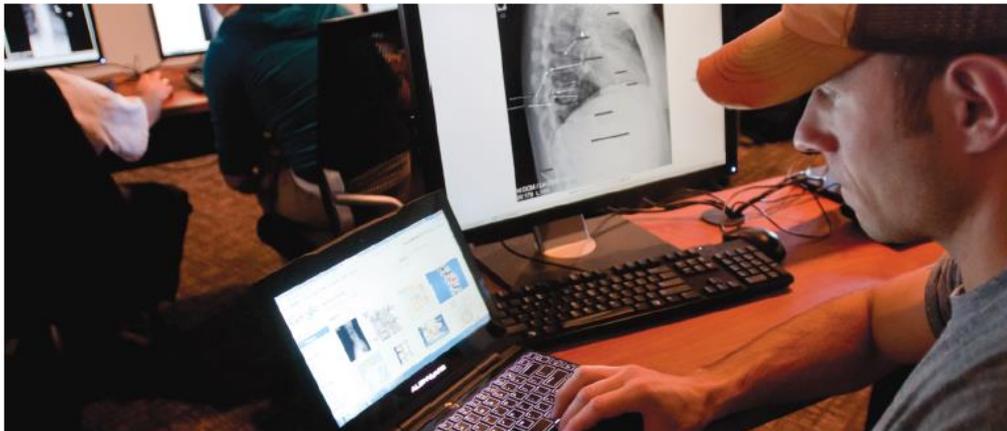
Without knowing where we came from, we can't understand the world we live in now. This course presents a survey of world history from the 15th century to the early 20th century, with an emphasis on the visual arts (painting, sculpture, architecture, decorative arts, ritual objects, clothing). Major topics include religion and philosophy, as well as the development of political and social structures.



# Northwestern Health Sciences University



## College of Chiropractic



# College of Chiropractic

## STRONG ACADEMIC EDUCATION, PHILOSOPHY AND EXPERIENCE

With a rich and interesting history, the chiropractic profession and the doctors who practice this art and science have a unique view of health and disease and important perspectives that are reflected in the philosophy of the College of Chiropractic.

One meaning of philosophy is the love or pursuit of wisdom. Philosophy is not something that is taught or learned in any one particular course, lecture or laboratory. Rather, it is a process that evolves in unique ways for each individual.

We will provide a stimulating environment for thought, observation and experiences through which you will develop your philosophy of health care based upon strong chiropractic principles.

A fundamental principle embodied in the philosophy of chiropractic is the influence of the nervous system on the innate ability of the human body to be self-regulating and self-healing. This is reflected in the emphasis we place on the neuromusculoskeletal system and attention to the subluxation complex through the use of manual adjustment and manipulative and ancillary procedures.

We recognize the interconnections between body, mind, and spirit and the reality that the care we provide must be patient-centered and focuses on the whole person.

Our model of healthcare also embraces a responsibility to respond to both the patient's clinical problems and the promotion of optimal health.

As you pursue your professional education you will experience our philosophy that is the Doctors of Chiropractic:

- Are primary care healthcare providers – with a responsibility to conduct a comprehensive evaluation of the patient
- Are primary contact providers that patients can see without the need for a referral
- Are neuromusculoskeletal specialists who employ hands-on clinical case management
- Participate in collaborative, coordinated and integrative care with other health care professionals for optimal patient care
- Consider the whole person through the use of clinical approaches that focus on prevention of disease and maintaining a state of wellness
- Respect the historical foundations of the profession while embracing new knowledge and evidence informed practice

As a student, you will experience another philosophical principle that guides much of what we do. Simply stated, it's the value we place on critical thinking and an openness to different ways of viewing health and disease – and the practice of chiropractic.

## ADMISSION INFORMATION

### Admission to the College

Northwestern admits as students, men and women of good character, who are qualified by previous education and experience to meet its rigorous academic challenges and to become practicing doctors of chiropractic. New students are admitted at the beginning of each trimester of the academic year: September and January. Transfer students may also be admitted at those times, as well as in May. (See "Transfer Application" section.)

Applications for admission, as well as current tuition and fees, are available online at <http://www.nwhealth.edu> or may be obtained by contacting the Office of Admissions. The application for admission must be accompanied by a nonrefundable application processing fee of \$50 (US dollars). It is the responsibility of the applicant to read this catalog and comply with all provisions and instructions.

Persons who have been convicted of a misdemeanor of a violent or sexual nature or any felony will be prohibited from professional health care practice in many jurisdictions. Northwestern Health Sciences University will deny admission to applicants with such convictions. The University therefore reserves the right to conduct a criminal background check on all applicants and enrolled students.

### Entrance Requirements

The following minimum requirements for admission apply to all candidates seeking admission to the College of Chiropractic and are consistent with the standards set forth by the Council on Chiropractic Education:

#### 1. Total credits and cumulative GPA

- **90 semester credits at bachelor's level:** A minimum of 90 college or university level semester (135 quarter) credits at an institution accredited by a regional accrediting agency recognized by the U.S. Department of Education or an equivalent foreign institution. Remedial or developmental courses will not be accepted. All final decisions regarding applicable coursework are determined by the Dean of the College of Chiropractic.

- **24 semester credits in the Life and Physical Sciences:** A minimum of 24 semester credits (36 quarter credits) in the Life and Physical Sciences. Of these 24 semester credits (36 quarter credits), at least half must include a lecture and lab component.
- **Minimum cumulative GPA of 3.0 on the best 90 semester credits (Standard Track):** A minimum cumulative GPA of 3.0 on a 4.0 scale on the best of the 90 semester credits (135 quarter credits) completed. The best 90 credits must include the 24 semester credits (36 quarter credits) of Life and Physical Sciences.  
**Custom Track:** Students with a minimum cumulative GPA of at least 2.75 on a 4.0 scale on the best of the 90 semester credits (135 quarter credits) may be admitted under a Custom Track Plan and will work closely with an academic advisor. Students who do not meet other requirements should consult the Office of Admissions for further options under the Custom Track Plan.

**NOTE:** A maximum of 16 of the 90 semester credits (24 of the 135 quarter credits) may be earned in a certificate or vocational/technical AAS program from a regionally accredited institution. These credits will be considered pass/fail and will not raise or lower the minimum cumulative GPA.

No more than 20 of the 90 semester credits (30 of the 135 quarter credits) may be acquired through CLEP examinations or challenging of courses and only in courses other than required science courses.

#### 2. Prerequisites

##### Required courses in the Life and Physical Sciences:

For success in the doctor of chiropractic program, these courses are required:

- **General Chemistry 1 (with lab)** - Principles of Chemistry, Inorganic Chemistry or Introductory Chemistry
- **Organic Chemistry 1 (with lab)**
- **Biology 1 (with lab)** - Animal, Vertebrate or General Biology, Zoology, Anatomy, Physiology or Microbiology

### **Recommended additional courses in the Life and Physical Sciences:**

The doctor of chiropractic program has a rigorous basic sciences curriculum. These additional science courses are strongly recommended for a student's successful progress:

- **General Chemistry 2 (with lab)** - Principles of Chemistry, Inorganic Chemistry or Introductory Chemistry
- **Organic Chemistry 2 (with lab)**
- **Biology 2 (with lab)** - Animal, Vertebrate, or General Biology, Zoology, Anatomy, Physiology or Microbiology
- **Physics 1 (with lab) and/or Physics 2 (with lab)**
- **Biochemistry (with lab)**

Other science courses may qualify, including Human Anatomy, Cell Biology, Cell Physiology, Immunology and Genetics. Students may check with one of our admissions representatives to review science prerequisites.

#### **The importance of basic science courses:**

We want you to be successful in the doctor of chiropractic program at Northwestern Health Sciences University. Basic science courses, including Biology, Physics, Inorganic and Organic Chemistry, are the foundation for the understanding of chiropractic science and the application of chiropractic methods.

To successfully progress through our rigorous chiropractic curriculum, it is very important for you to have a solid foundation in the basic sciences. In our experience, we have found that students who enroll in the College of Chiropractic having taken the proper sequence of basic sciences courses as prerequisites are more likely to do well in their coursework.

The graduate-level basic sciences courses you will be taking in your first and second trimesters are very demanding. The stronger your undergraduate background in the basic sciences, the more confident and capable you will be in meeting these challenges.

#### **Recommended general education courses:**

English, Speech or Communications, and Psychology are recommended.

**For prospective chiropractic students who are interested in completing their undergraduate science prerequisites:** Northwestern offers courses through the College of Undergraduate Health Sciences. Several of the courses are offered in an

accelerated format which allows students to complete a full-year of courses in only one trimester (15 weeks). Priority for enrolling in these courses is given to students who have already applied to Northwestern Health Sciences University.

### **Qualifications**

A student must possess the following abilities, with or without reasonable accommodation, for completion of the Doctor of Chiropractic degree program:

1. Ability to use both upper extremities in the performance of common chiropractic procedures and techniques, including but not limited to: positioning patients, palpating, feeling with hands, pushing, pulling, thrusting with hands and wrists, grasping, and lifting up to 10 pounds;
2. Ability to perform in all laboratory and clinical settings without posing a threat to herself/himself, to the safety and well-being of fellow students or patients;
3. Ability to determine depth and intensity of manual pressure and force, as applied in the performance of common chiropractic and adjunctive procedures and techniques;
4. Ability to see and hear, with or without reasonable accommodation, sufficient that the student can identify histologic, cytologic, microbiologic and pathologic structures through a microscope; receive and record patient histories; provide instructions to patients; provide routine patient safety services; perform stethoscopic and other auscultatory examinations; and read and interpret all forms of diagnostic imaging;
5. Ability and willingness to receive chiropractic and adjunctive treatment. Much of the technical instruction in the programs requires reciprocal application of chiropractic and adjunctive techniques. In reciprocal laboratory experiences, receiving techniques is necessary in order to learn proper procedures, and to receive and provide learning feedback. Reciprocal application of technique is also useful for developing sensitivity to client needs. The College may temporarily excuse a student from receiving chiropractic treatment provided that there is a specific medical contraindication, as determined in writing by a licensed health care professional.

All students, with or without reasonable accommodation, must carry out laboratory assignments, including microscopic work and X-ray interpretation. Qualified persons with disabilities, with or without reasonable accommodation, must be able to pass

oral, written and practical examinations, and meet all of the clinical requirements of the University.

It is in the best interests of both the student and the University to assess the degree of limitation caused by disability. However, the University will make the final determination of whether or not an individual meets all qualifications for study at the University. The University accommodations process is found under "Student Life." Additionally, questions regarding qualifications or accommodations should be directed to the Office of Student Affairs.

### Responsibility of Applicant

It is the responsibility of the applicant to be aware of the entrance requirements and to ensure that they are met prior to enrollment. If the College determines at any time that requirements are not met in full, the student will not be allowed to enroll or to continue at Northwestern. The Office of Admissions personnel are available to help prospective students plan their pre-chiropractic curricula.

### Minnesota Immunization Requirement

*All students, even exempted students, must submit an immunization form.*

Minnesota State Law (M.S. 135A.14) requires proof that all students born after December 31, 1956 and enrolled in a public or private post-secondary school in Minnesota be immunized against diphtheria, tetanus, measles (rubeola, red measles), mumps and rubella (German measles) - allowing for certain specified exemptions (see below).

The law requires that Northwestern has proof of a student's compliance by having a Minnesota Immunization Form in their file and available for review by the Minnesota Department of Health and the local community health board.

*Any non-exempt student who does not submit the required information within 45 days after first enrollment cannot remain enrolled at Northwestern.*

### Exemptions

You must submit an online immunization form. However, if you meet one of the following exemptions, you are not required to provide immunization information on the form:

- You were born on or before Dec. 31, 1956
- You graduated from a Minnesota high school in 1997 or later

- You are a transfer student - or graduated - from another Minnesota college or university (post-secondary school)
- You have a medical or conscientious exemption (*see "Special instructions" below*)

### Required immunizations

- Diphtheria/Tetanus (Td or Tdap) - must be within 10 years of your enrollment date at Northwestern
- Measles, Mumps and Rubella (MMR) - 1 dose after age 12 months (*2 doses recommended*)

### Application Procedure

The first step in the application process is to submit a fully completed application for admission. Applications are available online at <http://www.nwhealth.edu/admissions/how-to-apply/chiropractic/> or from the Office of Admissions. The application must include:

**1. Obtain a username and password.** If you have not already done so, submit your contact information. After you submit your contact information, you will receive an email from NWHSU Admissions with your username, password and a link to the online application portal.

*If the NWHSU email is not in your inbox, check your spam folder.*

If you submitted your contact information in the past and no longer have access to your user name and password, contact the Office of Admissions at 952-885-5409 and we will provide you with this information.

**2. Log In to the application portal.** You may now login and start your online application. At any time, you may save your application, logout, and complete it later.

**3. Complete the application.**

### Application fee

There is a non-refundable \$50.00 application fee required with submission of your application.

### Request official transcripts

Have your official academic transcripts from all previously attended post-secondary institutions (including colleges, universities, vocational/technical schools and PSEO credits) sent directly to

Northwestern Health Sciences University. To request an official transcript, contact the Registrar's Office at your prior institution(s). Transcripts from any previous graduate-level work are also required.

**All official transcripts should be sent directly to:**

Northwestern Health Sciences University  
ATTN: Office of Admissions  
2501 W. 84th St.  
Bloomington, MN 55431

**References**

Provide the name, email and mailing address of three references who you have known for at least six months. An email address and mailing address are required, so please have this information available when you apply.

References from doctors of chiropractic, science instructors and other healthcare professionals are preferred, provided they know you well. Northwestern will send instructions to these people on how to submit a reference. Relatives are not accepted as references.

**Essay**

Write a 2-page essay, divided into two parts:

**Part I:** Discuss your:

- a. Background
- b. Personal goals
- c. Reason for choosing the chiropractic profession
- d. Direct experience with chiropractic, and
- e. Reasons for choosing the College of Chiropractic at Northwestern Health Sciences University

**Part II:** Describe a major personal accomplishment and your reasons for that selection.

**Selection of Candidates**

The Admissions Committee seeks to matriculate students who best suit the philosophies and goals of the program, which include providing an education in the scholarly and humane aspects of chiropractic and fostering the development of leaders who will advance chiropractic practice and knowledge. Northwestern seeks to select students who have strong academic records and who demonstrate the motivational and personal characteristics suitable for a career in chiropractic. Willingness to provide service and a caring attitude are important

characteristics of the future doctor of chiropractic. The University employs a rolling admissions process. Therefore, early application could increase the applicant's probability for acceptance. Students are strongly encouraged to apply at least nine to 12 months prior to the first day of their first academic term.

The University encourages campus visits for all applicants and reserves the right to require an interview.

**Tuition Deposit Policy**

Applicants will be notified in writing of the Admission Committee's decision regarding their application following receipt of all application materials and committee review. Upon notification of acceptance, a candidate must remit a tuition deposit of \$300 (US dollars) to reserve a position in the entering class. This tuition deposit is non-refundable but is applied toward the first trimester tuition. The tuition deposit should be submitted shortly after notification of acceptance since processing of financial aid is initiated only after receipt of the tuition deposit. First trimester students who have been accepted and paid their \$300 tuition deposit must pay the balance of their first trimester tuition on the first day of class. If the student has a Stafford Loan in progress for the first trimester at Northwestern, then the first trimester tuition will be credited against this loan. It is important to note that because of the limited space available in each class, scheduling priorities and the cost of education, the institutional refund policy does not apply to the \$300 tuition deposit.

**Transfer Students**

A student wishing to transfer from another chiropractic college must:

1. Follow the same application procedures as a new student (see previous section in catalog);
2. Have official academic transcripts from all previously attended post-secondary institutions (including colleges, universities, vocational/technical schools and PSEO credits) sent directly to Northwestern Health Sciences University. To request an official transcript, contact the Registrar's Office at your prior institution(s). Transcripts from any previous graduate-level work in addition to the previous chiropractic institution(s) are also required.
3. Meet all of Northwestern Health Sciences University's College of Chiropractic prerequisites in place at the time of application.

4. Provide in the application contact information for at least two faculty members at the other chiropractic institution(s) previously attended who can provide completed online recommendation forms.
5. Provide a letter from the registrar at the previous chiropractic institution(s) indicating that the student is in good academic standing and would be eligible to continue studies at that institution.

### **Transfer Policy**

The institution where you completed your transfer coursework must be accredited and recognized by the Council on Chiropractic Education (CCE) and the U.S. Department of Education. Transfer credit from other doctoral health programs will be considered, provided the previous institution is regionally or professionally accredited at the graduate or professional level and course work is applicable to the Doctor of Chiropractic degree.

The transfer policy requires that a letter from the registrar at the previous chiropractic institution indicating that a student is in good academic standing and would be eligible to continue studies at that institution, is provided. Students not in good academic standing will not be considered for admission as a transfer student to Northwestern Health Sciences University; however, admission as a new student will still be considered according to the regular admission policies.

Courses are eligible for transfer to Northwestern if they are not used as prerequisite courses, they are current within 5 years of the date of enrollment at Northwestern, and a grade of C or better has been earned. Transfer courses must have similar course content, title, length or objective, and correspond to courses within Northwestern's chiropractic curriculum. The College of Chiropractic at Northwestern Health Sciences University will determine comparability.

All courses submitted for transfer must be evaluated and approved prior to the student's enrollment.

A transfer student must complete a minimum of five trimesters of resident study at Northwestern prior to graduation.

Excessive student loan debt may be a factor in the student's ability to transfer. The Student Records and Financial Services Office will set upper limits of previous indebtedness.

Transfer policies are subject to change. Contact the Office of Admissions for current information.

### **Advanced Placement Exams (competency exams)**

An advanced placement exam (competency exam) can give a student credit for a Northwestern course based on work completed. The decision to offer a competency exam is based on the faculty and dean of the appropriate department.

Applicants may sit for competency examinations if:

1. Official transcripts show work in the subject area in addition to that required for admission and taken in upper-division courses.
2. Meet all of Northwestern Health Science University's College of Chiropractic prerequisites in place at the time of application.
3. Contact information is provided in the application for at least two faculty members at the chiropractic institution(s) previously attended who can provide completed online recommendation forms.

### **Non-Program Students**

Students not currently admitted to a program may enroll in a course for credit, if they meet the prerequisites, space is available, and approval for attendance in the course has been granted by the course instructor and the program administrator.

Students that are granted approval to enroll in a course should contact the Office of Admissions for a special application and registration instructions.

### **International Students**

Northwestern Health Sciences University welcomes the diversity that international students bring to the University community. The University is a non-residential campus, therefore, no housing is available to students. Individuals in F-1 student status are not eligible to seek employment off campus. All classes at Northwestern are taught in English

Matriculants from foreign countries must meet the same educational requirements as students matriculating from the United States. The student should note the entrance requirement and application procedure sections. The student must also fulfill the following:

1. Follow the same application procedures as a new student (see previous section in catalog);
2. Verify competency in English. All classes at Northwestern are taught in English.

A student may verify competency in English in the following manner:

- a. International students must provide the following documentation in addition to the admission requirements: Applicants completing the paper-based examination must earn a score of 540 or higher. Applicants completing the computer-based examination must earn a score of 83 or higher. Results of the TOEFL® must be sent directly to Northwestern from the testing agency.

We reserve the right to request proof of English proficiency of any applicant.

3. Provide evidence of having financial resources to complete a minimum of one year of education. Official bank statements indicating sufficient funds are required.
4. Have foreign transcripts evaluated by WES: World Education Services, Inc., PO Box 5087, Bowling Green Station, New York, NY 10274, USA; phone: (212) 966-6311. Official copies of the course-by-course evaluation must be forwarded directly to both Northwestern and the student. Contact the Office of Admissions for a WES application form or names of other accepted transcript evaluation services.

As an international student, you must be aware of the licensure requirements in the country in which you wish to practice. We recommend you contact the chiropractic licensing board in your country for that information.

### **Educational Requirements of Non-US Citizens**

The programs listed below are recognized as being equivalent to the pre-professional requirements of the CCE-USA. If you have successfully completed one of these programs, this may fulfill the entrance requirements to the College of Chiropractic. However, students who have completed these programs should contact the Office of Admissions for the most current information.

1. The French Propedeutique
2. The Danish Matematisk Studentereksamen
3. Odense University Pre-chiropractic Program
4. The Swiss Matura and First Medical Propedeutical or qualifying report
5. The Richmond College of London Pre-chiropractic Program
6. College d'enseignement general et Professional or its Canadian English equivalent.

For students from Mexico, a special schedule of courses has been developed which supplements the Bachillerato Preparatoria as the prerequisite for entry into the College of Chiropractic. Students from Mexico should contact the Office of Admissions for the most current information.

Northwestern reserves the right to request a transcript review by an evaluation service for any courses completed outside of the United States.

## **BACHELOR OF SCIENCE IN HUMAN BIOLOGY DEGREE COMPLETION PROGRAM**

The Bachelor of Science in Human Biology (BS) is a degree completion program. The BS in Human Biology degree completion program is designed to allow eligible students to complete the course requirements for a BS in Human Biology while earning their Doctor of Chiropractic. Chiropractic students who have not yet earned a bachelor's degree are encouraged to apply. In addition, chiropractic students who have a bachelor's degree are eligible to earn a second bachelor's degree.

### **Statement of Purpose**

There are both professional and practical reasons to complete your BS in Human Biology. In addition to the thorough grounding in the biological sciences offered by courses taken in the first three trimesters of the Doctor of Chiropractic program, the BS in Human Biology degree completion program offers these benefits:

- Professionally, you will develop your oral and written communication skills and your understanding of the philosophical foundations for the scientific method.
- Having a bachelor's degree will generally increase your credibility if you serve as an expert witness, should you be called to testify in court.
- An increasing number of states require a bachelor's degree for chiropractic licensure, and some managed care organizations show a preference for chiropractors with a bachelor's degree when making network inclusion decisions.
- In general, a bachelor's degree increases your professional credentials and provides you the opportunity to excel in your chiropractic practice.
- This BS in Human Biology will help with meeting licensure procedures in states that require a bachelor's degree prior to obtaining a license to practice. Some state licensing boards may require additional education upon beginning a chiropractic program. For more information, please consult with the Federation of Chiropractic Licensing Boards at [www.FCLB.org](http://www.FCLB.org).

## **Course Requirements and Curriculum Overview**

The BS in Human Biology is awarded to chiropractic students who have earned the required academic credit in four areas:

General Education requirement of 30 credits with a minimum of 4 credits in each of the following categories: Communication, Social Science, Humanities and Natural Science/Math. This requirement is normally completed as part of the entrance requirements to the chiropractic program.

1. Foundational Science requirement: General Chemistry 1 and 2 with lab, Organic Chemistry 1 and 2 with lab, General Physics 1 and 2 with lab, and a general Math course (minimum 3 credits). Each of these courses must be completed with a grade of C or better.
2. Biology concentration courses taken during Trimesters 1 through 3 of the Doctor of Chiropractic program at Northwestern (Section A);
3. Twelve (12) credits of coursework from the Health Professions Core category of courses. These courses must be taken at NWHSU, but can be used to satisfy entrance requirements to the chiropractic program.

### **Section A: Biology Concentration**

Courses taken in the Doctor of Chiropractic program:

#### **Trimester 1:**

- 11010 Biochemistry 1 (5 credits)
- 13010 Gross Anatomy 1 (5.5 credits)
- 15010 Histology 1 (3.75 credits)

#### **Trimester 2:**

- 11330 Biochemistry 2 (2 credits)
- 14220 Embryology (2 credits)
- 13120 Gross Anatomy 2 (5.5 credits)
- 15120 Histology 2 (3.5 credits)
- 11120 Physiology 1 (4.5 credits)

#### **Trimester 3:**

- 11230 Physiology 2 (4.5 credits)

**Total: 36.25 credits**

### **Admission Requirements**

1. Completion of pre-chiropractic entrance requirements

For more information or to review your eligibility for the BS in Human Biology degree completion program, contact the Office of the Registrar.

### **Graduation Requirements**

1. Completion of all program course requirements.
2. Cumulative GPA of 2.0 or better for courses taken at NWHSU toward the BSHB

### **PROGRAM CHANGES**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

## **CLINICAL EXPERIENCE**

A diverse array of clinical opportunities is available for Northwestern chiropractic interns. Students participate in these clinical experiences starting in Trimester 6 and extending through graduation. These educational programs demonstrate the University's commitment to clinical excellence and preparedness for professional success.

### **University Health Services**

In Trimester 6, students complete a structured laboratory experience in which they refine their skills by interviewing, examining, diagnosing, preparing treatment plans, giving a Report of Findings and providing chiropractic care to early trimester students. During this initial phase, students review, practice and discuss all elements of the clinical process in laboratory, lecture and small group discussion settings. Trimester 7 through 9 student interns provide care to Northwestern students, employees and their families in University Health Services, which is located in the J. Lamoine De Rusha Learning Center.

### **Northwestern's Natural Care Centers and Community Based Internship**

In Trimesters 7 through 9, students intern under the supervision of a faculty clinician at the University Health Services, fee-for-service Natural Care Centers of the University or the Community Based Internship (CBI) program. Northwestern's internships provide students with rich clinical experiences, contact with diverse patient populations and opportunities to build business skills. In each setting, a small student-to-faculty ratio results in a close relationship between the clinical mentor and the intern.

The Natural Care Centers are located in the Twin Cities metropolitan area. The Bloomington Natural Care Center is located on the University campus and the Natural Care Center at Woodwinds is located on a hospital campus. The Natural Care Centers feature a variety of patient services, including chiropractic, massage therapy, acupuncture, Oriental medicine, healing touch, naturopathy and advanced practice nursing services.

The Community Based Internship program, a Northwestern innovation, is another opportunity available to students in Trimesters 7 through 9. Students who serve their internship in the CBI program are placed in the private practice of a doctor of chiropractic who participates with the University in clinical education. Approximately 125 doctors in the Metro area meet the rigorous internship standards to mentor chiropractic students from Northwestern during their internship experience.

### **Clinical Rotations**

The promotion of integrated and collaborative natural and conventional medical care is a unique objective of Northwestern. As a complement to their primary clinical experience, students observe the clinical practices of chiropractors and other health care professionals such as neurologists, orthopedic surgeons, dentists, radiologists, massage therapists and Oriental medicine practitioners. Through participation in this program, students come to better understand the rationale for different approaches to care, are exposed to a wider range of patient conditions, understand the means for patient management through consultations and referrals, and have the opportunity to network with specialists. Additionally, Northwestern has established clinics at St. Agnes Schools in Saint Paul, Pillsbury House in South Minneapolis and downtown at the Salvation Army's Minneapolis Harbor Light Center. Students, under faculty supervision, provide free care to diverse patients in these communities.

### **Preceptorship Program**

In Trimester 10, students who have completed all the academic and clinical requirements of the University and the Council on Chiropractic Education have the option of completing their training with doctors of chiropractic practicing in most states and many foreign countries. These students may also complete their training in any of the University or CBI program clinics. This program provides an opportunity for final-term students to begin the transition to private practice.

## ACADEMIC POLICY

The following provides a summary of our Academic Policies. The official policies are found in the University Student Handbook, which is available online at <http://www.nwhealth.edu>. The University Student Handbook is updated more frequently than the University catalog. In all cases, the Academic Policies as stated in the current University Student Handbook will be followed.

### Trimester Credits

The academic calendar includes fall, winter and summer trimesters of 15 weeks each. In general, one credit represents one lecture hour, two laboratory hours or two clinical hours per week.

### Attendance Policy

Students are required to fulfill all course responsibilities, including class attendance, which are described by faculty in the course syllabus.

### Academic Evaluation and Grades

Academic evaluation provides feedback to students and summarizes student achievement relative to published learning objectives.

Evaluation of student performance is based on the following grading scale: A, B, C, D or F (excellent, above average, average, minimal achievement or failure). Honor grade points (for calculating grade point averages) are awarded as follows: A equals four points, B equals three points, C equals 2 points, D equals 1 point and an F equals 0 points. An incomplete (I) indicates that the work in a course has not been completed due to circumstances beyond the students control (e.g. major illness or other life changing circumstance). The criteria for assigning grades are contained in each course syllabus.

The grades of S for Satisfactory and U for Unsatisfactory can also be used to assess student achievement. The grades of S/U are not included in determining grade point average (GPA) The final grade of U (Unsatisfactory) is considered to be a grade of failure in a course.

## Academic Honors

Students receiving a grade point average (GPA) of 3.50 or better are placed on the Dean's List. Academic honors are determined according to the following grade point levels:

<u>Honor</u>	<u>GPA Range</u>
Cum laude	3.50 – 3.69
Magna cum laude	3.70 – 3.89
Summa cum laude	3.90 – 4.00

## Academic Standing

A student is considered in good academic standing unless they are on probation, dismissed and not readmitted, or suspended. Students must be in good academic standing to serve as Student Senate officers or as officers of approved student organizations.

## Regulations Concerning Probationary Status

Students are placed on probation when their grade point average is less than 2.0 at the end of any trimester. Students are automatically placed on probation if they earn a failure in any course. The University Student Handbook provides details pertaining to probation, dismissal, and review procedure.

## GRADUATION

### Graduation Requirements

The Doctor of Chiropractic degree is granted to those candidates who have:

1. completed the required course of study, of which the past five terms have been in residence at Northwestern Health Sciences University;
2. demonstrated competency in clinic and completed internship and field experience requirements;
3. earned a cumulative grade point average (GPA) of 2.0 or better;
4. fulfilled all financial obligations to the University;
5. recommended for graduation by the faculty.

### Graduation Rate

The average five-year graduation rate for cohorts matriculating between the Fall of 2003 and the Summer of 2005 is 90 percent.

## LICENSURE

Successful completion of a Doctor of Chiropractic degree, or its equivalent, is a minimum eligibility requirement for examination before the licensing boards in all 50 states and the District of Columbia, and all foreign countries that license chiropractic practitioners. Some jurisdictions may impose requirements for licensure in addition to a Doctor of Chiropractic degree. Professional licensure requirements vary by jurisdiction. Students should not rely upon staff descriptions or statements regarding licensure requirements and need to consult directly with the licensure board for the profession and in the state or province in which they intend to practice. Information regarding licensure policies and requirements may be found in the Office of Alumni, Development and Career Services or in the Greenawalt Library.

Receipt of a degree from Northwestern Health Sciences University does not guarantee a license or certification to practice. States vary in the specific courses of study required and/or state-based testing for certification or licensing. Students are responsible for confirming with the appropriate board(s) to determine the specific requirements for the state(s) in which they intend to practice and/or seek employment.

## COLLEGE OF CHIROPRACTIC

### Curriculum Overview

The Doctor of Chiropractic program consists of seven 15 week and three 17 week trimesters, typically completed in three and a half years. The earliest trimesters consist of a strong foundation of basic sciences integrated with introductory chiropractic and clinical courses. These courses lay the groundwork for further study in the clinical sciences, as well as clinical experiences. A 12-month public clinic internship and preceptorship constitute the last three trimesters. Northwestern offers three trimesters: fall, winter and summer.

Students begin learning “hands-on” chiropractic techniques beginning in their first trimester, and progress to supervised in-class adjusting in Trimester 3. Chiropractic therapies that are taught are broad-based, but stress those adjusting and manipulative procedures that have been proven most effective and which are consistent with biomechanical and physiological principles.

These adjusting skills are complemented by related therapeutics such as physiological therapeutics, nutrition counseling, exercise training, rehabilitation, and mobilization procedures. Students learn to educate patients regarding healthy living practices, encouraging a holistic view of both mental and physical well-being.

Graduates of Northwestern are prepared to practice as first-contact, primary care chiropractic physicians, able to take responsibility for the health of patients. The diagnostic acumen and therapeutic skill sets required for primary care clinicians requires a strong background in the basic sciences, as well as current and relevant studies in the clinical sciences. Critical thinking and clinical decision-making skills must be developed in order to make the most appropriate patient-centered health care decisions.

Northwestern students are trained to work in cooperation with other health care providers in interdisciplinary practices. Opportunities are also available for interns to spend time as observers in a variety of clinical settings, including local medical practices.

### Course Load

The breadth, depth and rigor of courses and resulting study load in each term of the curriculum at Northwestern is similar to that in other health care professional schools. As a result, students should expect substantially heavier loads at Northwestern than at colleges where they completed their pre-chiropractic studies. Those entering or continuing students who wish to modify their course load may benefit from split-schedule registration. A student may request split-schedule information from the Office of the Registrar. Use of a split schedule of courses may add some time and expense to the completion of the academic program.

Due to the nature of the chiropractic program of study, all students are expected to maintain continuous enrollment. However, in the event that a student requires a term off due to unforeseen circumstances, they may request a leave of absence.

## **Course Sequence**

The Doctor of Chiropractic program consists of seven 15 week and three 17 week trimesters, typically completed in three and a half years. The curriculum is designed to develop evidence informed, portal-of-entry chiropractic physicians who are prepared to practice in collaboration with other health care providers and in various practice environments.

Trimesters 1 and 2 emphasize the basic sciences, and introduce students to chiropractic principles and methods, radiology, and business foundations. Beginning in the first trimester, students will participate in clinical observations. In Trimesters 3, 4, and 5 students will complete the basic science sequence and progress into the clinical sciences, including diagnosis and care options. At the same time, students will progress through a clerkship experience in trimesters 4 through 6 in the DeRusha Clinical Education Center.

In Trimesters 7 through 10 students will participate as an intern in university clinics or a private practice affiliated with the College of Chiropractic.

## **Curriculum Organization**

The doctor of chiropractic curriculum is comprised of 84 course offerings, organized in eight academic and clinical departments. The sequence provides a strong basic science basis upon which the chiropractic and clinical sciences are built. As clinical subjects are introduced, students make the transition to becoming doctors of chiropractic. In the classroom, laboratory and clinics, students learn to take patient health histories and conduct examinations (including clinical, orthopedic, neurologic, laboratory and imaging examinations) and interpret findings in forming clinical decisions, leading to a diagnosis. Students learn that proper diagnosis is fundamental in determining appropriate treatment and in measuring the patient's response to chiropractic care.

### ***Department of Basic Science (15 courses, 55.75 credits)***

Chair: Mary Tuchscherer, MS, PhD, DC

Courses include biochemistry, anatomy (including a focused course on the spine and pelvis), embryology, histology, immunology and microbiology, neuroscience, pathology, and physiology. These courses provide a firm foundation for the development and acquisition of clinical skills and knowledge. These sciences are essential to the development of an understanding of the complexities of the structural basis of health and disease, as well as the nature of the functioning of the human body in health and disease.

### ***Department of Chiropractic Studies (16 courses, 28.25 credits)***

Chair: Donald Eggebrecht, BA, DC, DABCO

Courses in chiropractic principles and philosophy provide students with the history of the chiropractic profession, as well as the nature of the chiropractic health care model and its principal tenets. Chiropractic methods courses, including lectures and experiential learning, set the stage for the life-long journey to becoming a master in the art of chiropractic adjustment and manipulation. Students will take classes covering physiological therapeutics, exercise and rehabilitation, as well as three years of methods curricula.

### ***Department of Diagnostic and Clinical Sciences (15 courses, 42.5 credits)***

Chair: William Elkington, BA, DC

The process of arriving at a diagnosis involves cognitive, behavioral and affective skills that are acquired over a period of time and sharpened with clinical experiences. These courses are delivered over a six-trimester period and include a variety of learning experiences, such as lecture, small-group, experiential laboratories, self-directed study and online learning. The courses include Clinical Skills 1 and 2 (which prepare students to obtain a medical history and perform a physical examination), clinical pathology, and a number of specialized system-based courses which cover the diagnosis and chiropractic role in the management of a variety of health problems.

### ***Department of Health Promotion and Wellness (11 courses, 23.45 credits)***

Chair: Tolu Oyelowo, MS, DC

The health promotion and wellness course sequence is designed to provide students with the knowledge and skills necessary to apply chiropractic care to special populations and includes courses covering the unique aspects of diagnosis and treatment of pregnant patients, infants and children, women, and the elderly. Courses in this department also cover the topics of public health, health promotion, and wellness, especially as these apply to the practice of chiropractic.

***Department of Diagnostic Imaging  
(7 courses, 15.5 credits)***

Chair: Anita L. Manne, BS, DC, DACBR

The diagnostic imaging sequence provides the student with the skills and knowledge to use imaging appropriately in chiropractic practice. The role of imaging technology in diagnostic decision-making is covered in a carefully constructed sequence of courses beginning with normal radiographic anatomy and culminating with specialized courses covering all aspects of the chiropractic imaging sciences.

***Department of Business and Professional Foundations  
(10 courses, 12.5 credits)***

Chair: Terry Erickson, BS, DC

Northwestern's business and professional foundations curriculum is the most extensive business curriculum in chiropractic education and spans nine trimesters. The learning opportunities in this area will allow students to develop the personal and business skills required to successfully operate a professional health care practice. The principles covered are applicable regardless of the business and professional entity or arrangement the graduate chooses.

***Department of Clinical Education  
(9 courses, 47 credits)***

Chair: Warren Moe, BS, DC, CCSP

Clinical training starts in the first trimester and continues through the entire curriculum, beginning with observation, and progressing to mentored patient contact for competent and successful chiropractic practice. Students develop their patient care skills through a variety of real-world experiences in the Natural Care Centers of Northwestern Health Sciences University, with chiropractic doctors working in private practice settings, and in community service learning environments.

**Elective Courses**

There are a growing number of elective courses offered by the College of Chiropractic. Students are required to take a minimum number of electives beginning in the seventh trimester. Electives include courses in chiropractic methods, cases studies, research, diagnostic imaging, geriatrics, strategic planning, issues in social biology and others.

**Course List**

The required curriculum for the Doctor of Chiropractic degree is composed of a sequence of courses offered in 10 separate 15- or 17-week trimesters for a minimum total of 4,320 contact hours, exclusive of elective courses of study.

**PROGRAM CHANGES**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

**COLLEGE OF CHIROPRACTIC COURSE LIST:**

**Trimester 1 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
11010	Biochemistry 1	4	2	–	–	5	90
23510	Business and Professional Foundations 1	4	–	–	–	1	15
13010	Gross Anatomy 1	3	5	–	–	5.5	120
15010	Histology 1	3	1.5	–	–	3.75	67.5
22710	Infection Control	.2	–	–	–	.2	3
19001	Introduction to Clinical Reasoning 1	–	1	–	–	1	15
33010	Methods 1: Skills Analysis 1	–	2	–	–	1	30
31010	Principles and Philosophy 1	1	–	–	–	1	15
20010	Skeletal Radiology 1	1	1	–	–	1.5	30
34010	Spine and Pelvis	3	–	–	–	3	45
Totals		19.2	12.5	–	–	22.95	430.5

**Trimester 2 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
11330	Biochemistry 2	2	–	–	–	2	30
23520	Business and Professional Foundations 2	2	–	–	–	1	15
14220	Embryology	2	–	–	–	2	30
13120	Gross Anatomy 2	4	3	–	–	5.5	105
15120	Histology 2	3	1	–	–	3.5	60
29002	Introduction to Clinical Reasoning 2	0	1	–	–	.5	15
33120	Methods 2	1	2	–	–	2	45
12120	Neuroscience 1: PNS	4	–	–	–	4	60
11120	Physiology 1	3.73	2	–	.27	4.5	75
31120	Principles and Philosophy 2	2	–	–	–	2	30
Totals		23.73	8	–	.27	27	465

**Trimester 3 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
23530	Business and Professional Foundations 3	2	–	–	–	.75	12
36001	Clinical Skills 1: Patient Interviewing	1	1	–	–	1.5	30
32050	Foundations of Evidence-Informed Practice	1.5	–	–	.5	2	30
16140	Immunology & Clinical Microbiology	2	1	–	1	3.5	60
33230	Methods 3	.5	3.5	–	1.25	3.25	75
12230	Neuroscience 2: CNS	3	–	–	–	3	45
36030	Neuromusculoskeletal System 1: Principles & Overview	3	–	–	–	3	45
11230	Physiology 2	3.73	1	–	.27	4.5	75
37030	Principles and Philosophy 3	2	–	–	–	2	30
20130	Skeletal Radiology 2	2	1	–	–	2.5	45
	Totals	20.6	7.5	–	2.97	26	447

**Trimester 4 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
23540	Business and Professional Foundations 4	2	–	–	–	.75	12
46002	Clinical Skills 2: Physical Diagnosis	3	2	–	–	4	75
33340	Methods 4: Lumbopelvic Manual Therapies	1	3.5	–	.5	3.25	75
36140	Neuromusculoskeletal System 2: Spinal Disorders	4	1	–	–	4.5	75
36141	Neuromusculoskeletal System 3: Extremity Disorders	2	3.25	–	–	3.63	79
17030	Pathology 1	2.6	–	–	.4	3	45
17140	Pathology 2	2.6	–	–	.4	3	45
22040	Principles and Philosophy 4	2	–	–	–	2	30
20240	Skeletal Radiology 3	2	1	–	–	2.5	45
	Totals	21.2	10.75	–	1.3	26.63	481

**Trimester 5 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
None	Northwestern Integrated Clinical Exam (NICE 2)	–	–	–	–	–	–
23550	Business and Professional Foundations 5	2	–	–	–	.75	12
36350	Clinical Nutrition 1	4	–	–	–	4	60
24050	Clinical Pathology 1	1	1.5	–	1	2.75	52.5
21250	EENT	2	1	–	–	2.5	45
25150	Infectious Diseases	2	–	–	–	2	30
41050	Introduction to Clinical Chiropractic	1	–	–	–	1	15
34150	Methods 5	1	2	–	–	2	45
56003	Neurodiagnosis	2	1.5	–	–	2.75	52.5
35151	Physiological Therapeutics 1: Modalities	1	2.5	–	–	2.25	52.5
25250	Public and Preventive Health	1.75	–	–	.25	2	30
20350	Skeletal Radiology 4	2	1	–	–	2.5	45
	<b>Totals</b>	<b>19.75</b>	<b>9.5</b>	<b>–</b>	<b>1.3</b>	<b>24.5</b>	<b>439.5</b>

**Trimester 6 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
23565	Business and Professional Foundations 6	2	–	–	–	.75	12
23365	Cardiopulmonary System	3	2	–	–	4	75
41060	Clinic Internship 1	1	–	4	–	3	75
24160	Clinical Pathology 2	3.5	1.5	–	–	4.25	75
23562	Gastrointestinal/ Genitourinary and Men's Health	3	2	–	–	4	75
34260	Methods 6	1	2	–	–	2	45
33561	Physiological Therapeutics 2: Soft Tissue Techniques	1	2	–	–	2	45
24760	Principles and Philosophy 5	1	–	–	–	1	15
20460	Radiation Physics and Safety	2	1	–	–	2.5	45
20661	Radiology of the Chest and Abdomen	4	2	–	–	2.5	90
	<b>Totals</b>	<b>21.5</b>	<b>12.5</b>	<b>4</b>	<b>–</b>	<b>26</b>	<b>552</b>

**Trimester 7 – 15 weeks**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
23575	Business and Professional Foundations 7	1	–	–	–	.5	7.5
41170	Clinic Internship 2	1	–	6	–	3	105
36470	Clinical Nutrition 2	2	–	–	–	2	30
23890	Dermatology	1	–	–	–	1	15
25570	Emergency Care (Formerly Emergency Procedures)	1	1	–	–	2.5	30
23670	Endocrinology	1.5	–	–	–	1.5	22.5
25380	Maternal and Infant Health	2	–	–	–	2	30
26170	Mental Health 1	1	–	–	1	2	30
25980	Pharmacology	2	–	–	–	2	30
35170	Physiological Therapeutics 3: Exercise & Rehabilitation	1	1	–	–	1.5	30
20570	Radiographic Technology and Positioning	1	1	–	–	1.5	30
23570	Women's Health	2	.5	–	–	2.25	37.5
	<i>Electives*</i>	–	–	–	–	–	–
	Totals	16.5	3.5	6	1	21.75	397.5

**Trimester 8 – 15 week academic term, 17 week clinical term**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
None	Northwestern Integrated Clinical Exam (NICE 3)	–	–	–	–	–	–
23576	Business and Professional Foundations 8	2	–	–	–	2	30
25490	Children's Health	2	–	–	–	2	30
41280	Clinic Internship 3	–	–	20	–	9	300
42280	Clinical Case Studies 1	1	–	–	–	1	15
25690	Health and the Older Person	2	–	–	–	2	30
26281	Health Promotion	.27	–	–	1.73	1	15
26280	Mental Health 2	1	–	–	1	1	15
	<i>Electives*</i>	–	–	–	–	–	–
	Totals	8.27	–	20	1.4	18	435

**Trimester 9 – 15 week academic term, 17 week clinical term**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
23577	Business and Professional Foundations 9	3	–	–	–	3	45
41390	Clinic Internship 4	–	–	20	–	9	300
42390	Clinical Case Studies 2	1	–	–	–	1	15
20790	Clinical Imaging: A Case Study Approach	2	–	–	–	2	30
47190	Legal Aspects of Chiropractic Health Care	2	–	–	–	2	30
	Electives*	–	–	–	–	–	–
	<b>Totals</b>	<b>8</b>	<b>–</b>	<b>20</b>	<b>–</b>	<b>17</b>	<b>420</b>

**Trimester 10 – 15 week clinical term**

Course Number	Title	(Hours per week)				Credits	Contact Hours
		Lecture	Lab	Clinic	Online		
41400	Clinic Internship 5	–	–	25-40	–	10	375-600
	OR						
41500	Clinic Internship 6**	–	–	25-40	–	10	375-600
	<b>Totals</b>	<b>–</b>	<b>–</b>	<b>25-40</b>	<b>–</b>	<b>10</b>	<b>375-600</b>
<b>TOTAL PROGRAM MINIMUM</b>						<b>219.83</b>	<b>4442.5</b>

\* The requirement for elective courses is 3 credits or 4 courses taken anytime during Trimesters 7-9.

\*\* Interns who have completed all clinical quantitative requirements may register for Clinic Internship 6

## COURSE DESCRIPTIONS

### **11010 Basic Life Support for Health Care Providers - Initial**

0 credits (4.5 hours): 4.5 laboratory hours  
Required for clinic. Must be completed any time during T1-T5, before T6

This course will train students to respond to cardiac, respiratory and choking emergencies using basic life support skills and automatic external defibrillation. Students receive A.H.A. Health Care Provider certification.

### **11010 Biochemistry 1**

5 credits (90 hours): 60 lecture hours;  
30 laboratory hours  
Co-requisite: 15010 Histology 1

This course offers a foundational look at the structure and function of proteins, carbohydrates, lipids, nucleic acids and vitamins. The function and regulation of enzymes is studied, identification of biochemical constituents respiration. The lab is followed by a detailed look at aerobic cellular.

### **11330 Biochemistry 2**

2 credits (30 hours): 30 lecture hours  
Prerequisite: 11010 Biochemistry 1  
Co-requisite: 11120 Physiology 1

A continuation of Biochemistry 1: details of the carbohydrate, lipid and amino acid metabolism; and the urea cycle are studied with an eye on the function of vitamins and trace elements. The interconnectedness as well as the regulation of metabolic pathways in health and disease is stressed.

### **23510 Business and Professional Foundations 1**

1 credit (15 hours): 15 lecture hours

This course introduces new students to concepts and issues pertaining to building the foundations for the business of chiropractic practice and for becoming a professional. Discussion will include what it means to be a professional, ways that students can begin to grow in terms of displaying the qualities and behaviors expected of a professional, core/governing values, money concepts and budgeting.

### **23520 Business and Professional Foundations 2**

1 credit (15 hours): 15 lecture hours

This course will introduce goal-setting that is consistent with governing values developed from the previous term. Public speaking in relation to addressing common questions in chiropractic practice will be explored with in-class speaking presentations.

### **23530 Business and Professional Foundations 3**

.75 credit (12 hours): 12 lecture hours

This course will expose students to the concepts and issues that are central to aspects of routine office visits, including the history, examination, diagnostic testing and report of findings. Students will develop and apply skills of communication and rapport-building necessary for practice.

### **23540 Business and Professional Foundations 4**

.75 credit (12 hours): 12 lecture hours

This course will focus on giving students a specific, detailed, formatted approach to new patient procedures. They will be exposed to a TEAM approach to managing patients during the consultation/history, examination, report of findings and the new patient health care class.

### **23550 Business and Professional Foundations 5**

.75 credit (12 hours): 12 lecture hours

The first half of the course will focus on specific ways to enhance day-to-day professional communication skills. The second half is designed to take students to the next level in managing their business and practice through a detailed understanding of the different TEAM positions. TEAM building combined with clarity of vision, motivation in leadership and personal accountability will help build a successful practice.

### **23565 Business and Professional Foundations 6**

.75 credit (12 hours): 12 lecture hours

This course will focus on reimbursement for services. CPT and ICD-9 coding will be reviewed with respect to proper submission to third-party payers for reimbursement. Rules regarding Medicare, Health Savings Accounts and cash payments plans will be discussed.

### **23575 Business and Professional Foundations 7**

.5 credit (7.5 hours): 7.5 lecture hours

Networking for practice opportunities, advisors and promotion will be discussed. Demographics and practice options will be reviewed.

### **23576 Business and Professional Foundations 8**

2 credits (30 hours): 30 lecture hours

The main focus of this course will be marketing from multiple perspectives and individuals. Discussion will also include general practice topics such as vendors, office atmosphere, financial statements and investing.

### **23577 Business and Professional Foundations 9**

3 credits (45 hours): 45 lecture hours

The essentials of proper business and practice management are introduced. Topics include accounting, taxes, budget preparation, financing, marketing, investing and practice opportunities. Principles of investment are presented. A personal, detailed business plan is required for a passing grade.

**23365 Cardiopulmonary System**  
4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisites: 46002 Clinical Skills 2: Physical  
Diagnosis

Discussion of the presentation, diagnosis and treatment of common complaints and important cardiovascular and pulmonary disorders. Students learn diagnostic and treatment procedures, and discuss how doctors of chiropractic can participate in the management of patients who have these disorders.

**25490 Children's Health**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: All T1-T7 courses, NICE 2  
Exam  
Co-requisite: NICE 3 Exam

This course covers normal growth and development of the child as well as recognition of common diseases and disorders of childhood. Emphasis is on prevention of health complications with a focus on the chiropractic approach to management of the child.

**41060 Clinic Internship 1**  
3 credits (75 hours): 15 lecture hours;  
60 clinic hours  
Prerequisites: All T1-T5 courses, NICE 2  
Exam

The initial internship term begins with practical experiences accompanied by lecture and supported by web site resources. All elements of doctor-patient interaction are reviewed, discussed, and practiced including interviewing; examination; development of a diagnosis and management plan; re-evaluation; outcome assessment; documentation and Evidence Informed Practice. Through interaction with early-term chiropractic program students, interns refine the skills necessary for progression to the next phase of their clinical experience.

**41170 Clinic Internship 2**  
3 credits (75 hours): 15 lecture hours;  
90 - 120 clinic hours  
Prerequisite: 41060 Clinic Internship 1

In the second internship term, students continue to apply and review all elements of the patient care process as they intern with faculty clinicians in University and private practice clinics caring for patients. In lecture and small group discussion sessions, students critique and discuss videotaped patient encounters. Topics emphasized include patient and professional communication; cultural competence; clinical thinking; and case management. During the practical and didactic elements of the course, students also advance their skills in gathering clinical information; synthesizing laboratory and radiographic data; arriving at accurate diagnostic decisions; providing health counseling; and competently treating clinic patients.

**41280 Clinic Internship 3**  
9 credits (300 hours): 300 clinic hours  
Prerequisite: 41170 Clinic Internship 2

During the 17-week clinic term, interns provide chiropractic care to patients under the supervision of faculty clinicians. Doctors of chiropractic mentor students in either the University's Natural Care Centers or the Community Based Internship program, and special populations clinics, as they further develop their competence in all elements of the clinical process. Prerequisites and other internship policies and procedures are described in the Clinic Handbook and explained during orientation sessions scheduled in Trimesters 7 and 8.

**41390 Clinic Internship 4**  
9 credits (300 hours): 300 clinic hours  
Prerequisite: 41280 Clinic Internship 3

During the 17-week clinic term, interns provide chiropractic care to patients under the supervision of faculty clinicians. Doctors of chiropractic mentor students in either the University's Natural Care Centers or the Community Based Internship Program, and special populations clinics, as they further develop their competence in all elements of the clinical process. Prerequisites and other internship policies and procedures are described in the Clinic Handbook and explained during orientation sessions scheduled in Trimesters 7 and 8.

**41400 Clinic Internship 5**  
10 credits (375-600 hours): 375-600 clinic  
hours  
Prerequisite: 41390 Clinic Internship 4

In the final academic term, students complete their internship by continuing to provide chiropractic care to patients in either the University Natural Care Centers or in any approved Community Based Internship. Interns carry out examinations, administer chiropractic care and deliver treatment under the direction of a supervising clinical faculty while completing their technical requirements for graduation.

**41500 Clinic Internship 6**  
10 credits (375-600 hours): 375-600 clinic  
hours  
Prerequisites: All T1-9 academic and clinical  
courses including elective requirements

In the final academic term, students who have completed all clinical quantitative requirements related to patient visits, physical examinations, radiographic, laboratory and case management studies may expand their Clinic Internship options to include both urban and rural areas across the United States and in many foreign countries.

**42280 Clinical Case Studies 1**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: All T1-T6 Courses, 41170  
Clinic Internship 2

A variety of patient cases are presented and discussed in an interactive format. Most presenters are field doctors from the University's Community Based Internship program.

**42390 Clinical Case Studies 2**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: All T1-T6 Courses and 41170  
Clinical Internship 2  
This course is designed in a Grand Rounds format using Evidence Informed Practice. Students prepare and present cases from their current clinical experience, which are then discussed with audience participation.

**20790 Clinical Imaging: A Case Study Approach**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: 20010 Skeletal Radiology 1, 20130 Skeletal Radiology 2, 20240 Skeletal Radiology 3, 20350 Skeletal Radiology 4, 20661 Radiology of Abdomen and Chest  
With an overview of basic MRI correlation to common conditions, this course uses case-studies to help students prepare for real-life, hands-on skill development in film interpretation. This course also helps students prepare for the diagnostic imaging portion of Part 4 National Boards.

**36350 Clinical Nutrition 1**  
4 credits (60 hours): 60 lecture hours  
Prerequisites: 11010 Biochemistry 1, 11330 Biochemistry 2, 11120 Physiology 1, 11230 Physiology 2  
This course covers nutrient metabolism and physiologic function in the body. Components of nutrition including vitamins, major minerals, and trace elements, macronutrients and micronutrients are discussed along with clinical applications.

**36470 Clinical Nutrition 2**  
2 credits (30 hours): 30 lecture hours;  
Prerequisite: 36350 Clinical Nutrition 1  
This course covers nutritional application and management of common conditions encountered in chiropractic practice to include disorders of the organ systems. Students practice assessing nutritional status. Life course nutritional needs are discussed for individuals, communities and special populations.

**24050 Clinical Pathology 1**  
2.75 credits (52.5 hours): 15 lecture hours;  
22.5 laboratory hours, 15 online hours  
Prerequisites: 17030 Pathology 1, 17140 Pathology 2, 46002 Clinical Skills 2: Physical Diagnosis  
This course provides introductory training in clinical laboratory sciences, in particular, urine, stool, hematology, coagulation, and serology studies. Emphasis will be interpretation of urine and hematology tests. Choosing appropriate lab tests in clinical situations with consideration of balancing costs and risks. Correlation of laboratory results with patient history and examination findings. Case studies are used to illustrate important concepts of laboratory diagnosis. This hybrid course consists of face-to-face weekly lectures and accompanying online content which is completed independently.

**24160 Clinical Pathology 2**  
4.25 credits (75 hours): 52.5 lecture hours;  
22.5 laboratory hours  
Prerequisite: 24050 Clinical Pathology 1  
Discussion of laboratory alterations accompanying abnormal function of body organs and specific diseases, with emphasis on interpretation of blood chemistries. Choosing appropriate lab tests. Correlation of laboratory results with patient history and examination findings. Case histories are used to illustrate important concepts of laboratory diagnosis.

**36001 Clinical Skills 1: Patient Interviewing**  
1.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Prerequisite: 13010 Gross Anatomy 1, 13120 Gross Anatomy 2, 11120 Physiology 1, 12120 Neuroscience 1: Peripheral Nervous System, 23510 BPF1  
Examines all areas of patient interviewing such as history of present illness, comprehensive health history, record-keeping, problem-oriented history-taking, narrative format histories, nonverbal communication and patients with special problems. Small group sessions involving interviews of simulated patients are utilized as are videotaped sessions of the students performing histories which are later critiqued for verbal and nonverbal communication skills.

**46002 Clinical Skills 2: Physical Diagnosis**  
4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisites: 13010 Gross Anatomy 1, 13120 Gross Anatomy 2, 11120 Physiology 1, 11230 Physiology 2  
Students learn and practice clinical examination and assessment, with emphasis on performing and interpreting comprehensive physical examination procedures of the non-neuromusculoskeletal systems in the adult patient.

**23890 Dermatology**  
1 credit (15 hours): 15 lecture hours  
Basic biology of the skin and description of skin lesions is illustrated and explained in detail. A comprehensive list and snapshot of most common dermatological disorders that chiropractors can observe in their clinics is presented. The course includes in-class presentations, discussions on the diagnosis of dermatological diseases culminating in individual oral presentation of a chosen topic (viva voce) by students.

**21250 EENT**  
2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours  
Prerequisite: 46002 Clinical Skills 2: Physical Diagnosis  
Discussion of the presentation, diagnosis and treatment of common complaints and disorders of the eyes, ears, nose and throat. Students practice diagnostic and treatment procedures. Discussion on how doctors of chiropractic can participate in the management of patients with E.E.N.T. disorders.

- 14220 Embryology**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: 13010 Gross Anatomy 1  
Co-requisite: 13120 Gross Anatomy 2  
The early human embryology (fertilization through the three germ layers) and the special embryology of the major organ systems, as well as special sense organs.
- 25570 Emergency Care (formerly Emergency Procedures)**  
2.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Basic techniques of assessment and management of patients experiencing airway, breathing, circulatory and traumatic emergencies. Customized for the doctor of chiropractic who may encounter emergency situations with adults or pediatric patients in clinical, home or athletic environments. Students receive AHA Health Care Provider CPR certification and may qualify for First Responder Certification from the State of Minnesota. Upon successful completion, students may be eligible to sit for the National Registry First Responder exam.
- 23670 Endocrinology**  
1.5 credits (22.5 hours): 22.5 lecture hours  
Discussion of the presentation, diagnosis and treatment of common endocrine disorders and complaints, including the chiropractor's role in the management of patients with these disorders.
- 32050 Foundations of Evidence-Informed Practice**  
2 credits (30 hours): 22.5 lecture hours;  
7.5 online hours  
This course uses a blended approach of classroom and online presentations and activities to introduce students to the basic principles of evidence-informed practice (EIP). EIP is an approach that integrates clinical findings, patient preferences, research, and clinical experience (all important types of evidence) into the process of health care delivery. Students learn the strengths and limitations of each element of the model and how to use them together to enhance clinical decision-making and patient outcomes.
- 23562 Gastrointestinal/Genitourinary and Men's Health**  
4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisites: 24050 Clinical Pathology 1, 46002 Clinical Skills 2: Physical Diagnosis  
Co-requisite: 24160 Clinical Pathology 2  
Discussion of the presentation, diagnosis and treatment of common gastrointestinal, genitourinary and men's health disorders and complaints. Students practice diagnostic and treatment procedures, and discuss how doctors of chiropractic can participate in the management of patients with these disorders.
- 13010 Gross Anatomy 1**  
5.5 credits (120 hours): 45 lecture hours;  
75 laboratory hours  
Co-requisites: 34010 Spine and Pelvis, 20010 Skeletal Radiology 1  
An in-depth study of the human skeletal and muscular systems, regional anatomy of the extremities and an introduction to the nervous system. Laboratory includes human dissection.
- 13120 Gross Anatomy 2**  
5.5 credits (105 hours): 60 lecture hours;  
45 laboratory hours  
Prerequisite: 13010 Gross Anatomy 1  
Co-requisite: 14220 Embryology  
The gross anatomy of the special sense organs and the nervous, circulatory, digestive, respiratory, urogenital and endocrine systems; systemic and regional interrelationships. Laboratory includes human dissection.
- 25690 Health and the Older Person**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: All T1-T5 Courses, 36001 Clinical Skills 1: Patient Interviewing, 46002 Clinical Skills 2: Physical Diagnosis, 25980 Pharmacology  
Co-requisite: NICE 3 exam  
This course covers diagnosis and care of elderly patients with emphasis on the most likely conditions to present to chiropractic offices. Discussion topics include normal aging versus disease, theories of aging, demographic trends and special features of geriatric history taking, examination, diagnosis, and chiropractic care.
- 26281 Health Promotion**  
1 credit (15 hours): 2 lecture hours;  
13 online hours  
Prerequisites: 36001 Clinical Skills 1: Patient Interviewing, 46002 Clinical Skills 2: Physical Diagnosis, NICE 2 exam  
Co-requisite: NICE 3 exam  
This course discusses Healthy People 2020 objectives as they pertain to the chiropractic practice. Students develop resources and skills for screening, prevention and counsel regarding select health promotion and wellness practices.
- 15010 Histology 1**  
3.75 credits (67.5 hours): 45 lecture hours;  
22.5 laboratory hours  
Co-requisite: 13010 Biochemistry 1  
Microanatomy of cells and tissues. This course surveys the microscopy and ultrastructure of cells; introduces the four basic tissue types; and stresses the functional anatomy of epithelium, connective tissues, muscles and nerve tissue.

**15120 Histology 2**  
3.5 credits (60 hours): 45 lecture hours;  
15 laboratory hours  
Prerequisites: 15010 Histology 1, 11010  
Biochemistry 1, 13010 Gross Anatomy 1  
Co-requisites: 11330 Biochemistry 2, 13120  
Gross Anatomy 2, 11120 Physiology 1

The functional microanatomy of the organs of the circulatory, digestive, respiratory, urinary, reproductive, endocrine and immune systems.

**16140 Immunology and Clinical Microbiology**  
3.5 credits (60 hours): 30 lecture hours; 15  
laboratory hours; 15 online hours  
Prerequisite: 11010 Biochemistry 1, 11330  
Biochemistry 2, 15010 Histology 1

This course lays a foundation for the comprehension of the etiologic agents of infectious diseases, as well as how the human body defends itself against infectious diseases. In addition, applications of the immune system are introduced.

**22710 Infection Control**  
.2 credit (4 hours): 4 lecture hours

Students will learn the principles of infection control, blood borne pathogens and OSHA regulations and apply them to both classroom and clinical settings.

**25150 Infectious Diseases**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: 17030 Pathology 1, 17140  
Pathology 2, 16140 Immunology and Clinical  
Microbiology

Discussion of infectious disease, with emphasis on common pathogens and the diseases they cause. Discussion of the presentation, diagnosis and treatment of common complaints of infectious diseases.

**41050 Introduction to Clinical Chiropractic**  
1 credit (15 hours): 15 lecture hours  
Prerequisites: Successful completion of T1-4\*  
(\*Special consideration will be made on a  
case-by-case basis.)  
Co-requisite: NICE 2 exam

This course assists the student through the transition from the classroom to the clinical environment by introducing the patient care and record-keeping procedures of University Health Services. Web site resources augment lecture and small group discussion sessions covering all aspects of documentation and the clinic procedures students will follow during their initial patient care experiences in the subsequent term. Note: This course is required the trimester immediately prior to enrolling in Clinical Internship 1.

**19001 Introduction to Clinical Reasoning 1**  
1 credit (15 hours): 15 laboratory hours  
Students meet weekly with a faculty facilitator for a guided study of a virtual case, using problem-based learning and group discussion.

**29002 Introduction to Clinical Reasoning 2**  
.5 credit (15 hours): 15 laboratory hours  
Prerequisite: 19001 Introduction to Clinical  
Reasoning 1

This seminar is a continuation of the Introduction to Clinical Reasoning 1 course and introduces students to two or more case studies which illustrate a number of relevant issues regarding chiropractic practice. Again, the emphasis is on personal discovery and learning based on the class discussions.

**47190 Legal Aspects of Chiropractic Health Care**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: Successful completion of NICE  
2 & 3 Exams

Overview of the legal environment of chiropractic service. Topics include malpractice, the chiropractic report, contracts, legal entities, direct and cross examination, chiropractic statutes, scope of practice and ethics. Material covers the statutes and ethics that govern chiropractic practice, how to legally begin a business, how to prepare a legal case report and how to obtain malpractice insurance.

**25380 Maternal and Infant Health**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: 24050 Clinical Pathology 1,  
24160 Clinical Pathology 2, 36350 Clinical  
Nutrition 1

This course covers the physiologic and biomechanical changes normal to pregnancy. Those behaviors that maximize health in pregnancy for the mother and her unborn child will be addressed in depth. Health aspects of the first year of life are also discussed.

**26170 Mental Health 1**  
2 credits (30 hours): 15 lecture hours;  
15 online hours  
Prerequisites: NICE 2 Exam

This course covers the examination of important psychological theories, assessment tools and conditions, discussion of common presentations of psychological disorders, screening recommendations for the chiropractic practitioner, and fundamentals of treatment. Diagnostic categories and syndromes are reviewed. This hybrid course consists of up to four lectures and accompanying online content which is completed independently.

**26280 Mental Health 2**  
1 credits (15 hours): 15 lecture hours  
Prerequisites: 26170 Mental Health 1,  
NICE 2 Exam

This course covers description and identification of underlying and serious mental health disorders as they present in the chiropractic office. Presenting symptoms and prevalence rates will be examined. Traditional therapies as well as alternative therapies will be explored and discussed. This hybrid course consists of up to four lectures and accompanying online content which is completed independently.

**33010 Methods 1: Analysis Skills 1**

1 credit (30 hours): 30 laboratory hours

The fundamental terminology and skills used by the chiropractor during patient assessment (PARTS) are introduced, including patient observation and postural assessment, visual recognition and palpation of topographical landmarks, segmental motion palpation, and the physical and radiographic recognition of vertebral dysrelationships.

**33120 Methods 2: Analysis Skills 2**

2 credits (45 hours): 15 lecture hours;  
30 laboratory hours

Prerequisite: 33010 Methods 1

Development and integration of skills necessary to detect various manifestations of spinal subluxation and/or dysfunction, including static and motion palpation (active, passive, end feel), radiographic marking and mensuration, and postural examination.

**33230 Methods 3: Cervical and Thoracic Manual Therapies**

3.25 credits (75 hours): 4.5 lecture hours;  
52.5 laboratory hours; 18 online hours

Prerequisites: 33010 Methods 1, 33120 Methods 2, 13010 Gross Anatomy 1, 20010 Skeletal Radiology 1, 34010 Spine and Pelvis  
Co-requisite: 36001 Clinical Skills 2: Patient Interviewing

Introduction to applied adjustive procedures using high-velocity, low-amplitude thrusts in the cervical and thoracic regions. Methods derived from various technique systems (e.g. Gonstead, Thompson, Faye, Diversified) are practiced under direct supervision after PARTS evaluation has identified segments for which adjustments are indicated.

**33340 Methods 4: Lumbopelvic Manual Therapies**

3.25 credits (75 hours): 15 lecture hours;  
52.5 laboratory hours; 7.5 online hours

Prerequisites: 33010 Methods 1, 33120 Methods 2, 33230 Methods 3, 34010 Spine and Pelvis, 20010 Skeletal Radiology 1, 13010 Gross Anatomy 1  
Co-requisite: 46002 Clinical Skills 2: Physical Diagnosis

Introduction to applied adjustive procedures using high-velocity, low-amplitude thrusts to lumbar and pelvic regions; continued development of same in the cervical and thoracic regions. Methods derived from various technique systems (i.e. Gonstead, Thompson, Faye, Diversified) are practiced under direct supervision after PARTS evaluation has identified segments for which adjustments are indicated. Provide the student with an introduction to high-velocity, low-amplitude thrust techniques for the lumbar spine and pelvis. Emphasis is on the development of the psychomotor skills necessary to safely apply the techniques to dysfunctional joints.

**34150 Methods 5: Practicum 1**

2 credits (45 hours): 15 lecture hours;  
30 laboratory hours

Prerequisites: 13120 Gross Anatomy 2, 36141 NMS 3, 34010 Spine and Pelvis, 36001 Clinical Skills 1: Patient Interviewing, 33010 Methods 1, 33120 Methods 2, 33230 Methods 3, 33340 Methods 4

Co-requisite: 35151 Physiological Therapeutics 1

In this course, students will review psychomotor skills learned in previous methods courses as well as explore assessment and management strategies for common axial and appendicular conditions. Students will continue to develop their skills and discuss specific modifications that may be necessary to fit specific doctor and/or patient needs. Online case studies are utilized in conjunction with classroom discussions of those cases to help students develop their clinical reasoning skills and interpret clinical relevance of history and examination findings. These exercises also incorporate discussion concerning treatment plans for the management of commonly encountered spinal conditions.

**34260 Methods 6: Practicum 2**

2 credits (45 hours): 15 lecture hours;  
30 laboratory hours

Prerequisites: 36140 NMS 2, 36141 NMS 3, 36001 Clinical Skills 1 Pt. Interviewing, 46002 Clinical Skills 2 Physical Diagnosis, 56003 Neurodiagnosis, 34150 Methods 5

Continued development of chiropractic diagnostic and adjustive skills. Complete management strategies of common axial and appendicular conditions are discussed and practiced.

**56003 Neurodiagnosis**

2.75 credits (52.5 hours): 30 lecture hours;  
22.5 laboratory hours

Prerequisites: 12120 Neuroscience 1, 12230 Neuroscience 2, 17030 Pathology 1, 17140 Pathology 2

Students will study the presentation, diagnosis and treatment of common disorders and complaints of the peripheral and central nervous systems.

**36030 Neuromusculoskeletal System 1: Principles and Overview**

3 credits (45 hours): 45 lecture hours

Discussion of the integral relationship between neuromusculoskeletal structure and function and the healthy function of all other body systems and organs. Introduction to the evaluation and treatment of neuromusculoskeletal responses to common postural and traumatic insults and to pathologies in the neuromusculoskeletal system and other body systems. Students practice diagnostic and treatment procedures and discuss how chiropractors can participate in the management of patients who have NMS disorders.

**36140 Neuromusculoskeletal System 2: Spinal Disorders**  
4.5 credits (75 hours): 60 lecture hours;  
15 laboratory hours  
Discussion of the presentation, diagnosis and treatment of spinal and paraspinal conditions and complaints. Students practice diagnostic and treatment procedures, and discuss how doctors of chiropractic can participate in the management of patients who have spinal and paraspinal disorders.

**36141 Neuromusculoskeletal System 3: Extremity Disorders**  
3.63 credits (78.75 hours): 30 lecture hours;  
48.75 laboratory hours  
Prerequisites: 13010 Gross Anatomy 1, 36030 NMS 1, 33120 Methods 2  
Discussion of the biomechanics of the extremities and the presentation, diagnosis and treatment of common complaints and disorders. Students practice diagnostic and treatment procedures, including adjustments and manipulations, and discuss how doctors of chiropractic can participate in the management of patients with extremity disorders.

**12120 Neuroscience 1: Peripheral Nervous System (PNS)**  
4 credits (60 hours): 60 lecture hours  
Prerequisites: 13010 Gross Anatomy 1, 11010 Biochemistry 1, 15010 Histology 1 15010  
Co-requisites: 13120 Gross Anatomy 2, 11330 Biochemistry 2, 11120 Physiology 1, 33120 Methods 2  
In-depth study of the organization of the nervous system followed by a detailed study of neurophysiology, including receptor pharmacology; spinal nerves, with major emphasis on visceral and somatic afferent and efferent PNS pathways; reflex arcs; common segmental innervations; and dermatomes.

**12230 Neuroscience 2: Central Nervous System**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: 13010 Gross Anatomy 1, 13120 Gross Anatomy 2, 12120 Neuroscience 1: Peripheral Nervous System  
The anatomy and function of the brain and spinal cord.

**None Northwestern Integrated Clinical Exam (NICE 2)**  
0 credits (0 hours):  
Prerequisite: All T1-T4 courses  
Co-requisite: Introduction to Clinical Chiropractic  
This exam is administered to students at the end of Trimester 5. Its primary purpose is to evaluate students for entry-level clinic readiness by identifying their clinical strengths and weaknesses and assessing their clinical thought process. NICE 2 results are also used to evaluate and inform the trimester 1-5 curriculum. The NICE 2 exam is required by students registered for course Introduction to Clinical Chiropractic.

**None Northwestern Integrated Clinical Exam (NICE 3)**  
0 credits (0 hours):  
Prerequisite: All T1-T7 courses  
Co-requisite: 41280 Clinical Internship 3  
This exam is administered to students in the middle of Trimester 8. Its primary purpose is to help prepare students for Part IV of the National Board exams, but it also used to evaluate and inform the trimester 6-8 curriculum. The NICE 3 exam is required by students registered for course Clinical Internship 3.

**17030 Pathology 1**  
3 credits (45 hours): 39 lecture hours;  
6 online hours  
Prerequisites: 15010 Histology 1, 15120 Histology 2, 16140 Immunology and Clinical Microbiology, 11120 Physiology 1, 11230 Physiology 2  
The objective of this course is to provide a foundation for the understanding of general concepts of the disease state occurring in the human body, including cellular and tissue reactions to injury, mechanisms of inflammation and neoplasia, congenital abnormalities, autoimmune disorders and hemodynamic changes. This hybrid course combines the value of face-to-face lectures and the convenience of online education, including in-class discussions, medical literature review, online case studies and poster presentations.

**17140 Pathology 2**  
3 credits (45 hours): 39 lecture hours;  
6 online hours  
Prerequisites: 17030 Pathology 1, 15010 Histology 1, 15120 Histology 2, 16140 Immunology and Clinical Microbiology, 11120 Physiology 1, 11230 Physiology 2  
The objective of this course is to provide students with detailed understanding of systemic diseases with emphasis on cardiovascular, respiratory, gastrointestinal, neuromuscular and bone pathology. This hybrid course combines in-class and online instruction, encompassing classroom discussions, online quizzes and participation in online discussion forums.

**25980 Pharmacology**  
2 credits (30 hours): 30 lecture hours  
This is a general course in clinical pharmacology designed to provide the student with a fundamental understanding of the rationale for pharmacologic use of drugs for selected medical conditions; the proper use of drug information resources, proper interaction with the patient and prescriber, recognition of adverse drug reactions, awareness of drug abuse; and the basic principles of pharmacology and toxicology in humans. This hybrid course consists of online content, classroom presentations, case studies, external resources and discussions.

**35151 Physiological Therapeutics 1: Modalities**  
2.25 credits (52.5 hours): 15 lecture hours;  
37.5 laboratory hours  
Theories and application of heat, cold, traction, electrical modalities, vibration and light as adjuncts to patient management. Discussion of indications, contraindications and modifications of physiological therapeutics based on various conditions and situations.

**33561 Physiological Therapeutics 2: Soft Tissue Techniques**  
2 credits (45 hours): 15 lecture hours;  
30 laboratory hours  
Prerequisites: 13010 Gross Anatomy 1, 13120 Gross Anatomy 2, 11120 Physiology 1, 34010 Spine and Pelvis, 33010 Methods 1, 33120 Methods 2, 33230 Methods 3, 33340 Methods 4  
Students will study the therapeutic management of soft tissue dysfunction of the axial and appendicular skeleton.

**35170 Physiological Therapeutics 3: Exercise and Rehabilitation**  
1.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Prerequisites: 13120 Gross Anatomy 2, 11120 Physiology 1, 34010 Spine and Pelvis, 33010 Methods 1, 33120 Methods 2, 33230 Methods 3, 33340 Methods 4  
Discussion of the role of exercise in the comprehensive conservative management of commonly encountered conditions. Principles of exercise therapy and exercise psychology. Concepts and skills relative to exercise techniques and emphasis on spinal stabilization. Specific protocols regarding the prescription of exercise.

**11120 Physiology 1**  
4.5 credits (75 hours): 56 lecture hours;  
15 laboratory hours; 4 online hours  
Prerequisites: 13110 Gross Anatomy 1, 15010 Histology 1  
Co-requisites: 11330 Biochemistry 2, 15120 Histology 2, 13120 Gross Anatomy 2  
An introduction to homeostasis and homeostatic mechanisms with emphasis on human electrophysiology of nerve and muscle. The contribution of cardiovascular and respiratory systems to homeostasis is explained. The course features lectures, labs and case studies on nerve, muscle, heart and lung diseases with discussion on early diagnosis and treatment.

**11230 Physiology 2**  
4.5 credits (75 hours): 56 lecture hours; 15 laboratory hours; 4 online hours  
Prerequisites: 11120 Physiology 1, 11010 Biochemistry 1, 11330 Biochemistry 2, 15010 Histology 1, 15120 Histology 2, 13010 Gross Anatomy 1, 13120 Gross Anatomy 2  
Co-requisite: 16140 Immunology and Clinical Microbiology

The course will focus on mechanisms in the kidney, gastrointestinal tract, endocrine and reproductive glands that participate consistently in maintaining homeostasis in the human body. The course will feature lectures, labs and case studies on renal, digestive, endocrine, reproductive systems, with emphasis on early diagnosis and treatment.

**31010 Principles and Philosophy 1: History and Fundamentals of Chiropractic**  
1 credit (15 hours): 15 lecture hours

A historical perspective of the principles on which chiropractic was founded and developed, emphasizing the role of philosophy in health care science.

**31120 Principles and Philosophy 2: Essential Principles of Chiropractic**  
2 credits (30 hours): 30 lecture hours  
The scientific tenets that guide the philosophy of chiropractic health care are discussed, with emphasis on the concepts that alterations of body structure can influence neurological function, which in turn, can impact body physiology and homeostatic balance.

**37030 Principles and Philosophy 3: Survey of Chiropractic Techniques**  
2 credits (30 hours): 30 lecture hours  
This course provides the student with an introduction to various and selected techniques systems that exist in the chiropractic profession. A discussion and critical appraisal of each system will occur based on a model for evaluation and validation of manipulative therapy. Emphasis will be on the developer of each technique, the biomechanical principles upon which it is based, and how patients are evaluated and treated using the technique. The current research status of each technique will also be discussed. Clearly this is not a "how to" hands-on practical class. Rather it is designed to present the information known about some of the more common and not-so-common techniques used by doctors of chiropractic. Foundational information will be presented on the rationale for manipulative procedures in their various forms as well as the lesion they target.

**22040 Principles and Philosophy 4: Chiropractic Science and Practice**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: 12120 Neuroscience 1, 12230 Neuroscience 2

Discussion of current scientific literature regarding chiropractic principles and philosophy of the subluxation model. Neuromusculoskeletal and visceral conditions are discussed with the subluxation model of facilitation and adaptation in mind. Particular emphasis is placed on evidence related to the reciprocal influence between dysfunction of the neuromusculoskeletal system and related dysfunction in other systems. The influences of subluxation and the effects of chiropractic care and the adjustment on the health of the entire body are also stressed.

**24760 Principles and Philosophy 5: Professional Ethics**  
1 credit (15 hours): 15 lecture hours

Presentation of key ethical issues encountered in the professional setting. Emphasis is on those issues commonly occurring in the chiropractic patient-care environment.

**25250 Public and Preventive Health**  
2 credits (30 hours): 25 lecture hours;  
5 online hours  
Prerequisite: 15120 Immunology and Clinical Microbiology  
Co-requisite: 25150 Infectious Diseases

This course is an introduction to public health and the role of the chiropractor as a primary care provider within the public health system. Discussion topics include the individual, community and systems approach to prevention, Healthy People 2020, epidemiology, social, behavioral, biomedical and environmental sciences, health policy and management. This hybrid course consists of online and in class assessments, and face to face weekly lectures.

**20460 Radiation Physics and Safety**  
2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours

Introduction to the safe production of quality radiographs. Students discuss the physics of X-ray production, the principles of radiobiology and radiation protection, and regulations regarding the use of ionizing radiation equipment as typified by those of the Minnesota Department of Health.

**20570 Radiographic Technology and Positioning**  
1.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Prerequisite: 20460 Radiation Physics and Safety

Learn and practice the skills necessary to produce diagnostic radiographs of skeletal and related body components, including measurement, positioning, radiation protection, technique factor calculation, and equipment set-up and operation. Emphasis is on the projections commonly used in chiropractic practice.

**20661 Radiology of Abdomen and Chest**  
2.5 credits (90 hours): 60 lecture hours;  
30 laboratory hours

Students learn clinically oriented radiographic anatomy of the thorax and abdomen. Using a pattern recognition approach, a wide variety of abdominal and chest pathology is covered, with an emphasis on those conditions that are commonly encountered in a chiropractic setting and those conditions/diseases/disorders with disastrous consequences for failure to recognize. Patient history, examination, laboratory findings (when relevant) and treatment considerations.

**20010 Skeletal Radiology 1**  
1.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Co-requisites: 13010 Gross Anatomy 1, 34010 Spine and Pelvis;

This course forms the underpinnings of the Skeletal Radiology four-course sequence. A regional approach to normal anatomy of axial and appendicular skeletal structures is presented. Palpation skills learned in the concurrent course Methods 1 and detailed anatomical information learned in the concurrent courses Spine and Pelvis and Gross Anatomy 1 are highlighted to meld together related disciplines. Students learn the rudiments of how X-rays are generated how they form an image and how to view anatomy with this tool. A few common normal variants are presented as well.

**20130 Skeletal Radiology 2**  
2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours  
Prerequisite: 20010 Skeletal Radiology 1

Assessment of spinal biomechanics, congenital anomalies and normal variants, with emphasis on correlation of radiographic findings with patient history, exam and lab findings. Discussion of various methods of chiropractic X-ray marking and measurement, and the benefits and limitations of each as supported by current literature. Introduction to imaging modalities commonly used or encountered in chiropractic practice.

**20240 Skeletal Radiology 3**  
2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours  
Prerequisites: 20010 Skeletal Radiology 1, 20130 Skeletal Radiology 2

Radiographic interpretation of skeletal trauma using a regional approach. Presentation of degenerative, inflammatory and metabolic arthritides. Correlation of radiographic findings with those from patient history and physical examination and lab. Discussion of various concerns regarding case management.

**20350 Skeletal Radiology 4**

2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours

Prerequisites: 20010 Skeletal Radiology 1,  
20130 Skeletal Radiology 2

The culmination of the Skeletal Radiology four-course sequence, Skeletal Radiology 4 provides students with the clinical, pathologic and radiologic features of a wide variety of bone pathology: neoplastic, infectious, vascular, endocrine, metabolic, hematologic, congenital and nutritional disorders. Commonly encountered conditions are emphasized as well as those with disastrous consequences for failure to identify. Discussion of various concerns regarding case management and follow-up imaging concepts are presented.

**34010 Spine and Pelvis**

3 credits (45 hours): 45 lecture hours

Co-requisites: 13010 Gross Anatomy 1,  
20010 Skeletal Radiology 1

Introduction to the functional anatomy and biomechanics of the spinal column and pelvis. Special consideration is given to highlight areas that are of clinical importance to chiropractic. This course is intended to form a foundation for clinical science courses.

**23570 Women's Health**

2.25 credits (37.5 hours): 30 lecture hours;  
7.5 laboratory hours

Prerequisite: 36001 Clinical Skills 1: Patient  
Interviewing, 46002 Clinical Skills 2: Physical  
Diagnosis

This course covers the chiropractic and medical management of women's health conditions; with emphasis on lifestyles and behaviors which enhance and promote health in women. Students are concurrently introduced to the breast and pelvic examination.

## ELECTIVES: COLLEGE OF CHIROPRACTIC

### **E7207 Adapting Chiropractic Technique for the Geriatric Population**

.75 credits (18 hours): 18 laboratory hours  
Prerequisites: All T1 – T6 courses

This course offers students the ability to research topics pertaining to the geriatric patient as they relate to chiropractic care and conservative management. Students will research a chosen topic that pertains to this specialty population, and then will provide a presentation to their peers, followed by open discussion.

### **E7301- A Challenging Cases in a Chiropractic Practice**

.75 credits (12.5 hours): 12.5 lecture hours  
Prerequisites: All T1-T6 courses

This course will provide advanced trimester chiropractic students with an introductory understanding of applied ergonomics. The information will include historic considerations as well as practical, step by step methodology leading to the development of intervention strategies for the prevention of ergonomically induced workplace injuries and disorders.

### **E7301- B Challenging Cases in a Chiropractic Practice**

.75 credits (12.5 hours): 12.5 lecture hours  
Prerequisites: All T1-T6 courses

This elective is taught by a certified chiropractic orthopedic specialist and includes guided discussions of challenging clinical cases. The cases include complex cases which may have serious sequelae, such as: spinal stenosis, acute cervical spine trauma, disc herniation, acute knee pain and torticollis, among others.

### **E7101 Critical Issues in Social Biology**

.75 credits (15 hours): 15 online hours  
Prerequisites: All T1-T6 courses

This course is offered completely via discussion. It will cover selected biological issues that affect society. The issues may be controversial without clear-cut answers. As health care professionals in the community, chiropractors may be called upon to give knowledge, opinions, advice, etc. In addition to instructor chosen topics, the students will write a short paper on a topic of their choice.

### **E7206 Flexion Distraction**

.75 credits (10 hours): 10 laboratory hours  
Prerequisite: All T1 – T6 courses

This course introduces the students to two mechanically assisted adjustive techniques for the cervical, thoracic, lumbar and pelvic regions. Mechanically assisted extremity techniques will be briefly discussed. Flexion Distraction will be based on the work of Dr. James Cox with a focus on the evaluation, diagnosis and treatment of facet Syndrome, intervertebral disc herniation, and Spondylolisthesis. In addition, the use of stationary flexion or extension pre-stress will be introduced for the adjusting of the cervical and thoracic regions and molding as a treatment for Scoliosis. Drop piece use will be based on the work of Dr. J. Clay Thompson with a focus on sacral subluxation (prone and supine), ilium subluxation (prone and supine), facet syndrome, cervical, thoracic and extremity subluxations.

### **E7304 High School Pre-Participation Physical and Fitness Challenge**

.75 credits (15 hours): 3 lecture hours,  
12 laboratory hours

Prerequisites: Chiropractic student, T7 or higher

This introductory course will provide a basic understanding of the flow of a combined pre-participation physical with a fitness challenge. The design is to identify sport readiness, physical strength, flexibility, aerobic fitness and agility.

### **E7302 Introduction to Sports Injuries, Part 1**

.75 credits (15 hours): 3 lecture hours;  
12 laboratory hours

Prerequisites: All T1-T6 courses

Laboratory Fee: \$32.50 covers additional costs of taping supplies

Introductory course for the identification, treatment and management of 8 frequently encountered sports injuries.

### **E7303 Introduction to Sports Injuries, Part 2**

.75 credits (15 hours): 3 lecture hours,  
12 laboratory hours

Prerequisites: All T1-T6 courses

Laboratory Fee: \$32.50 covers additional costs of taping supplies

This course will provide a basic understanding of the mechanism of injury, the evaluation, treatment and management. Conditions covered will be: Knee Sprain Strain (ACL & PCL ligaments), Shoulder Dislocation & Sprain Strain, Elbow Sprain Strain, High Ankle Sprain Strain. The Pre-participation Sports Physical will be introduced based on the MN State High School Association and will be familiar with the ACSM and the ABCSP recommendations.

**E7205 Instrument Adjusting/Activator Methods**

.75 credits (18 hours): 18 laboratory hours  
Prerequisites: All T1-T6 courses

The purpose of this course is to introduce and provide the students with knowledge of the most commonly used adjusting instruments. In addition, theoretical and practical aspects of the "Special Tests" category of PARTS model of subluxation assessment will be presented. These include such tests as relative leg length inequality, and patterns painful that have been associated with patients with common NMS complaints. The student will enter the course with the ability to evaluate the commonly encountered spinal joint problems and selected articulations of the extremities. During the course of the trimester, the student will become proficient in applying instrument adjusting. Completion of this course satisfies one step towards obtaining an Activator proficiency rating.

**E7201- Instrument Assisted Soft Tissue Mobilization (Graston) A**

.75 credits (16 hours): 16 laboratory hours  
Prerequisites: All T1-T6 courses

This technique laboratory course combines instrument-assisted soft tissue mobilization with a targeted exercise program to address connective tissue dysfunction. The technique uses Graston patented stainless steel instruments that are designed to adapt to the various tissue/shapes/curves of the body to precisely examine and treat a variety of neuromusculoskeletal conditions. Instrument-assisted soft tissue mobilization is soft tissue mobilization that allows the clinician to detect and treat soft tissue dysfunction that produces pain, weakness and functional limitation for the patient. The instruments are designed to provide an adjunct to a clinician's hands. Developing good manual skills is crucial to the effectiveness of this technique. Hands on application using the instruments will be stressed as part of an overall treatment.

**E7201- Instrument Assisted Soft Tissue Mobilization (Graston) B**

.75 credits (16 hours): 16 laboratory hours  
Prerequisites: All T1-T6 courses

This technique laboratory course combines instrument-assisted soft tissue mobilization with a targeted exercise program to address connective tissue dysfunction. The technique uses Graston patented stainless steel instruments that are designed to adapt to the various tissue/shapes/curves of the body to precisely examine and treat a variety of neuromusculoskeletal conditions. Instrument-assisted soft tissue mobilization is soft tissue mobilization that allows the clinician to detect and treat soft tissue dysfunction that produces pain, weakness and functional limitation for the patient. The instruments are designed to provide an adjunct to a clinician's hands. Developing good manual skills is crucial to the effectiveness of this technique. Hands on application using the instruments will be stressed as part of an overall treatment.

**E7202- Special Diversified Techniques A**

.75 credits (18 hours): 18 laboratory hours  
Prerequisites: All T1-T6 courses

This course is designed to give the chiropractic student options and variations in their adjusting protocols including: SOT type pelvic balancing protocol, sacral pump/ 2 cranial techniques, lumbar side posture with axial distraction, CT junction, TL options, SI drop piece use, post isometric manipulation, Device Assisted Pelvic Pattern, seated adjustments, nose to toes style manual adjusting, and cervical and lumbar exam flows. This class offers a lot of hands on lab time and individual attention.

**E7202- Special Diversified Techniques B**

.75 credits (18 hours): 18 laboratory hours  
Prerequisites: All T1-T6 courses

This course is designed to give the chiropractic student options and variations in their adjusting protocols including: SOT type pelvic balancing protocol, sacral pump/ 2 cranial techniques, lumbar side posture with axial distraction, CT junction, TL options, SI drop piece use, post isometric manipulation, Device Assisted Pelvic Pattern, seated adjustments, nose to toes style manual adjusting, and cervical and lumbar exam flows. This class offers a lot of hands on lab time and individual attention.

**E7208 Upper Cervical Technique**

.75 credits (20 hours): 20 laboratory hours  
Prerequisites: All T1-T6 courses

This is an introductory course to upper cervical technique, with emphasis on methods promulgated by the National Upper Cervical Chiropractic Association (NUCCA). It will include basics on the philosophy and biomechanics of the upper cervical subluxation complex, patient screening, x-ray positioning and analysis, and patient positioning for the adjustment.



# Northwestern

Health Sciences University



College of Acupuncture and Oriental Medicine



# Explore the College of Acupuncture and Oriental Medicine

## Master's Degrees and Internationally Trained Faculty

### STATEMENT OF PURPOSE

The purpose of the College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University is to offer professional, graduate degree and advanced programs in acupuncture and Oriental medicine. We are committed to training competent and compassionate practitioners. In so doing, we support the mission of the University, the advancement of acupuncture and Oriental medicine, and the integration of the professions into the health care system of the United States.

### GOALS

These activities are necessary to fulfill our purpose:

1. Convene a faculty of experts in their respective fields who are also skilled educators;
2. Provide accredited programs that meet national educational standards and reflect the College's unique character as part of a multidisciplinary health sciences university;
3. Recruit a student body with the academic skills, maturity and personal commitment that will help them develop into competent and caring practitioners;
4. Maintain a learning environment and academic standards that will ensure that students acquire the knowledge, skills and attributes necessary for the competent and responsible practice of acupuncture and Oriental medicine in contemporary health care environments;
5. Provide supervised clinical training in diverse environments that enables students to gain experience in the practical application of their knowledge and skills;
6. Provide leadership in the development of relevant and progressive continuing education for our graduates and members of the professional health care community;
7. Increase public awareness of acupuncture and Oriental medicine by providing community outreach programs and affordable clinical services;
8. Develop new programs in response to community needs, encourage public service, and cooperate with individuals and institutions having similar values.

### EDUCATIONAL OBJECTIVES

In addition to meeting the University Learning Outcomes, Northwestern graduates will be able to:

1. Demonstrate a thorough knowledge of traditional Chinese medical theory, an appropriate knowledge of Western medical theory and apply that combined knowledge effectively in a clinical setting;
2. Demonstrate appropriate skills in diagnosis, treatment planning and treatment, including appropriate referral;
3. Demonstrate that the diagnostic and treatment planning process respects the patient as a whole person rather than as a collection of symptoms;
4. Pass National Board examinations and be eligible for licensing and practice in Minnesota;
5. Demonstrate the business skills necessary to succeed in professional practice.

### PROGRAMS OF STUDY

Northwestern offers two graduate programs leading to the Master of Acupuncture and Master of Oriental Medicine degrees. Northwestern also offers an Herbal Medicine Certificate for licensed acupuncture practitioners who want to expand their skills in Chinese herbal medicine.

The Master of Oriental Medicine program is a full-time program that provides more than 3,000 hours of didactic and clinical instruction in acupuncture, biomedical clinical sciences, Chinese herbology and related studies. The program may be completed in three calendar years (nine consecutive trimesters) and must be completed within eight years from the date of matriculation.

The Master of Acupuncture program is a full-time program that is similar to that of the Oriental Medicine program, but does not include herbal studies. This program includes more than 2,300 hours of instruction and may be completed in two and two-thirds calendar years (eight consecutive trimesters). The program must be completed within six years from the date of matriculation.

The Herbal Medicine Certificate program is a part-time program which provides licensed acupuncturists with almost 500 hours of instruction and 240 hours of clinic internship with which to develop the skills necessary for the safe and effective practice of Chinese herbal medicine. The certificate program is typically completed in two and one-third calendar years (seven consecutive trimesters) but may be extended due to individual circumstances.

## ADMISSION INFORMATION

### Admission to the College

Northwestern admits individuals qualified by previous education and experience to meet the college's academic challenges and rigor in order to become a practitioner of acupuncture and Oriental medicine. New students are admitted in September and January of each academic year. Transfer students may be admitted at the beginning of any trimester. (See "Transfer Application" section.)

Applications for admission, as well as current tuition and fees, are available either online at <http://www.nwhealth.edu> or may be obtained by contacting the Office of Admissions. The application for admission must be accompanied by a non-refundable application processing fee of \$50 (US dollars). It is the responsibility of the applicant to read this catalog and comply with all provisions and instructions.

Persons who have been convicted of a misdemeanor of a violent or sexual nature or any felony will be prohibited from professional health care practice in many jurisdictions. Northwestern Health Sciences University will deny admission to applicants with such convictions. The University therefore reserves the right to conduct a criminal background check on all applicants and enrolled students.

### Entrance Requirements: Master of Acupuncture and Master of Oriental Medicine

Admission requirements for the Master of Acupuncture and Master of Oriental Medicine programs, in alignment with the Accreditation Commission for Acupuncture and Oriental Medicine standards include satisfactory completion of at least two academic years (60 semester credits or 90 quarter credits) at the bachelor's degree level in an institution accredited by an agency recognized by the US Department of Education. This education must be appropriate preparation for graduate-level work.

The following credits must be part of the 60 semester credits or 90 quarter credits required for entrance (Northwestern offers a number of these courses through the Undergraduate Studies Program):

<i>Subject</i>	<i>Minimum Semester Credits</i>	<i>Minimum Quarter Credits</i>
Humanities and Social Sciences: Philosophy, Religion, General Humanities, History, Art History, Music History, Psychology, Sociology, Anthropology, Political Science or Economics courses are acceptable. Business courses and studio courses in art or music may not be used to meet this requirement.	15	22.5
English: English, Composition, Literature or Speech	6	9
Psychology: General Psychology, Principals of Psychology or Introduction to Psychology	3	4.5
Biology: Animal/Vertebrate, General/Human Biology, Anatomy, Physiology or Microbiology are acceptable (no lab required)	3	4.5
Electives: Recommendations for elective courses include Human Anatomy, and other science courses, Chinese language, Asian studies, Macroeconomics, Marketing, Small Business Management, Public Speaking, Technical Writing and Medical Terminology.	33	49.5

These courses must be passed with a grade of C or better. All applicants must have earned a cumulative grade point average (GPA) of at least 2.5 on a 4.0 scale. To ensure acceptance, a more competitive grade point is desirable. All extenuating circumstances regarding admission into the program will be referred to the Admissions Committee for consideration.

**Entrance Requirements:  
Herbal Medicine Certificate**

**Admission into the Herbal Medicine Certificate program generally assumes prior completion of a Master degree or equivalent program in acupuncture.**

Admission requirements for the Herbal Medicine Certificate include:

1. Current state acupuncture licensure and/or certification by the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM).
2. Ability to meet all the current admission requirements for the program's master's degree program in Oriental medicine. Applicants who do not meet these current admission requirements may apply for a waiver of this requirement. Additional information may be required from the applicant. The waiver may be granted by the Admissions Committee and/or at the discretion of the program Dean.
3. Meet all of the qualifications as stated in the section entitled "Qualifications".

**Qualifications**

Students must demonstrate sufficient maturity to undertake a health care profession, including the capacity to manage professional boundaries ethically and responsibly.

A student must possess the abilities listed below, with or without reasonable accommodation, for completion of the Master of Acupuncture or Master of Oriental Medicine degree program. Accommodation may be deemed unreasonable if it would compromise essential elements of the curriculum or would require a fundamental alteration to the nature of the program, service or activity.

1. Ability to apply acupuncture and accessory techniques, such as cupping, moxibustion and Tui Na, over the full range of a patient's body, utilizing appropriate physical positioning in relation to the patient, for periods of up to one hour without interruption. Such abilities require standing, leaning, reaching, stooping, kneading, grasping, twisting both body and wrists, and applying pressure with hands;
2. Ability to place acupuncture needles precisely in a patient's body and manipulate needles within a minute range of motion;
3. Ability to perform clinical techniques and procedures under the direct supervision of instructors and in the immediate presence of classmates, patients or family members of patients, within fixed time limits that reflect the

patient flow and delivery of services in a typical clinical environment;

4. Ability to work cohesively and harmoniously in a team of two or more students in the performance of assigned class and clinical activities;
5. Ability to see and hear, with or without reasonable accommodation, in order to interview patients, conduct patient intakes, elicit necessary diagnostic indicators, maintain patient records, provide instructions to patients, perform appropriate examinations, and provide routine patient treatment and safety services;
6. Ability to perform in all laboratory and clinical settings without posing a threat to herself/himself, to the safety and well-being of fellow students or patients;
7. Ability and willingness to receive acupuncture and accessory treatment. Much of the technical instruction in the programs requires reciprocal application of the techniques of acupuncture and Oriental medicine, such as acupuncture needling, moxibustion, Tui Na bodywork, etc. Receiving techniques is necessary in order for the student to learn proper procedures and to receive and provide learning feedback. Reciprocal application of techniques is also useful for developing sensitivity to patient needs. The College may temporarily excuse a student from receiving acupuncture or other modalities provided that specific medical contraindication information is provided by a licensed medical professional.

In addition to the abilities required of students in the Master of Acupuncture program (stated above), a student must possess the following abilities, with or without reasonable accommodation, for completion of the Master of Oriental Medicine degree program or the Herbal Medicine Certificate program:

1. Ability to identify physical properties of herbs and other organic and mineral substances utilized in Oriental medical therapy;
2. Ability to document and prepare herbal formulae, in accordance with Oriental medical therapeutic principles.

All students, with or without reasonable accommodation, must be able to carry out clinical assignments and diagnostic interpretation. Qualified persons with disabilities, with or without reasonable accommodation, must be able to pass oral, written and practical examinations and meet all of the program's clinical requirements.

It is in the best interest of both the student and the University to assess the degree of limitation caused by disability. However, the University will make the final determination of whether or not an individual meets all qualifications for study at the University. The University accommodations process is found under "Student Life." Additionally, questions regarding qualifications or accommodations should be directed to the Office of Student Affairs.

### **Responsibility of Applicant**

It is the responsibility of the applicant to be aware of the entrance requirements and ensure that those requirements are met prior to enrollment. If the College determines at any time that requirements are not met in full, the student will not be allowed to enroll or to continue at Northwestern.

### **Minnesota Immunization Requirement**

All students born in 1957 or later must comply with the Minnesota State College Immunization Law (Minn. Stat. 135A.14). An admitted student must show proof of DPT immunization within the past 10 years, as well as measles, mumps and rubella immunization after his/her first birthday. However, exemptions are permitted for philosophical or medical reasons. Further information is included with letters of acceptance to Northwestern.

Some clinical environments outside the University Clinic system may establish immunization and/or health screening requirements exceeding the Minnesota State College Immunization Law. In addition, some clinical environments outside the University Clinic system may not accept placement of interns who have not received or are not in the process of receiving certain immunizations and/or health screenings.

### **Application Procedure**

The first step in the application process is to submit a fully completed application for admission. Applications are available online at <http://www.nwhealth.edu> or from the Office of Admissions. The application must include:

1. A properly completed applications for admission. Please type or print neatly;
2. An application processing fee of \$50 (US dollars). This fee is non-refundable;
3. Official transcripts from all colleges attended sent directly to the Office of Admissions at Northwestern Health Sciences University from those colleges. High school transcripts are not required. NOTE: Indicate on your application if your transcripts will be arriving under another name;

4. Names and addresses of two references. Northwestern will send character reference forms to those persons listed on the application as references. Those persons should complete the form and return it to the University. Relatives are not accepted as references;
5. A completed essay (see application form for instructions);
6. A current résumé.

### **Selection of Candidates**

The Admissions Committee in general seeks to admit students who best suit the philosophies and goals of the University. Northwestern seeks to select students who have strong academic records and who demonstrate the motivational and personal characteristics suitable for a career in acupuncture and Oriental medicine. Willingness to provide service and a caring attitude are important characteristics of a successful practitioner. The University employs a rolling admissions process. Therefore, early application could increase the applicant's probability for acceptance. Students are strongly encouraged to apply at least nine to 12 months prior to the first day of their first academic term. Students interested in seeking transfer credit should apply as far in advance as possible, in order to assure that any required additional information may be obtained or challenge examinations completed prior to the first day of class. The University encourages campus visits for all applicants and reserves the right to require an interview.

### **Tuition Deposit Policy**

Applicants will be notified in writing of the Admissions Committee's decision regarding their application following receipt and review of all information and materials. Upon notification of acceptance, a non-refundable tuition deposit of \$300 (US dollars) is required to secure a place in the program. The tuition deposit will be applied to the first trimester tuition.

The tuition deposit should be submitted as soon as possible after notification of acceptance since processing of financial aid is initiated only after receipt of the deposit.

First trimester students who have been accepted and paid their \$300 tuition deposit must pay the balance of their first trimester tuition by the end of the third week of classes. If the student has been awarded financial aid for the first trimester at Northwestern, then those funds will be credited against the student's Northwestern account. It is important to note that because of the limited space available in each class, scheduling priorities and the cost of education, the institutional refund policy does not apply to the \$300 tuition deposit.

### **Transfer Students**

A student wishing to transfer from another acupuncture or Oriental medicine program must:

1. Follow the same application procedures as a new student (see Admission Information above);
2. Forward all official transcripts from any other acupuncture or Oriental medicine program(s) you have attended;
3. Submit two letters of recommendation written by faculty members from the acupuncture or Oriental medicine program(s) you attended;
4. Provide a letter from the registrar at that acupuncture or Oriental medicine program indicating you are in good academic standing and would be allowed to continue studies at that institution.

### **Transfer Policy**

Courses may transfer to Northwestern if you have received grades of C or better. Transfer courses must have similar course content, name, length or objective, and correspond to courses within our acupuncture and Oriental medicine curriculum. The program Dean or designee will determine comparability.

All courses submitted to transfer must be applied for and posted to your Northwestern academic record no later than one year from matriculation.

A transfer student must complete at least the last three trimesters (one academic year) in order to graduate from Northwestern. Excessive student loan debt may be a factor in the student's ability to transfer. The Student Records and Financial Services Office will set upper limits of previous indebtedness.

Transfer policies are subject to change. Contact the Office of Admissions for current information.

### **Transfer Credit**

At the discretion of the Dean, credit may be granted for equivalent courses taken and passed in another program. Considerations may include the institution offering the courses, the course description and/or syllabus for each course, the length of time since completing the course, and life experience. The student may be required to pass a challenge exam. Students have four options to complete graduation requirements without taking every required course: Transfer Credit for equivalent courses, Transfer Credit for life experience, Waivers of Requirement, and/or CLEP Credits.

Transfer credit will only be granted for the maximum number of hours available from Northwestern-equivalent courses. For example, a 180-hour course in anatomy and physiology from another program will only be worth 135 hours at Northwestern, if the equivalent Northwestern course is 135 hours.

### **For Equivalent Courses**

To be considered for transfer credits, courses must be equivalent to those offered at Northwestern based on an evaluation of the student's official transcript by the program's academic administration. A syllabus or other detailed course description and a copy of the catalog from the original institution may be required. Normally, the course must be an academic course from an accredited institution at the bachelor's degree level or better and passed within the past five years (occasionally, a course may need to have been passed within a shorter time frame) with a grade of C or better. A grade of C- is not acceptable if the awarding college states that the numerical equivalent is less than 2.0 (when A is 4.0). Accreditation must be from an agency recognized by the U.S. Department of Education. A transfer student from another acupuncture program must complete at least the last three full-time trimesters of resident study in the Northwestern program prior to graduation.

### **Equivalent Course/Life Experience**

Transfer credit may be given to a student who has taken an equivalent course (which meets the above referenced standards) prior to the past five years, if life work or experience has enabled the student to use the skills learned in that course within the past five years. For example, current licensed health care providers would typically receive credit for most Western biomedicine courses taken more than five years ago, based on their life experience within the past five years.

### **Waivers of Requirement**

Occasionally, a waiver of requirement may be granted in lieu of a required course or course sequence. Credit will be given according to the above noted guidelines for maximum credit/hours allowed. Normally, a waiver of requirement is based on educational or professional experience that may not be able to be documented to the extent required for transfer credit. A challenge exam may be required of the student to demonstrate competency in the subject involved.

### **CLEP Credits (College Level Examination Program)**

A maximum of 30 semester CLEP credits can be transferred into the program. These credits must first be transferred to another undergraduate degree-granting institution and appear on the student's respective transcript before these CLEP credits can be considered for transfer into the program.

### **Non-Program Students**

Non-program students are welcome to apply to take certain courses and typically must meet both the course and admissions requirements, and must have completed the prerequisites for the courses for which they are applying. Those persons interested in applying should contact the Office of Admissions for further details. A plan of study, including purpose and rationale, may be required as part of the application process. Approval may be granted by the Admissions Committee and/or at the discretion of the Dean, subject to space availability.

### **International Students**

Northwestern Health Sciences University welcomes the diversity that international students bring to the University community. The University is a non-residential campus. Therefore, no housing is available to students, foreign or otherwise. Individuals in F-1 student status are not eligible to seek employment off campus. All classes at Northwestern are taught in English

Matriculants from foreign countries must meet the same educational requirements as students matriculating from the United States. The student should note the entrance requirement and application procedure sections. The student must also fulfill the following:

1. Follow the same application procedures as a new student (see previous section in catalog);

2. Verify competency in English. All classes at Northwestern are taught in English.

A student may verify competency in English in the following manner:

- a. Students from English-speaking countries (excluding the Canadian province of Quebec) may include with their application a copy of their birth certificate. Or these applicants may complete an English Competency Verification Form, which can be obtained from the Office of Admissions.
- b. All other foreign applicants (including students from the Canadian province of Quebec) must complete a TOEFL® (Test of English as a Foreign Language™) examination. Applicants completing the paper-based examination must earn a score of 540 or higher. Applicants completing the computer-based examination must earn a score of 83 or higher. Results of the TOEFL® must be sent directly to Northwestern from the testing agency. TOEFL information can be obtained from: TOEFL Services, Educational Testing Services, CN 6154, Princeton, NJ 08541-6154, USA

We reserve the right to request proof of English proficiency of any applicant.

3. Provide evidence of having financial resources to complete a minimum of one year of education. Official bank statements indicating sufficient funds is required;
4. Have foreign transcripts evaluated by WES: World Education Services, Inc., PO Box 5087, Bowling Green Station, New York, NY 10274, USA; phone: (212) 966-6311. Official copies of the course-by-course evaluation must be forwarded directly to both Northwestern and the student. Contact the Office of Admissions for a WES application form or names of other accepted transcript evaluation services.

As an international student, you must be aware of the licensure requirements in the country in which you wish to practice. We recommend you contact the acupuncture licensing board or its equivalent board in your country for that information.

## ACADEMIC POLICY

The following information provides a summary of our Academic Policies. The official policies are found in the University Student Handbook, which is available online at <http://www.nwhealth.edu>. The University Student Handbook is updated more frequently than the University catalog. In all cases, the Academic Policies as stated in the current University Student Handbook will be followed.

### Trimester Credits

The Academic calendar includes fall, winter and summer trimesters of 15 weeks each. In general, one credit represents one lecture hour, two laboratory hours or two clinical hours per week.

### Attendance Policy

Students are required to fulfill all course responsibilities, including class attendance, which are described by faculty in the course syllabi. Students are referred to the Clinic Handbook for Internship and Observation attendance policies.

### Academic Evaluation and Grades

Final grades in each subject are issued at the end of each trimester and reflect a student's performance in some combination of the following: comprehensive final examinations; announced tests, quizzes, assignments, classroom and laboratory work; participation in and contribution to class discussions; and attendance. Grading criteria are specified in each course syllabus.

The majority of courses, with a few exceptions, are assigned letter grades of either A, B, C, D, or F. The exceptions are assigned either an S for Satisfactory or a U for Unsatisfactory. The criteria for assignment of grades are contained in each course syllabus. The grades of S/U are not included in determining grade point average (GPA). The final grade of U (Unsatisfactory) is considered to be a grade of failure in the course.

Students who complete all the work assigned in a course are graded as follows: A, B, C, or D (excellent, above average, average or minimal achievement, respectively). Honor grade points (for calculating grade point averages) are awarded on the scale starting with four points for an A and one point for a D. Students who fail to achieve minimal competency are graded with F for failure. An incomplete (I) indicates that the full work of the course has not been completed because of illness or some cause beyond the student's control.

In all didactic classes, the following percentages will be used to determine grades A - F:

A = 100-92 percent  
B = 91-84 percent  
C = 83-76 percent  
D = 75-68 percent  
F = below 68 percent

Clinic performance is evaluated each trimester and is graded as S for Satisfactory or U for Unsatisfactory. Specific details are listed in the Clinic Handbook. In general, students must receive a score of three or higher (on a five-point scale) for each clinical criteria in order to receive clinic credit for that trimester. Students with criteria scores less than three will need to complete a remediation process in order to receive credit. Failure to meet the clinical internship/observation attendance requirements, as stated in the Clinic Handbook, will result in a grade of U (Unsatisfactory). Students must pass clinical competency exams prior to beginning supervised clinical practice and prior to graduation. Other competency exams may be administered at various stages throughout clinic.

### Academic Honors

Students receiving a grade point average (GPA) of 3.50 or better are placed on the Dean's List. Academic honors are determined according to the following grade point levels:

<u>Honor</u>	<u>GPA Range</u>
Cum laude	3.50 – 3.69
Magna cum laude	3.70 – 3.89
Summa cum laude	3.90 – 4.00

### Academic Standing

Students are considered in good academic standing unless they are currently on academic probation, dismissed or enrolled as a Special Student. Students must be in good academic standing to serve as Student Senate officers or as officers of approved student organizations. Students in good academic standing may progress toward degree completion.

## Regulations Concerning Probationary Status

Probation is indicative of substandard achievement. Students are placed on probation when:

- Their cumulative grade point average (GPA) falls below 2.0;
- They fail one course.

The University Student Handbook provides details pertaining to probation, dismissal, review procedures and special student status.

## GRADUATION

### Graduation Requirements

The Master of Acupuncture or Master of Oriental Medicine degree is granted to those candidates who have:

1. Completed the required course of study, of which the last academic year has been in residence at Northwestern Health Sciences University;
2. Demonstrated competency in clinic and completed internship requirements;
3. Earned a cumulative grade point average (GPA) of 2.0 or better;
4. Fulfilled all financial obligations to the University;
5. Been recommended for graduation by the faculty.

## CERTIFICATION AND LICENSURE

Graduates of Northwestern's master's degree programs exceed the eligibility requirements for the comprehensive national certification programs offered by the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM).

Graduates of the Master of Acupuncture program are eligible to take the acupuncture certification program exam modules which include Foundations of Oriental Medicine, Acupuncture with Point Location, and Biomedicine.

Graduates of the Master of Oriental Medicine program are eligible to take the Oriental Medicine certification program exam modules which include the three listed above plus Chinese Herbology. Students agree to provide Northwestern with copies of their NCCAOM examination results for use in program assessment.

Professional licensure requirements for the practice of acupuncture and Oriental medicine vary by jurisdiction. Students should not rely upon staff descriptions or statements regarding licensure requirements and need to consult directly with the licensure board for the profession in the state or location in which they intend to practice. In Minnesota, eligibility for acupuncture licensure is based upon active certification by the NCCAOM in acupuncture. Additional information about Minnesota acupuncture licensure may be obtained from the Minnesota Board of Medical Practice, University Park Plaza, 2829 University Ave. SE, Suite 400, Minneapolis, MN 55414-3246.

Receipt of a degree from Northwestern Health Sciences University does not guarantee a license or certification to practice. States vary in the specific courses of study required and/or state-based testing for certification or licensing. Students are responsible for confirming with the appropriate board(s) to determine the specific requirements for the state(s) in which they intend to practice and/or seek employment.

## THE PROGRAMS

### Master of Oriental Medicine

The curriculum for the professional Master of Oriental Medicine program provides comprehensive education and training in the following areas:

- Cultural and philosophical foundations of traditional Chinese medicine;
- Traditional Chinese medical concepts (physiology, pathology, diagnostics, point location and point energetics);
- Acupuncture treatment principles and practical skills;
- Tui Na;
- Traditional Chinese herbal medicine and dietary therapy;
- Related studies, including introductory Chinese language skills, ethics and practice management;
- Qi Development;
- Nutrition;
- Biomedical clinical sciences to a level required for competence in contemporary practice of acupuncture and Oriental medicine;
- Clinical internship;
- Clinical herbal internship.

Clinical requirements include a minimum of 150 hours of observation/assistantship and 720 hours of supervised clinical practice.

## **Master of Acupuncture**

The curriculum for the professional Master of Acupuncture program is similar to that of the Oriental Medicine program but does not include herbal studies.

Clinical requirements include a minimum of 150 hours of observation/assistantship and 525 hours of supervised clinical practice.

## **Herbal Medicine Certificate**

The curriculum for the Herbal Medicine Certificate program provides comprehensive herbal education and training in the same areas listed under the Master of Oriental Medicine.

Clinical requirements include 240 clinic internship hours, which consists of both herbal medicine and acupuncture internship hours.

## **CLINICAL EXPERIENCE**

Northwestern students begin clinical training in their first trimester with Clinical Observation/Assistantship. Clinical internship begins in the fifth trimester and takes place in one of the University's on-campus clinics. Subsequent supervised internships may include assignment in other clinics (e.g. public service organizations, hospitals, specialty clinics and/or medical facilities) which have established relationships with Northwestern.

Clinic interns perform all aspects of patient care relevant to their degree program. Interns are closely supervised and evaluated by clinical faculty members and are progressively given more responsibility as their competence increases. The low intern-to-supervisor ratio ensures a high degree of personal attention in both acupuncture and/or Oriental medicine. By the end of their internship, students are ready to enter private practice.

## **PROGRAM CHANGES**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

**COLLEGE OF ACUPUNCTURE AND ORIENTAL MEDICINE COURSE LIST**

**PROFESSIONAL MASTER'S DEGREE in ACUPUNCTURE**

**First Year**

***TRIMESTER 1 (Fall and Winter)***

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4025	Acupuncture Point Location 1	2		4		60
ANAT1001	Anatomy and Physiology 1	4	3	2		75
AAC3214	Chinese Medical Pathology 1	5	5			75
ACL3031	Clinical Observation 1	1.5			3	45
ACH3010	Introduction to Chinese Language	1	1			15
MEDT1001	Medical Terminology	1	1			15
ACH3034	Tai Ji	.5		1		15
TOTALS: Trimester 1, 1 <sup>st</sup> year		15	10	7	3	300

***TRIMESTER 2 (Winter and Summer)***

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4026	Acupuncture Point Location 2	2.5		5		75
ANAT1002	Anatomy and Physiology 2	4	3	2		75
AWM0150	Basic Life Support					4.5
AAC3215	Chinese Medical Pathology 2	4	4			60
ACL3032	Clinical Observation 2	1.5			3	45
22571.00	Emergency Care	1.5	1	1		30
TOTALS: Trimester 2, 1 <sup>st</sup> year		13.5	8	8	3	289.5

**TRIMESTER 3 (Summer and Fall)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4230	Acupuncture Treatment Strategy	3	3			45
ACL3033	Clinical Observation 3	1			2	30
AAC3216	Diagnostic Analysis in Chinese Medicine	1	1			15
ARS6040	Foundations of Evidence-Informed Practice	2	2			30
AAC4257	Medical Asepsis and Risk Management	.4		.8		12
AWM4036	Needling Anatomy	2.5	2	1		45
AAC4255	Needling Techniques 1	1.6		3.2		48
AWM4031	Pathophysiology 1	2	2			30
TOTALS: Trimester 3, 1 <sup>st</sup> year		13.5	9	5	2	255

**Second Year**  
**TRIMESTER 4 (Fall and Winter)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4250	Accessory Techniques	1.5		3		45
ACL3034	Clinical Observation 4	1			2	30
ARS5061	Medical Law and Ethics	1	1			15
AAC4256	Needling Techniques 2	2.5		5		75
AWM4032	Pathophysiology 2	2	2			30
AAC4030	Patient Assessment and Interactive Skills (fka Pre-Clinical Workshop)	3	3			45
ARS5062	Pre-Clinical Skills, Clinical Expectations and Policies (fka Interactive Skills & Ethics)	1	1			15
AWM4041	Western Medical Screening	2.5	2	1		45
TOTALS: Trimester 4, 2 <sup>nd</sup> year		14.5	8	9	2	300

**TRIMESTER 5 (Winter and Summer)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5151	Acupuncture Clinical Medicine 1	3	3			45
ACL5051	Clinic Seminar 1 (Advanced Diagnosis)	1	1			15
ACL5065-1	Clinical Internship 1	2			4	60
ACL5065-2	Clinical Internship 2	2			4	60
AWM6061	Topics in Cardiopulmonary Health	1.5	1.5			22.5
AWM6062	Topics in Orthopedic Health	1.5	1.5			22.5
AHB5130	Traditional Oriental Food Therapy	2	2			30
AAC5060	Tui Na	1		2		30
TOTALS: Trimester 5, 2 <sup>nd</sup> year		14	9	2	8	285

**TRIMESTER 6 (Summer and Fall)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5152	Acupuncture Clinical Medicine 2	3	3			45
AAC4245	Advanced Needling Techniques	1		2		30
ACL5052	Clinic Seminar 2 (Auricular Acupuncture/ Public Health)	1	1			15
ACL5065-3	Clinical Internship 3	2			4	60
ACL5065-4	Clinical Internship 4	2			4	60
AWM5082	Pharmacology for Chinese Medical Practitioners 1	1	1			15
AWM5083	Pharmacology for Chinese Medical Practitioners 2	2	2			30
AWM6063	Topics in Neurological Health (fka WCM4)	3	3			45
TOTALS: Trimester 6, 2 <sup>nd</sup> year		15	10	2	8	300

**Third Year****TRIMESTER 7 (Fall and Winter)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5153	Acupuncture Clinical Medicine 3	3	3			45
ACL5053	Clinic Seminar 3 (Rehabilitation Acupuncture)	1	1			15
ACL5065-5	Clinical Internship 5	2			4	60
ACL5065-6	Clinical Internship 6	2			4	60
ARS5091	Introduction to Practice Management and Business Basics (fka Practice Management 1)	2	2			30
AAC5291	Musculoskeletal Treatment	1.5		3		45
AAC6220	Nei Jing	2	2			30
AWM6064	Topics in Pediatric, Obstetric and Women's Health	3	3			45
TOTALS: Trimester 7, 3 <sup>rd</sup> year		16.5	11	3	8	330

**TRIMESTER 8 (Winter and Summer)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC6110	Acupuncture Review and Synthesis	2	2			30
ACL5054	Clinic Seminar 4 (Korean Hand Therapy)	1	1			15
ACL5065-7	Clinical Internship 7	2			4	60
ACL5065-8	Clinical Internship 8	2			4	60
ACL5065-9	Clinical Internship 9	2			4	60
ARS5092	Establishing a Successful TCM Practice (fka Practice Management 2)	2	2			30
AWM5060	Nutrition	3	3			45
AWM5066	Topics in Digestive Health	1.5	1.5			22.5
AWM5067	Topics in Endocrine and Male Uro-Genital Health	1.5	1.5			22.5
TOTALS: Trimester 8, 3 <sup>rd</sup> year		17	11		12	345
TOTAL HOURS FOR ENTIRE PROGRAM		119	79	36	46	2,404.5

## PROFESSIONAL MASTER'S DEGREE in ORIENTAL MEDICINE

### First Year

#### *TRIMESTER 1 (Fall and Winter)*

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4025	Acupuncture Point Location 1	2		4		60
ANAT1001	Anatomy and Physiology 1	4	3	2		75
AAC3214	Chinese Medical Pathology 1	5	5			75
ACL3031	Clinical Observation 1	1.5			3	45
ACH3010	Introduction to Chinese Language	1	1			15
MEDT1001	Medical Terminology	1	1			15
ACH3034	Tai Ji	.5		1		15
TOTALS: Trimester 1, 1 <sup>st</sup> year		15	10	7	3	300

#### *TRIMESTER 2 (Winter and Summer)*

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4026	Acupuncture Point Location 2	2.5		5		75
ANAT1002	Anatomy and Physiology 2	4	3	2		75
AWM0150	Basic Life Support (CPR)					4.5
AAC3215	Chinese Medical Pathology 2	4	4			60
ACL3032	Clinical Observation 2	1.5			3	45
22571.00	Emergency Care	1.5	1	1		30
AWM4031	Materia Medica 1	3	3			45
TOTALS: Trimester 2, 1 <sup>st</sup> year		16.5	11	8	3	334.5

**TRIMESTER 3 (Summer and Fall)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4230	Acupuncture Treatment Strategy	3	3			45
ACL3033	Clinical Observation 3	1			2	30
AAC3216	Diagnostic Analysis in Chinese Medicine	1	1			15
ARS6040	Foundations of Evidence-Informed Practice	2	2			30
AHB4032	Materia Medica 2	3	3			45
AAC4257	Medical Asepsis and Risk Management for Acupuncturists	.4		.8		12
AWM4036	Needling Anatomy	2.5	2	1		45
AAC4255	Needling Techniques 1	1.6		3.2		48
AWM4031	Pathophysiology 1	2	2			30
	TOTALS: Trimester 3, 1 <sup>st</sup> year	16.5	12	5	2	300

**Second Year****TRIMESTER 4 (Fall and Winter)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC4250	Accessory Techniques	1.5		3		45
ACL3034	Clinical Observation 4	1			2	30
ARS5061	Medical Law and Ethics	1	2			15
AHB4033	Materia Medica 3	3	3			45
AAC4256	Needling Techniques 2	2.5		5		75
AWM4032	Pathophysiology 2	2	2			30
AAC4030	Patient Assessment and Interactive Skills (fka Pre-Clinical Workshop)	3	3			45
ARS5062	Pre-Clinical Skills, Clinical Expectations and Policies	1	2			15
AWM4041	Western Medical Screening	2.5	2	1		45
TOTALS: Trimester 4, 2 <sup>nd</sup> year		17.5	14	9	2	345

**TRIMESTER 5 (Winter and Summer)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5151	Acupuncture Clinical Medicine 1	3	3			45
ACL5051	Clinic Seminar 1 (Advanced Diagnosis)	1	1			15
ACL5065-1	Clinical Internship 1	2			4	60
ACL5065-2	Clinical Internship 2	2			4	60
AHB5035	Herbal Formulas and Strategies 1	4	4			60
AWM6061	Topics in Cardiopulmonary Health	1.5	1.5			22.5
AWM6062	Topics in Orthopedic Health	1.5	1.5			22.5
AHB5130	Traditional Oriental Food Therapy	2	2			30
AAC5060	Tui Na	1		2		30
TOTALS: Trimester 5, 2 <sup>nd</sup> year		18	13	2	8	345

**TRIMESTER 6 (Summer and Fall)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5152	Acupuncture Clinical Medicine 2	3	3			45
AAC4245	Advanced Needling Techniques	1		2		30
ACL5052	Clinic Seminar 2 (Auricular Acupuncture/ Public Health)	1	1			15
ACL5065-3	Clinical Internship	2			4	60
ACL5065-4	Clinical Internship	2			4	60
AHB5036	Herbal Formulas and Strategies 2	5	5			75
AWM5082	Pharmacology for Chinese Medical Practitioners 1	1	1			15
AWM5083	Pharmacology for Chinese Medical Practitioners 2	2	2			30
AWM6063	Topics in Neurological Health	3	3			45
	TOTALS: Trimester 6, 2 <sup>nd</sup> year	20	15	2	8	375

**Third Year**  
**TRIMESTER 7 (Fall and Winter)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC5153	Acupuncture Clinical Medicine 3	3	3			45
ACL5053	Clinic Seminar 3 (Rehabilitation Acupuncture)	1	1			15
ACL5065-5	Clinical Internship 5	2			4	60
ACL5065-6	Clinical Internship 6	2			4	60
AHB5091	Herbal Clinical Medicine 1	3	3			45
ARS5091	Introduction to Practice Management and Business Basics	2	2			30
AAC5291	Musculoskeletal Treatment	1.5		3		45
AAC6220	Nei Jing	2	2			30
AWM6064	Topics in Pediatric, Obstetric and Women's Health	3	3			45
TOTALS: Trimester 7, 3 <sup>rd</sup> year		19.5	14	3	8	375

**TRIMESTER 8 (Winter and Summer)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
AAC6110	Acupuncture Review and Synthesis	2	2			30
ACL5054	Clinic Seminar 4 (Korean Hand Therapy)	1	1			15
ACL5065-7	Clinical Internship 7	2			4	60
ACL5065-8	Clinical Internship 8	2			4	60
ACL5065-9	Clinical Internship 9	2			4	60
ARS5092	Establishing a Successful TCM Practice	2	2			30
AHB5092	Herbal Clinical Medicine 2	3	3			45
AWM5060	Nutrition	3	3			45
AWM6066	Topics in Digestive, Health	1.5	1.5			22.5
AWM6067	Topics in Endocrine and Male Uro-genital Health	1.5	1.5			22.5
TOTALS: Trimester 8, 3 <sup>rd</sup> year		20	14		12	390

**TRIMESTER 9 (Summer and Fall)**

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
ACL5065-10	Clinical Internship 10	2			4	60
ACL5065-11	Clinical Internship 11	2			4	60
ACL5065-12	Clinical Internship 12	2			4	60
AHB6060	Herbal Classics	3	3			45
AHB6050	Herbal Dispensary Management	1	1			15
AHB6040	Herbal Review and Synthesis	4	4			60
TOTALS: Trimester 9, 3 <sup>rd</sup> year		14	8		12	300
TOTAL HOURS FOR ENTIRE PROGRAM		157	108	36	58	3064.5

## HERBAL MEDICINE CERTIFICATE

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
<b>TRIMESTER 1</b>						
AHB4021	Materia Medica 1	4				60
AAC4257	Medical Asepsis and Risk Management for Acupuncturists	.4		.8		12
<b>TRIMESTER 2</b>						
AHB4022	Materia Medica 2	5	5			75
<b>TRIMESTER 3</b>						
AHB5035	Herbal Formulas and Strategies 1	4	4			60
<b>TRIMESTER 4</b>						
AHB5036	Herbal Formulas and Strategies 2	5	5			75
<b>TRIMESTER 5</b>						
AHB5091	Herbal Clinical Medicine 1	3	3			45
<b>TRIMESTER 6</b>						
AHB5092	Herbal Clinical Medicine 2	3	3			45
<b>TRIMESTER 7</b>						
AHB6040	Herbal Review and Synthesis	4	4			60
AHB6060	Herbal Classics	3	3			45
AHB6050	Herbal Dispensary Management	1	1			15
CLINICAL INTERNSHIP		8			16	240
TOTAL FOR ENTIRE PROGRAM*		40.4	32	.8	16	732

\* In addition to the ACADEMIC courses listed above, students in the herbal medicine certificate program must take either a Basic Life Support (CPR) course at NWSU or show proof of having taken a Basic Life Support (CPR) course at the Provider Level within one year of starting the internship portion of this certificate program. Additionally, students in this certificate program must complete 240 hours (8 credits) of clinical internship, consisting of four 60-hour shifts and comprised of both herbal and acupuncture internship hours. At least one designated 60-hour shift of herbal internship must be taken, but no more than two herbal internships may be taken. Clinical Internship may begin during any term. However, the herbal internship shifts may not be taken until the completion of Herbal Formals and Strategies 2.

## COURSE DESCRIPTIONS

### **AAC4250 Accessory Techniques**

1.5 credits (45 hours): 45 laboratory hours  
Prerequisites: Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Medical Asepsis and Risk Management for Acupuncturists

Students develop skills in applying common accessory techniques, including cupping, guasha, plum-blossom, extravasation, moxibustion, auricular acupuncture and electro-acupuncture. Emphasis is placed on safe practice techniques and risk management.

### **AAC5151 Acupuncture Clinical Medicine 1**

3 credits (45 hours): 45 lecture hours  
Prerequisites: Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Techniques 1 and 2  
Co-requisite: Students must have begun clinical internship

In this first course of a three-course sequence in Acupuncture Clinical Medicine, students learn the traditional Chinese method of analyzing disease, and determining acupuncture and accessory treatment through differential diagnosis of main presenting symptoms.

### **AAC5152 Acupuncture Clinical Medicine 2**

3 credits (45 hours): 45 lecture hours  
Prerequisites: Acupuncture Clinical Medicine 1; Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Techniques 1 and 2  
Co-requisite: Students must have begun clinical internship.

The second class of this three-course sequence.

### **AAC5153 Acupuncture Clinical Medicine 3**

3 credits (45 hours): 45 lecture hours  
Prerequisites: Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Techniques 1 and 2  
Co-requisite: Students must have begun clinical internship.

The final class of this three-course sequence.

### **AAC4025 Acupuncture Point Location 1**

2 credits (60 hours): 60 laboratory hours  
Co-requisite: Anatomy and Physiology 1

The first of a two-course laboratory sequence in point location. Students learn acupuncture points one channel at a time, focusing on location techniques designed to ensure maximum accuracy in various body regions and various body types. The Point Location sequence is taught in an interactive manner with visually assisted demonstrations led by the instructor, coordinated group exercises and supervised hands-on location with student pairs.

### **AAC4026 Acupuncture Point Location 2**

2.5 credits (75 hours):  
75 laboratory hours  
Prerequisites: Acupuncture Point Location 1; Anatomy and Physiology 1  
Co-requisite: Anatomy and Physiology 2

The second course of a two-course laboratory sequence in point location. Students complete the meridian-by-meridian location of points begun in Acupuncture Point Location 1 and go on to locate Extra Points. To consolidate their knowledge, students re-examine locations of groups of major points based on specific anatomical regions, classical category and general function.

### **AAC6110 Acupuncture Review and Synthesis**

2 credits (30 hours): 30 lecture hours  
Prerequisites: Accessory Techniques; Acupuncture Clinical Medicine 1, 2 and 3; Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Advanced Needling; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Clinical Internship (300 hours); Clinical Observation (150 hours); Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Musculoskeletal Treatment; Pathophysiology 1 and 2; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Topics in Cardiopulmonary Health; Topics in Digestive Health; Topics in Endocrine and Male Urogenital Health; Topics in Neurological Health; Topics in Orthopedic Health; Topics in Pediatric, Obstetric and Women's Health; Tui Na; Western Medical Screening

This class emphasizes clinical problem-solving skills. Lectures and other learning experiences allow students to improve areas of weakness, consolidate clinical skills, integrate knowledge from the various disciplines of the program and achieve their fullest potential before graduation. This course is designed to review the essential components of the acupuncture portion of the program and to consolidate, integrate and synthesize the learning that has taken place. This course is also designed as a preparation for the National Board Exam.

**AAC4230 Acupuncture Treatment Strategy**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: Acupuncture Point Location 1 and 2; Chinese Medical Pathology 1 and 2  
Students learn the classical theories of meridian and point function and apply these theories within the framework of modern Chinese clinical experience, assembling point prescriptions for specific symptoms and TCM patterns.

**AAC4245 Advanced Needling Techniques**  
1 credit (30 hours): 30 laboratory hours  
Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Asepsis and Risk Management for Acupuncturists; Needling Anatomy; Needling Techniques 1 and 2.

Students continue hands-on skill development in manipulation techniques covered in previous classes and learn more advanced techniques as determined by the instructor.

**ANAT1001 Anatomy and Physiology 1**  
4 credits (75 hours): 45 lecture hours;  
30 laboratory hours

The first in a two-part sequence of courses introduces students to the organization of the body on a chemical, cellular, tissue and system level. Integrating structures (anatomy) and their functioning (physiology) is a focus of each course in this sequence with this course focusing on the skeletal/articular, muscular and nervous systems in detail. The laboratory portion of the course will include the opportunity to observe prosected human cadavers.

**ANAT1002 Anatomy and Physiology 2**  
4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisite: Anatomy and Physiology 1

This course builds on the material from Human Anatomy and Physiology 1 and explores the endocrine, integumentary, cardiovascular, lymphatic/immune, urinary, digestive, respiratory and reproductive systems. All systems are then integrated using cross-sectional analysis of the human body. Observation of prosected human cadavers is an opportunity during laboratory sessions.

**AWM0150 Basic Life Support (fka CPR)**

(4.5 hours) 4.5 laboratory hours

This course will train students to respond to assess and manage cardiac and respiratory emergencies using basic life support skills and automatic external defibrillation.

**AAC3214 Chinese Medical Pathology 1**  
5 credits (75 hours): 75 lecture hours

This course introduces students to the basic ideas of Chinese medical thought, including Yin and Yang, the Five Phases, the bodily substances and the *Zang-Fu* organs. Students then begin the study of Chinese medical pathology, including the Three Causes, the Eight Parameters, the Six Qi, disorders of bodily substances and *Zang-Fu* organ pathology.

**AAC3215 Chinese Medical Pathology 2**  
4 credits (60 hours): 60 lecture hours  
Prerequisite: Chinese Medical Pathology 1

This course is a continuation of Chinese Medical Pathology 1. Students will complete the study of *Zang-Fu* organ patterns and move on to Febrile Disease, including Cold and Warm Disease theories. Finally, students will begin the study of the Four Examinations, covering Observation, Listening, Smelling and Palpating.

**ACL5051 Clinic Seminar 1 (Advanced Diagnosis)**

1 credit (15 hours): 15 lecture hours  
Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Pathophysiology 1 and 2; Patient Assessment and Interactive Skills; Pre-clinical Skills, Clinical Expectations and Policies; Western Medical Screening; passing scores on all pre-clinical entrance examinations; completion of 150 hours of observation  
Co-requisite: Student must have begun clinical internship

This class offers a review of diagnosis to give entering interns greater confidence as they begin internship. Attention is directed toward hands on practice with taking of pulse, tongue observation and diagnosis, and learning and implementing palpation. Basic points, methods, content, steps of setting up diagnosis of diseases and patterns are emphasized. The seminar also covers analysis of reason for misdiagnosis.

**ACL5052 Clinic Seminar 2 (Auricular Acupuncture/Public Health)**  
 1 credit (15 hours): 15 lecture hours  
 Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Pathophysiology 1 and 2; Pre-Clinical Skills, Clinical Expectations and Policies; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening; passing scores on all pre-clinical entrance examinations; completion of 150 hours of observation  
 Co-requisite: Student must have begun clinical internship.

This course will look at the history and development of Public Health and acupuncture including current trends and treatment styles. Focus will be placed on sites and settings in which CAOM interns serve including; homelessness, addictions/NADA protocols, HIV/AIDS, PTSD. Part of the class will be devoted to the study of auricular acupuncture as a means of treating some of the above conditions.

**ACL5053 Clinic Seminar 3 (Rehabilitation Acupuncture)**  
 1 credit (15 hours): 15 lecture hours  
 Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Pathophysiology 1 and 2; Pre-Clinical Skills, Clinical Expectations and Policies; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening; passing scores on all pre-clinical entrance examinations; completion of 150 hours of observation  
 Co-requisite: Student must have begun clinical internship

This advanced seminar covers acupuncture treatment for patients in a rehabilitation setting. Specialized modalities discussed include scalp acupuncture and electro-acupuncture. Disorders covered include stroke, spinal cord injury, brain injury, and other congenital and acquired neurological disorders. This seminar is a required pre- or co-requisite for students applying for an internship at Courage Kenny Rehabilitation Institute.

**ACL5054 Clinic Seminar 4 (Korean Hand Therapy)**  
 1 credit (15 hours): 15 lecture hours  
 Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Pathophysiology 1 and 2; Pre-Clinical Skills, Clinical Expectations and Policies; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening; passing scores on all pre-clinical entrance examinations; completion of 150 hours of observation  
 Co-requisite: Student must have begun clinical internship

This class covers the study of Korean Hand Therapy (KHT), a micro-reflex acupuncture. It provides basic understanding of the theory of KHT, the correspondences between parts of the human body and points on hands, the location of key micro meridians and how to apply methods of micro-acupuncture treatment stimulation. This class will be an interactive hands-on course.

**ACL5065-1 through ACL5065-12 Clinical Internships**

2 credits (60 hours)  
 60 clinical hours (repeatable)  
 Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Law and Ethics; Needling Anatomy; Needling Techniques 1 and 2; Pathophysiology 1 and 2; Pre-Clinical Skills, Clinical Expectations and Policies; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening; passing scores on all pre-clinical entrance examinations; completion of 150 hours of observation

Under direct supervision of a licensed clinical faculty supervisor, interns perform patient interviews, assessment, treatment-planning, treatment and outcome evaluation in both the on-campus clinics as well as the off-site clinics. Students are required to do at least one clinic shift in an off-site clinic. Oriental medicine students are required to do at least one clinic shift (60 hours) of herbal internship.

**ACL3031 Clinical Observation 1**  
 1.5 credits (45 hours): 45 clinical hours  
 Prerequisites: Anatomy and Physiology 1; Chinese Medical Pathology 1

This experiential course will expose students to the varied components of clinical care. Students will experience clinical care from the perspective of the practitioner as well as the patient.

**ACL3032 Clinical Observation 2**  
1.5 credits (45 hours): 45 clinical hours  
Prerequisites: Clinical Observation 1  
In this clinical observation, students observe a licensed acupuncturist treating patients in a classroom situation.

**ACL3033 Clinical Observation 3**  
1 credit (30 hours): 30 clinical hours  
Prerequisites:  
Clinical Observation 1 and Clinical Observation 2  
This observation course is comprised of a combination of classroom and independent study whereby students begin learning the art of clinical presentations by observing, developing and presenting case studies.

**ACL3034 Clinical Observation 4**  
1 credit (30 hours): 30 clinical hours  
Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Anatomy; Pathophysiology 1  
Co-requisites: Medical Law and Ethics; Pathophysiology 2; Pre-Clinical Skills, Clinical Expectations and Policies; Patient Assessment and Interactive Skills; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening  
This Clinical Observation course consists of students observing licensed acupuncturists, instructors, supervisors and upper level students in a variety of settings, including classroom and on-campus clinics as well as approved outside clinical internship sites. Students may not observe other students who are at a lower level of study.

**AAC3216 Diagnostic Analysis in Chinese Medicine**  
1 credit (15 hours): 15 lecture hours  
Prerequisites: Chinese Medical Pathology 1 and 2  
This course continues the study of the Four Examinations. Focusing on the Ten Questions, an in-depth analysis of signs and symptoms is undertaken with an emphasis on the development of differential diagnostic skills.

**22571.00 Emergency Care**  
1.5 credits (30 hours): 15 lecture hours;  
15 laboratory hours  
Emergency Care or First Aid is the initial care given to a sick or injured person. This care does not replace proper medical or healthcare interventions but provides temporary assistance until advanced care can be provided. The student will learn how to respond to an emergency situation and to provide for cardiorespiratory emergencies, environmental emergencies, common medical conditions, basic wound care, bandaging and splinting. The student upon completion will receive the Emergency Care and Safety Institute (ECSI) Advanced First Aid Certification.

**ARS5092 Establishing a Successful TCM Practice (fka Practice Management 2)**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: Introduction to Practice Management and Business Basics  
The second of two Practice Management courses, this course focuses on the elements necessary to establish and grow your acupuncture practice in Minnesota. Students will begin by understanding the role of a Business Plan including defining target markets, insurance requirements and reimbursement, marketing/advertising, and office set up, e.g. accounting tools, front desk management and financing. Students will also prepare for entry into their clinical practice by preparing their clinical policies, forms and clinical best practices. In addition, student's final project will be presentation of their business plan.

**ARS6040 Foundations of Evidence-Informed Practice**  
2 credits (30 hours): 30 lecture hours;  
This course uses a blended approach of classroom and online presentations and activities to introduce students to the basic principles of evidence-informed practice (EIP). EIP is an approach that integrates clinical findings, patient preferences, research and clinical experience (all important types of evidence) into the process of health care delivery. Students learn the strengths and limitations of each element of the model and how to use them together to enhance clinical decision-making and patient outcomes.

**AHB6060 Herbal Classics**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: Herbal Formulas and Strategies 1 and 2; Materia Medica 1, 2 and 3  
Students explore the classic works of Chinese herbal medicine, such as the Shang Han Lun and the Jin Gui Yao Lue. This class contains two main parts: 1. Identification of patterns according to six stages of diseases and the treatments in Shang Han Lun; 2 Identification of patterns according to internal organs and the treatments in Shang Han Lun and Jin Gui Yao Lue.

**AHB5091 Herbal Clinical Medicine 1**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3; Herbal Formulas and Strategies 1 and 2  
This class is the first course in a two-course sequence providing a foundation for the clinical practice of Chinese herbal medicine. Students learn the Chinese method of analyzing disease and determining treatment by the differential diagnosis of main presenting symptoms in internal medicine. Case studies are presented to reinforce lecture material.

**AHB5092 Herbal Clinical Medicine 2**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3;  
Herbal Formulas and Strategies 1 and 2;  
Herbal Clinical Medicine 1  
This class is the second course in a two-course sequence providing a foundation for the clinical practice of Chinese herbal medicine in non-internal medicine.

**AHB6050 Herbal Dispensary Management**  
1 credit (15 hours): 15 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3;  
Herbal Formulas and Strategies 1 and 2;  
Herbal Clinical Medicine 1 and 2  
Students build on the skills they have developed throughout their herbal program and learn the details of operating a working herbal dispensary.

**AHB5035 Herbal Formulas and Strategies 1**  
4 credits (60 hours): 60 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3  
This class is the first course in a two-course sequence concerning the principles of classical herbal formulation and therapeutic functions. Major formulas currently used in Chinese medicine will be covered. Students will learn to analyze a formula according to the classical hierarchy of its ingredients and will learn to modify it to suit specific needs. Students will learn the therapeutic actions and clinical indications of each formula, including prohibitions and contraindications.

**AHB5036 Herbal Formulas and Strategies 2**  
5 credits (75 hours): 75 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3  
This class is the second course in a two-course sequence concerning the principles of classical herbal formulation and therapeutic functions. Major formulas currently used in Chinese medicine will be covered. Students will learn to analyze a formula according to the classical hierarchy of its ingredients and will learn to modify it to suit specific needs. Students will learn the therapeutic actions and clinical indications of each formula, including prohibitions and contraindications.

**AHB6040 Herbal Review and Synthesis**  
4 credits (60 hours): 60 lecture hours  
Prerequisites: Materia Medica 1, 2 and 3;  
Herbal Formulas and Strategies 1 and 2;  
Herbal Clinical Medicine 1 and 2  
This class is designed to consolidate the knowledge acquired in earlier herbal classes and to extend the student's mastery of Chinese herbal medicine to include the finer points of diagnosis, formulation and modification. Students will learn to construct treatment plans for complicated, difficult or unusual cases, while focusing on their individual learning needs.

**ACH3010 Introduction to Chinese Language**  
1 credit (15 hours): 15 lecture hours  
This class introduces basic and essential knowledge of Chinese language to help students in the study of Traditional Chinese Medicine (TCM). This course includes studies of Chinese Pinyin system, pronunciation, formation and writing of Chinese characters, how to use the Chinese-English dictionary, Chinese numbers, TCM terms and basic Chinese language grammar.

**ARS5091 Introduction to Practice Management and Business Basics (fka Practice Management 1)**  
2 credits (30 hours): 30 lecture hours  
In the first of two Practice Management classes, students are provided an entry level introduction of basic business management principals including: MN business entities, basic accounting principles and budgeting, finance, insurance and legal issues, demographic research, marketing strategies, ICD coding and insurance reimbursement. Although this course is an overview of business management principals, emphasis will be placed upon acupuncture clinical practice management.

**AWM4031 Materia Medica 1**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: Chinese Medical Pathology 1  
Co-requisite: Chinese Medical Pathology 2  
This class is the first course in a three-course sequence examining the major single herbs of the Chinese herbal pharmacopoeia. Students learn the flavor, Qi, actions, clinical indications, dosage and contraindications of the major herbs used in modern clinical practice.

**AHB4032 Materia Medica 2**  
3 credits (45 hours): 45 lecture hours  
Prerequisite: Materia Medica 1  
This class is the second course of a three-course sequence examining single herbs.

**AHB4033 Materia Medica 3**  
3 credits (75 hours): 75 lecture hours  
Prerequisite: Materia Medica 1 and 2  
This class is the third course of a three-course sequence examining single herbs.

**AAC4257 Medical Asepsis and Risk Management for Acupuncturists**  
0.4 credits (12 hours): 12 laboratory hours  
This class is designed to establish a training and performance standard for the safe application of acupuncture. Students learn the basic standards of care for acupuncture in the United States, including the principles and practice of Clean Needle Technique and the modern process of risk management. Emphasis is placed on achieving consistency with the aseptic standards recognized by modern biomedicine.

**ARS5061 Medical Law and Ethics**

1 credit (15 hours): 15 lecture hours

This course will provide students with an introduction to medical law and liability issues for healthcare providers, particularly those pertaining to MN Acupuncture scope of practice as designated in MN statute 147B and 146A. In addition the course provides training in HIPAA and Patient Privacy, informed consent, medical communication and referrals. The ethics component of this course will introduce students to medical ethics and professional medical issues including managing ethical dilemmas, understanding ethical decision-making models, managing risk and liability, and mandated reporting.

**MEDT1001 Medical Terminology**

1 credit (15 hours):  
15 lecture hours (online course)

An understanding of basic medical terminology is necessary for any education in the health sciences. Students will learn general medical terminology related to anatomy, physiology, pathology, treatments and medical specialties, including basic Latin and Greek roots, prefixes and suffixes. The online course will utilize written assignments, discussion forums and exams. Methods to analyze word structure as opposed to mere memorization of words serve as a foundation for this course.

**AAC5291 Musculoskeletal Treatment**

1.5 credits (45 hours):  
45 laboratory hours  
Prerequisites: Acupuncture Point Location 1 and 2; Accessory Techniques; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Medical Asepsis and Risk Management for Acupuncturists; Needling Anatomy; Needling Techniques 1 and 2; Tui Na

Students learn and apply treatment strategies synthesizing acupuncture and Tui Na for common musculoskeletal disorders. Emphasis is placed on developing Chinese treatment principles for specific orthopedic problems.

**AWM4036 Needling Anatomy**

2.5 credits (45 hours): 30 lecture hours;  
15 laboratory hours  
Prerequisites: Anatomy and Physiology 1 and 2; Point Location 1 and 2; Chinese Medical Pathology 1 and 2

This class studies the cross-sectional anatomy of the body as it relates to the position of specific acupuncture points. Special attention is paid to those points located over organs, arteries or other sensitive tissues that may be at specific risk during the needling process of the upper and lower extremities, head, scalp, auricles, throat, thorax, abdomen, pelvis and posterior back (cervical, thoracic, lumbar and sacral) regions of the body. Observation of human cadavers and optional needling of commonly used points and threading techniques are required during the laboratory experience. Class case studies and labs synthesize information from the previous trimester levels for point location, pattern identification, anatomy and aseptic protocols.

**AAC4255 Needling Techniques 1**

1.6 credits (48 hours): 48 laboratory hours;  
Prerequisites: Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Medical Asepsis and Risk Management for Acupuncturists; Needling Anatomy.

This class is the first course of a two-course laboratory sequence training students in the needling of major points of the body. Emphasis is placed on developing skills in increasingly sophisticated needling techniques.

**AAC4256 Needling Techniques 2**

2.5 credits (75 hours): 75 laboratory hours;  
Prerequisites: Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Medical Asepsis and Risk Management for Acupuncturists; Needling Anatomy; Needling Techniques 1.

This class is the second course of a two-course laboratory sequence training students in the needling of major points of the body. Emphasis is placed on developing skills in increasingly sophisticated needling techniques.

**AAC6220 Nei Jing**

2 credits (30 hours): 30 lecture hours  
Prerequisites: Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine

Students become familiar with this famous medical classic and have the opportunity to review Chinese medical theory and its origins in the context of the greater underlying philosophy and world view of ancient China.

**AWM5060 Nutrition**

3 credits (45 hours): 45 lecture hours  
Prerequisites: Chinese Medical Pathology 1 and 2

This course provides students with a foundational understanding of Western nutritional and dietary principles. Students are introduced to macro- and micro-nutrients, supplements, popular diets and their clinical applications. They also examine the principles for the promotion of health, wellness and longevity through diet.

**AWM4031 Pathophysiology 1**

2 credits (30 hours): 30 lecture hours  
Prerequisite: Anatomy and Physiology 1 and 2

This class is the first course in a two-course sequence concerning disease processes of the body. Students will compare and contrast normative and pathological states, including indications and symptomology. Topics covered in this course include health vs. disease states, inflammation, neoplasia, platelet disorders, red blood cell disorders and white blood cell disorders.

**AWM4032 Pathophysiology 2**  
2 credits (30 hours): 30 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1  
This class is the second course in a two-course sequence concerning disease processes of the body. Topics covered in this course include the biology of infectious agents, infectious disease, HIV/AIDS and dermatology.

**AAC4030 Patient Assessment & Interactive Skills (fka Pre-Clinical Workshop)**  
3 credits (45 hours): 45 lecture hours  
Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Anatomy; Pathophysiology 1  
Co-requisites: Medical Law and Ethics; Pathophysiology 2; Pre-Clinical Skills, Clinical Expectations and Policies; Western Medical Screening

This course ensures that students have the diagnostic acumen and communication skills necessary to begin supervised Clinical Internship. A strong emphasis is placed on patient interviewing. Teaching techniques may include role-playing, modeling and simulation exercises. Emphasis will be placed on building rapport and patient centered care. In addition, students are trained in clinical procedures and protocols followed in the University clinical system. These protocols include charting and record-keeping, confidentiality requirements and crisis management.

**AWM5082 Pharmacology for Chinese Medical Practitioners 1**  
1 credit (15 hours): 15 lecture hours  
Co-requisite: Pharmacology for Chinese Medical Practitioners 2

This class teaches evidence-based reasoning in the practice of herbal medicine, with an emphasis on risk management. Subjects include herb-drug interactions, pregnancy, allergies, toxicology, dose delivery, and phytochemistry.

**AWM5083 Pharmacology for Chinese Medical Practitioners 2**  
2 credits (30 hours): 30 lecture hours  
Co-requisite: Pharmacology for Chinese Medical Practitioners 1

This is a general course in clinical pharmacology designed to provide the student with a fundamental understanding of the rationale for pharmacologic intervention for selected drugs; the use of drug information sources; proper interaction with the patient and prescriber; recognition of adverse drug reactions and drug abuse; and the basic principles of pharmacology and toxicology in humans. Course outline material will be covered through a general lecture format including classroom presentations, discussions and case studies.

**ARS5062 Pre-Clinical Skills, Clinical Expectations and Policies**  
1 credit (15 hours): 15 lecture hours  
Prerequisites: Accessory Techniques; Acupuncture Point Location 1 and 2; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2; Diagnostic Analysis in Chinese Medicine, Needling Anatomy; Needling Techniques 1  
Pathophysiology 1 and 2; Western Medical Screening. Must be entering clinic in the following term.

Pre-Clinical Skills course will provide students the necessary information and tools to successfully begin the transition into the clinical education component of the CAOM program. Clinical expectations and policy will be presented. During this course students will also receive a review of EIP and training on CAOM charting practices utilizing the Electronic Health Record Software. In addition, students will be introduced to general CPT and ICD coding practices.

**ACH3034 Tai Ji**  
.5 credit (15 hours): 15 laboratory hours  
This course presents the classical practice of Tai Ji in the context of health care. Students learn basic movements and exercises directed toward awareness and development of Qi. The goal is to help the students achieve a state of equanimity and balance in their personal lives, as well as their work with patients.

**AWM6061 Topics in Cardiopulmonary Health**  
1.5 credits (22.5 hours): 22.5 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six-course sequence in the study of major health conditions and their pathogenic mechanisms as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are available and to serious conditions requiring physician referral. Topics covered in this course include review of selected conditions related to cardiology and pulmonology.

**AWM6066 Topics in Digestive Health**  
1.5 credits (22.5 hours): 22.5 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six-course sequence in the study of major health conditions and their pathogenic mechanisms as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are available and to serious conditions requiring physician referral. Topics covered in this course include review of selected conditions related to gastrointestinal health.

**AWM6067 Topics in Endocrine and Male Urogenital Health**

1.5 credits (22.5 hours); 22.5 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six-course sequence in the study of major health conditions and their pathogenic mechanisms as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are available and to serious conditions requiring physician referral. Topics covered in this course include review of selected conditions related to endocrine and male urogenital health.

**AWM6063 Topics in Neurological Health**

3 credits (45 hours); 45 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2, Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six-course sequence in the study of major health conditions and their pathogenic mechanisms as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are now available and to serious conditions requiring physician referral. Topics covered in this course include review of neurological conditions including stroke, headache, upper motor neuron disorders, lower motor neuron entrapment syndromes, epilepsy and dementia.

**AWM6062 Topics in Orthopedic Health**

1.5 credits (22.5 hours); 22.5 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six-course sequence in the study of major health conditions and their pathogenic mechanism as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are available and to serious conditions requiring physician referral. Topics covered in this course include review of selected conditions related to orthopedics.

**AWM6064 Topics in Pediatric, Obstetric and Women's Health**

3 credits (45 hours); 45 lecture hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1 and 2; Western Medical Screening

This class is one of a six course sequence in the study of major health conditions and their pathogenic mechanisms as defined by Western biomedicine. Particular attention is paid to conditions with a high risk of significant adverse outcomes for which effective Western treatments are available and to serious conditions requiring physician referral. Topics covered in this course include review of selected conditions related to obstetrics, gynecology, infant and children's health.

**AHB5130 Traditional Oriental Food Therapy**

2 credits (30 hours); 30 lecture hours  
Prerequisites: Chinese Medical Pathology 1 and 2

The properties of specific foods are studied according to Oriental therapeutic principles. Different approaches to food therapy are examined. Methods of preparing foods and their influence on therapeutic actions of foods are explored. Dietary recommendations are given for various patterns of disharmony. Students learn how to prepare a selection of therapeutic recipes.

**AAC5060 Tui Na**

1 credit (30 hours); 30 laboratory hours  
Prerequisites: Acupuncture Point Location 1 and 2; Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Chinese Medical Pathology 1 and 2

Students learn the principles and techniques of Chinese manual therapy via lecture, demonstration and hands-on practice. Focus is placed on developing skill in the most basic manipulation techniques used in Tui Na.

**AWM4041 Western Medical Screening**

2.5 credits (45 hours); 30 lecture hours;  
15 laboratory hours  
Prerequisites: Anatomy and Physiology 1 and 2; Pathophysiology 1  
Co-requisite: Pathophysiology 2

In this class, students will learn about Western medical techniques for physical examination, health screening and care management. Students will learn to conduct a Western physical examination so that they may differentiate between and select those patients with potentially serious disorders who should be referred for emergency treatment or assessment by a Western physician. Additionally, students will be able to define and discuss medicolegal matters concerning their patients, including issues of patient confidentiality, consent, abandonment, negligence, assault and battery.



# Northwestern

Health Sciences University



## School of Massage Therapy



# Explore the School of Massage Therapy

## Comprehensive Science-Based Training

### MISSION STATEMENT

The mission of the School of Massage Therapy is to educate therapists as leaders in the field, to elevate the standards of practice and to advance the profession through scientific research. We prepare massage therapists who are committed to service and lifelong learning, and who are qualified to practice both independently and as members of integrated health care teams. Graduates of the School of Massage Therapy will ground their work in scientific knowledge, clinical proficiency, and the highest standards of ethical and professional behavior.

### EDUCATIONAL OBJECTIVES

Therapists who successfully complete the certificate program of study offered by the School will be able to:

1. Communicate effectively with clients and the general public.
2. Effectively and accurately assess the structure and function of the human body in health and disease, the presenting condition of a client, and create and implement a therapeutic plan relevant to the client's needs and preferences.
3. Demonstrate ethical standards of practice by respecting professional boundaries, honoring confidentiality and valuing diversity.
4. Direct clients, when appropriate, to a spectrum of other resources.
5. Acquire, appraise, and apply current and relevant scientific information to practice in an evidence informed manner.
6. Actively manage and maintain one's own health and wellness, including the use of effective biomechanical practices.
7. Demonstrate an appreciation to maintain the highest standards of ethical and professional behavior by actively setting clear lifelong learning goals, pursue them, and apply the knowledge gained.

In addition to the above objectives, students who successfully complete the Associate in Applied Science degree (AAS) will be able to:

8. Demonstrate the writing, critical thinking, reasoning and oral communication skills expected of a graduate of an associate-level degree program.

### MASSAGE THERAPY AS A HEALTH CARE PROFESSION

The program of study offered by the School of Massage Therapy is based upon two assumptions about massage therapy: that massage therapy is a type of health care and that massage therapy is a profession.

#### Massage Therapy as Health Care

The first assumption is that massage therapy is a type of health care. While we are respectful of the diversity of approaches to massage practice, the intention of the School of Massage Therapy is to prepare therapists to work with other natural and medical health care providers. While we offer thorough training in basic relaxation-oriented massage, we do so as preparation for more specific therapeutic work. Massage therapy practiced in health care environments tends to be more problem-based and more strongly focused on soft-tissue rehabilitative techniques. The majority of our technique training focuses on this type of work. As a natural health sciences university, Northwestern believes that natural health care practitioners should be trained together and will, in many instances, practice together. The University and the School view massage therapy as an integral part of natural health care.

## **Massage Therapy as a Profession**

The second assumption is that massage therapy is a profession, as opposed to simply a career or a trade. As professionals, massage therapists should be expected to conduct themselves in the same professional manner as doctors, nurses and other health care professionals in terms of their interactions with patients, clients, other providers and the general public. Professionals are generally held to higher and more specific ethical and behavioral expectations. The curriculum provides specific preparation in the areas of communication skills, lifelong learning, ethical decision-making, legal and regulatory issues, and professional practice development.

## **APPROACH TO LEARNING**

The School of Massage Therapy believes that the students and faculty should be continuously learning. Students learn from faculty, from each other, from their clients and from sources of professional information. Faculty members continue to learn in order to remain current on relevant information. The experiences of students and faculty result in the program evolving and growing. As in most professional programs, students in the School frequently learn by doing. The School takes the holistic perspective of student as future practitioner rather than focusing solely on course-based demonstrations of performance, such as tests. As a result, students receive and respond to frequent objective and subjective performance feedback from faculty, peers and clients. This mirrors the experience of most therapists in practice, who must be dynamically responsive to client feedback in order to be clinically effective and professionally successful.

## **CLASS SIZE AND ATTENDANCE**

The School believes that small class sizes are essential to effective learning of massage therapy techniques. Therefore, the teacher-to-student ratio will typically not exceed 1:50 in lecture classes and 1:13 in lab classes. Because the School teaches technique through reciprocal application, the learning of every student can be impacted by the attendance patterns of other students. Course attendance is a demonstration of seriousness about the program of study, a demonstration of respect for the faculty and your colleagues, and a necessity for course success.

## **ADMISSION INFORMATION**

### **Admission to the School**

Northwestern admits as students, women and men of good character and health who are qualified by previous education and experience to meet its academic challenges and to become a practicing massage therapist.

Applications for admission, as well as current tuition and fees, are available online at <http://www.nwhealth.edu> or they may be obtained by contacting the Office of Admissions. The application for admission must be accompanied by a non-refundable application processing fee of \$50 (US dollars) and a criminal background check fee of \$20 (US dollars). It is the responsibility of the applicant to read this catalog and comply with all provisions and instructions.

New students are admitted at the beginning of three trimesters of the academic year January, May and September.

Persons who have been convicted of a misdemeanor of a violent or sexual nature or any felony will be prohibited from professional health care practice in many jurisdictions. Northwestern Health Sciences University will deny admission to applicants with such convictions. The University therefore reserves the right to conduct a criminal background check on all applicants and enrolled students.

### **Entrance Requirements**

Applicants must meet the following requirements:

1. Students must have earned a high school diploma, its foreign equivalent or a General Educational Development diploma (GED). Successful completion of at least 60 semester credit hours in a college or university accredited by an accrediting agency recognized by the United States Department of Education will be recognized as equivalent to a high school diploma.
2. Applicants must have achieved a cumulative grade point average (GPA) of 2.0 or better in prerequisite coursework;
3. All students must pass a criminal background check;
4. Students must demonstrate sufficient maturity to undertake a health care profession, including the capacity to ethically and responsibly manage professional boundaries.

Admission to the School of Massage Therapy is competitive. The University expects that most, if not all, students will exceed the minimum admission requirements.

### **Qualifications**

A student must possess the following abilities, with or without reasonable accommodation, for completion of the professional certificate program in massage therapy:

1. Ability to apply massage and adjunctive techniques over the full range of a client's body, including positioning clients, palpating, feeling with hands and fingers, pushing, pulling, kneading, grasping, twisting wrists and lifting up to 10 pounds, for periods of up to 90 minutes standing without interruption;
2. Ability to determine depth and intensity of manual pressure and force, as applied in the performance of common massage and adjunctive procedures and techniques;
3. Ability to see and hear, with or without reasonable accommodation, sufficient that the student can receive and record client histories, document treatment plans, provide instructions to clients and provide routine client safety services;
4. Ability to perform in all laboratory and clinical settings without posing a threat to herself/himself, to the safety and well-being of fellow students or clients;
5. Ability and willingness to receive massage and adjunctive treatment. Much of the technical instruction in the programs requires reciprocal application of the techniques of massage therapy, including trigger point therapy and cross fiber friction. In reciprocal laboratory experiences, receiving techniques is necessary in order to learn proper procedures and to receive and provide learning feedback. Reciprocal application of technique is also useful for developing sensitivity to client needs. The School may temporarily excuse a student from receiving massage therapy provided that there is a specific medical contraindication, as determined in writing by a licensed health care professional.

All students, with or without reasonable accommodation, must carry out laboratory and clinical assignments, including providing massage therapy services to clients. Qualified persons with disabilities, with or without reasonable accommodation, must be able to pass oral, written and practical examinations and meet all of the clinical requirements of the University. It is in the best interests of both the student and the University to assess the degree of limitation caused by disability. However, the University will make the final determination of whether or not an individual meets all qualifications for study at the University. The University accommodations process is found under "Student Life." Additionally, questions regarding qualifications or accommodations should be directed to the Office of Student Affairs.

### **Responsibility of Applicant**

It is the responsibility of the applicant to be aware of the entrance requirements and to ensure that they are met prior to enrollment. If the School determines at any time that requirements are not met in full, the student will not be allowed to enroll or to continue at Northwestern. The Office of Admissions personnel are available to help prospective students plan their pre-massage therapy curricula.

### **Minnesota Immunization Requirement**

All students born in 1957 or later must comply with the Minnesota State College Immunization Law (Minn. Stat. 135A.14). An admitted student must show proof of DPT immunization within the past 10 years, as well as measles, mumps and rubella immunization after his/her first birthday. However, exemptions are permitted for philosophical or medical reasons. Further information is included with letters of acceptance to Northwestern. Some clinical environments outside the University Clinic system may establish immunization and/or health screening requirements exceeding the Minnesota State College Immunization Law. In addition, some clinical environments outside the University Clinic system may not accept placement of interns who have not received or are not in the process of receiving certain immunizations and/or health screenings.

## **Application Procedure**

The first step in the application process is to submit a fully completed application for admission.

Applications are available online at <http://www.nwhealth.edu> or from the Office of Admissions. The application must include:

1. A properly completed application for admission. Please type or print neatly;
2. An application processing fee of \$50 (US dollars). This fee is non-refundable;
3. Official transcripts from all colleges attended sent directly to the Office of Admissions at Northwestern Health Sciences University from those colleges. High school transcripts or a General Educational Development diploma (GED) are required only if the student has less than 60 semester credits or does not have prior college work. NOTE: Indicate on your application if your transcripts will be arriving under another name.
4. A current résumé
5. A completed criminal background check. Northwestern will provide a consent form that must be completed and returned to the Office of Admissions;
6. A completed essay (see application form for instructions).

## **Selection of Candidates**

The Admissions Committee seeks to matriculate students who best suit the philosophies and goals of the University. Northwestern seeks to select students who have strong academic records and who demonstrate the motivational and personal characteristics suitable for a career in massage therapy. Willingness to provide service and a caring attitude are important characteristics of a future massage therapist. The University employs a rolling admissions process. Therefore, early application could increase the applicant's probability for acceptance. The University encourages campus visits for all applicants and reserves the right to require an interview.

## **Tuition Deposit Policy**

Applicants will be notified in writing of the Admission Committee's decision regarding their application following receipt of all application materials and committee review. Upon notification of acceptance, a candidate must remit a tuition deposit of \$100 (US dollars) to reserve a position in the entering class. This tuition deposit is non-refundable but is applied toward the first trimester tuition. If the student has a loan in progress for the first trimester at Northwestern, then the first trimester tuition will be credited against this loan. It is important to note that because of the limited space available in each class, scheduling priorities and the cost of education, the institutional refund policy does not apply to the \$100 tuition deposit.

## **Transfer Students and Transfer Policy**

The School of Massage will consider requests for transfer credit based on the following criteria:

1. An official transcript must accompany any request for transfer credit;
2. The institution where the coursework was completed must be accredited by an accrediting agency recognized by the United States Department of Education;
3. The course(s) completed at the other institution must have similar objectives and be of similar content and length as the course(s) being substituted at the School of Massage Therapy. A course catalog and/or syllabus may be required to demonstrate course content;
4. Students must have earned a C or better in any course being considered for transfer;
5. Any coursework submitted for transfer must have been completed within five years of the date that a transfer application is submitted to the University;
6. A maximum of 21 credits will be transferred per student in the certificate program and 30 credits per student in the Associate of Applied Science degree program;
7. The School of Massage Therapy reserves the right to offer transfer credit to students who demonstrate proficiency in course material based on submission of a portfolio demonstrating competency in the objectives of the course;
8. Requests for transfer credit will only be considered prior to matriculation into the School of Massage Therapy;
9. The final decision regarding transfer credit rests with the Dean of the College of Undergraduate Health Sciences.

## Payment

All tuition and fees owed are due and payable by the end of the third week of class each academic term. After the completion of the third week of class, if tuition has not been paid or if arrangements for payment have not been made with the Student Records and Financial Services Office, a \$100 (US dollars) late fee will be assessed and registration for that academic term will be canceled. In order to be reinstated, the affected student must pay tuition in full or make payment arrangements with the Student Records and Financial Services Office. All tuition and fees owed by a student must be paid in full before registration begins for the subsequent academic term or s/he will not be allowed to register. Any student with a balance due at the time of graduation will not receive a diploma and copies of official transcripts will be withheld until the balance is paid in full.

When you receive financial aid, you are subject to the 150 percent rule. This rule means that if you attempt more than 150 percent of the credit hours needed to graduate from the program, you will not be eligible to continue to receive financial aid. (For example, the number of credit hours needed to complete the certificate program is 43 and 150 percent of 43 credits is 64.5 credits.)

The Institutional Refund Policy applies to students who withdraw, students who are dismissed and in the case of cancellation of the program in which the student is enrolled.

## Readmission

A student who has withdrawn or been dismissed from the School may petition in writing for readmission to the School of Massage Therapy. Petitions for readmission must be submitted to the Dean. The following procedure applies:

1. A committee composed of faculty convenes to review the student's written request;
2. The committee, chaired by the Dean, either:
  - requests additional information; or
  - writes a report recommending or not recommending readmission based on review of the request;
3. A recommendation for reinstatement shall include:
  - specific provisions for readmission (e.g., retaking a course or courses);
  - date for readmission (e.g., immediately or the following academic term).
4. The Dean makes the final decision regarding readmission and communicates the decision in writing to the student. The decision of the Dean may be appealed to the Provost;
5. The Dean monitors the progress surrounding the stipulated provisions (if any) of any readmitted learner student and reports to the Dean if the learner has or has not satisfied the stipulated provisions (if any) for readmission;
6. The Dean communicates in writing to the student that all provisions (if any) for readmission have been met, or that provisions have not been satisfied and the student is dismissed.

## Non-Program Students

Students not currently admitted to a program may enroll in a course for credit, if they meet the prerequisites, space is available and approval for attendance in the course has been granted by the course instructor and the Dean.

Students that are granted approval to enroll in a course should contact the Office of Admissions for a special application and registration instructions.

## ACADEMIC POLICY

The following academic policies and procedures refer specifically to the School of Massage Therapy. The University Student Handbook, which is available online at <http://www.nwhealth.edu>, contains general policies and procedures that apply to all students of the University.

### Academic Policy Credits

The academic calendar includes fall, winter and summer academic terms of 15 weeks each. In general, one credit in the School of Massage Therapy represents 15 lecture hours, 30 laboratory hours or 45 clinical hours during a 15-week term.

## Grading Policy

The School of Massage Therapy uses a grade point system to evaluate the overall quality of course work. Courses are graded A, B, C, D, or F. The number of grade points earned in a given course is the number of credits for that course multiplied by the grade point corresponding to the grade recorded in that course, as indicated here:

Grade	Grade Points	Suggested Achievement Level
A	4	90 – 100 percent of points; <i>outstanding</i>
B	3	80 – 89 percent of points; <i>superior</i>
C	2	70 – 79 percent of points; <i>satisfactory</i>
D	1	60 – 69 percent of points; <i>minimally satisfactory</i>
F	0	59 percent of points or fewer; <i>unsatisfactory</i>
S	N/A	Satisfactory (C or better); <i>competency successfully demonstrated</i>
U	N/A	Unsatisfactory (D/F); <i>competency not successfully demonstrated</i>
I	N/A	Incomplete
W	N/A	Withdrawal
T	N/A	Transfer; used to indicate courses for which the learner received advanced standing or transfer credit

### Notes on Grading:

1. Instructors assign letter grades as appropriate according to the student's achievement level;
2. Students enrolled in the School of Massage Therapy must maintain a 2.0 (C) cumulative grade point average (GPA) or better unless otherwise stipulated. Students may receive grades lower than C and remain in good standing if they maintain at least a 2.0 cumulative grade point. However, students must satisfactorily complete all courses in order to graduate from the School of Massage Therapy;
3. Pluses and minuses are not part of the official grading system and are not figured into a student's grade point average (GPA);
4. The Satisfactory/Unsatisfactory grade option is intended for course work where a letter grade cannot be appropriately assigned. Credits under this option are counted toward the total number of credits required for graduation but are not used in determining a student's grade point average;
5. A student must earn a grade of A, B, C, D, or S in order to fulfill course requirements.

## Use of the Grade I

The grade of I (incomplete) indicates that work was not completed prior to the last day of the term or learning contract and is intended to reflect circumstances beyond the student's or instructor's control. It is the responsibility of the student to consult with the instructor to determine the work still remaining to be completed. Incomplete work must be satisfactorily completed during the first four weeks of the next academic term. After that time, a grade of I will automatically become a grade of F. Students experiencing extenuating circumstances may seek a waiver of the time limit from the program administrator, who may choose to grant the waiver, refuse the waiver or refer the request to the Academic Standards Committee. The University reserves the right to require the Student to provide evidence of extenuating circumstances to the satisfaction of the University. Under no circumstances will a waiver be awarded that extends beyond the conclusion of the student's next academic term.

## Academic Standing

Students are considered in good academic standing unless they are dismissed or on academic probation. Students must be in good academic standing to serve as Student Senate officers or as officers of approved student organizations. Students in good academic standing may progress toward degree completion.

## Course Attendance and Punctuality

Course attendance and punctuality represent a demonstration of seriousness about the program of study, a demonstration of respect for the faculty and your colleagues, and a necessity for course success. Each instructor will list course attendance requirements and tardiness policies, including consequence for violation of these policies, on the course syllabus.

## **GRADUATION**

### **Graduation Requirements**

The Certificate or AAS in Massage Therapy is granted to those candidates who have:

1. Completed the required curriculum.
2. Demonstrated competency in clinic and completed internship and field experience requirements;
3. Earned a cumulative grade point average (GPA) of 2.0 or better;
4. Fulfilled all financial obligations to the University;
5. Current First Aid and CPR certification.

### **Graduation Rate**

Please refer to our website for the most recent graduation rate statistics.

The School of Massage Therapy makes no guarantee of employment of students upon completion of the program.

## **PROFESSIONAL LICENSURE, REGISTRATION, OR CERTIFICATION**

As of 2014, statewide standards for massage therapy practice have been established in 44 states and the District of Columbia. Each state has established slightly differing standards for professional eligibility. At this time, no statewide standard for professional licensure, registration or certification exists for massage therapists in Minnesota. Many cities in Minnesota have established ordinances that regulate the practice of massage therapy and some cities require practitioner registration.

Professional licensure requirements vary by jurisdiction. Students should not rely upon staff descriptions or statements regarding licensure requirements and need to consult directly with the licensure board for the profession and in the state or province in which they intend to practice.

The University makes no guarantees that an individual student will satisfy the licensure, registration or certification requirements of any particular state or other jurisdiction. It is the responsibility of an individual student to confirm the regulatory requirements that may apply in any jurisdiction in which that student intends to practice.

Students who complete the certificate or AAS program of study offered by the School of Massage Therapy will be eligible to sit for the National Certification Examination in Therapeutic Massage and the Massage and Bodywork Licensing Examination. In many states with statewide standards, successful completion of this examination is a qualifying requirement for licensure, registration or certification. The University requires that all of its massage therapy technique instructors successfully complete this certifying examination and continuously maintain certification.

Receipt of a certificate or degree from Northwestern Health Sciences University does not guarantee a license or certification to practice. States vary in the specific courses of study required and/or state-based testing for certification or licensing. Students are responsible for confirming with the appropriate board(s) to determine the specific requirements for the state(s) in which they intend to practice and/or seek employment.

## **STUDY TIME**

The time required outside of scheduled class time for homework and studying can vary considerably based on the individual student. However, as a general rule, students should plan on a minimum of two to three hours of homework and studying outside of class for every one hour of lecture time. This brings the minimum combined classroom and study time commitment to more than 1,000 hours.

## **CURRICULUM OVERVIEW**

Academically rigorous classroom, lab and clinical learning, built on the following four pillars:

- Anatomy, physiology, pathology, kinesiology and nutrition courses provide students with a thorough overview of the human body and how it works.
- Hands-on clinical experience in the University's public clinics and other community sites prepared the students for practice.
- Assessment and treatment technique courses prepare students to tailor each massage session to meet the unique needs of their clients.
- Communication, ethics, legal issues, practice management courses and personal learning strategies prepare students for professional practice.

## **Two Convenient Program Options**

Students have the option of choosing either the certificate program or the Associate of Applied Science program. Graduates of both programs will be prepared for the National Certification Examination in Therapeutic Massage. We prepare you with the skills necessary to be successful in a wide variety of settings including hospitals, medical clinics, rehabilitation facilities, wellness centers, health clubs, spas and private practice.

### **Massage Therapy Certificate Program**

- 43.5 trimester credits
- 963.75 hours
- Day and Evening scheduling options

### **Associate of Applied Science in Massage Therapy**

The Associate of Applied Sciences (AAS) in Massage Therapy is designed for students who wish to earn a degree in massage therapy. Some employers prefer or require the degree. The AAS program can be completed by adding the following requirements to the certificate program: 15 credits of general education courses, and 3 credits of electives.

- 61.5 trimester credits
- 1,234 hours
- Day and Evening scheduling options

### **Electives**

In addition to the core curriculum outlined on the following pages, students are required to complete a minimum of three credits of electives coursework for the certificate program and six credits for the AAS program. This brings the total curriculum to 43.5 credits (963.75 hours) for the certificate program and 61.5 credits (1,234 hours) for the AAS program.

## **PROGRAM CHANGES**

Northwestern Health Sciences University reserves the right to change or discontinue academic programs at the University's discretion.

## SCHOOL OF MASSAGE THERAPY COURSE LIST (DAY):

### Trimester 1

Course		Credits	Hours			
Number	Title		Contact	Lecture	Lab	Clinic
SBS1001	Anatomy and Physiology 1	4.0	75	45	30	0
BLS1001	Basic Life Support	0	4.5	0	4.5	0
SMT1160	Ethics and Professionalism	2	30	30	0	0
SMT0040	First Aid	0	4	0	4	0
SMT2200	Foundations of Evidence-Informed Practice	1	15	15	0	0
SNU1112	Fundamentals of Nutrition	2	30	30	0	0
SMT1162	Legal Aspects of Therapeutic Massage	.5	7.5	7.5	0	0
SBS1500	Medical Terminology	1	15	15	0	0
SMT1900	Pre-Clinic Workshop	1	30	0	30	0
SMT1700	Relaxation Massage - Level 1	2.5	60	15	45	0
SMT1701	Relaxation Massage - Level 2	2	60	0	60	0
TRIMESTER 1 TOTAL		16.0	331	157.5	173.5	0

### Trimester 2

Course		Credits	Hours			
Number	Title		Contact	Lecture	Lab	Clinic
SBS1002	Anatomy and Physiology 2	4	75	45	30	0
SMT1210	Applied Anatomy	2	45	15	30	0
SMT1170	Business and Practice Management	1.5	22.5	22.5	0	0
SMT1935-1	Clinic Rotation 1: Foundational Skills	1	45	0	0	45
SMT1935-2	Clinic Rotation 2: Enhancement of Clinical Skills	1	45	0	0	45
SMT1163	Massage Therapy's Evolving Role in Healthcare	1	15	15	0	0
SMT1702	Rehabilitative Massage 1	3.5	90	15	75	0
TRIMESTER 2 TOTAL		14.0	337.5	112.5	135	90

### Trimester 3

Course		Credits	Hours			
Number	Title		Contact	Lecture	Lab	Clinic
SMT1935-3	Clinic Rotation 3: Refinement of Clinical Skills	1	45	0	0	45
SMT1935-4	Clinic Rotation 4: Mastery of Clinical Skills	1	45	0	0	45
SMT1800	Hydrotherapy	.5	11.25	3.75	7.5	0
SMT2621	Massage Therapy for Special Populations	2	30	30	0	0
SBS2100	Pathology	2	30	30	0	0
SMT1171	Professional Identity Development	.5	7.5	7.5	0	0
SMT1703	Rehabilitative Massage 2	3.5	90	15	75	0
TRIMESTER 3 TOTAL		10.5	258.75	86.25	82.5	90
CORE CURRICULUM TOTAL		40.5*	927.25	356.25	391	180

\* does not include elective requirements

**Electives**

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SME1330	Advanced Clinical Training: Neuromuscular Therapy and Fascial Techniques	3.5	90	15	75	0
SME2940	Advanced Integrative Clinic Experience: Costa Rica	1.0	45	0	0	45
NUE1112	Advanced Nutrition	1.5	22.5	22.5	0	0
SME2938	Cancer and Massage Therapy	1.5	31	19	12	0
SME2935	Courage Kenny Rehabilitation Institute Externship	1.0	45	0	0	45
SME1500	Eastern Perspectives on Healing	1.5	22.5	22.5	0	0
SME1164	Exploration of Career Environments	1.5	22.5	22.5	0	0
SME1220	Functional Anatomy	1.5	30	15	15	0
SME2939	Fundamentals of Hospital Based Massage Therapy	1.5	31	19	12	0
SME1310	Geriatric Massage	1.5	30	15	15	0
SME1300	Infant Massage	1.5	30	15	15	0
SME1400	Insurance Billing Practices for Massage Therapy	.5	7.5	7.5	0	0
SME2930	Penny George Institute Externship	1	45	0	0	45
SME1100	Reflexology 1	1.5	30	15	15	0
SME1102	Reflexology 2	1.5	30	15	15	0
SME1103	Reflexology 3	1	15	15	0	0
SME1320	Sports Massage	.5	7.5	7.5	0	0

In addition to the course requirements, students in the AAS program must complete the following coursework:

- 6.0 Credits from the Communications category
- 6.0 Credits from the Social Sciences category
- 3.0 Credits from the Humanities category
- 3.0 Credits of Electives

## SCHOOL OF MASSAGE THERAPY COURSE LIST (EVENING):

### *Trimester 1*

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SBS1001	Anatomy & Physiology 1	4	75	45	30	0
BLS1001	Basic Life Support	0	4.5	0	4.5	0
SMT1160	Ethics and Professionalism	2	30	30	0	0
SMT0040	First Aid	0	4	0	4	0
SBS1500	Medical Terminology	1	15	15	0	0
SMT1700	Relaxation Massage – Level 1	2.5	60	15	45	0
TRIMESTER 1 TOTAL		9.5	188.5	105	83.5	0

### *Trimester 2*

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SBS1002	Anatomy & Physiology 2	4	75	45	30	0
SMT2200	Foundations of Evidence Informed Practice	1	15	15	0	0
SNU1112	Fundamentals of Nutrition	2	30	30	0	0
SMT1162	Legal Aspects of Therapeutic Massage	.5	7.5	7.5	0	0
SMT1900	Pre-Clinic Workshop	1	30	0	30	0
SMT1701	Relaxation Massage 2	2	60	0	60	0
TRIMESTER 2 TOTAL		10.5	217.5	97.5	120	0

### *Trimester 3*

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SMT1210	Applied Anatomy	2	45	15	30	0
SMT1170	Business and Practice Management	1.5	22.5	22.5	0	0
SMT1935-1	Clinic Rotation 1: Foundational Skills	1	45	0	0	45
SMT1935-2	Clinic Rotation 2: Enhancement of Clinical Skills	1	45	0	0	45
SMT1163	Massage Therapy's Evolving Role in Healthcare	1	15	15	0	0
SMT1171	Professional Identity Development	.5	7.5	7.5	0	0
SMT1702	Rehabilitative Massage 1	3.5	90	15	75	0
TRIMESTER 3 TOTAL		10.5	270	75	105	90

**Trimester 4**

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SMT1935-3	Clinic Rotation 3: Refinement of Clinical Skills	1	45	0	0	45
SMT1935-4	Clinic Rotation 4: Mastery of Clinical Skills	1	45	0	0	45
SMT1800	Hydrotherapy	.5	11.25	3.75	7.5	0
SMT2621	Massage Therapy for Special Populations	2	30	30	0	0
SBS2100	Pathology	2	30	30	0	0
SMT1703	Rehabilitative Massage 2	3.5	90	15	75	0
TRIMESTER 4 TOTAL		10	251.25	78.75	82.50	90
CURRICULUM TOTAL		40.5*	927.25	356.25	391	180

\* does not include electives requirement

**Electives**

Course Number	Title	Credits	Hours			
			Contact	Lecture	Lab	Clinic
SME1330	Advanced Clinical Training: Neuromuscular Therapy and Fascial Techniques	3.5	90	15	75	0
SME2940	Advanced Integrative Clinic Experience: Costa Rica	1.0	45	0	0	45
NUE1112	Advanced Nutrition	1.5	22.5	22.5	0	0
SME2938	Cancer and Massage Therapy	1.5	31	19	12	0
SME2935	Courage Kenny Rehabilitation Institute Externship	1.0	45	0	0	45
SME1500	Eastern Perspectives on Healing	1.5	22.5	22.5	0	0
SME1164	Exploration of Career Environments	1.5	22.5	22.5	0	0
SME1220	Functional Anatomy	1.5	30	15	15	0
SME2939	Fundamentals of Hospital Based Massage Therapy	1.5	31	19	12	0
SME1310	Geriatric Massage	1.5	30	15	15	0
SME1300	Infant Massage	1.5	30	15	15	0
SME1400	Insurance Billing Practices for Massage Therapy	.5	7.5	7.5	0	0
SME2930	Penny George Institute Externship	1	45	0	0	45
SME1100	Reflexology 1	1.5	30	15	15	0
SME1102	Reflexology 2	1.5	30	15	15	0
SME1103	Reflexology 3	1	15	15	0	0
SME1320	Sports Massage	.5	7.5	7.5	0	0

In addition to the course requirements, students in the AAS program must complete the following coursework:

- 6.0 Credits from the Communications category
- 6.0 Credits from the Social Sciences category
- 3.0 Credits from the Humanities category
- 6.0 Credits of Electives

## COURSE DESCRIPTIONS:

**SME1330      Advanced Clinical Training:  
Neuromuscular Therapy and Fascial  
Techniques**

3.5 credits (90 hours): 15 lecture hours,  
75 laboratory hours  
Prerequisite: SMT 1703 Rehabilitative  
Massage 2

This course is designed to expand upon the training received in the core curriculum of Northwestern's School of Massage Therapy. A specific focus of this course is the integration of the protocol from Rehabilitative Massage 1 and 2 with NeuroMuscular Therapy (NMT) American Version TM and fascial work, offering a more complete technique protocol for clinical therapeutic massage. Training includes the complete NMT curriculum, as created by Judith Delaney of the NMT Center. Passing the final exams will credential you as a Certified NeuroMuscular Therapists (CNMT) through the NMT Center.

**SME2940      Advanced Integrative Clinic  
Experience: Costa Rica**

1 credit (45 hours): 45 clinic hours  
Prerequisite: SMT 1701 Relaxation  
Massage 2

Students study abroad serving lower-income communities in Costa Rica. Massage therapy, acupuncture and chiropractic students provide culturally sensitive care in free or low cost clinics to underserved communities in rural Costa Rica. Patients served represent diverse populations and conditions. Application process required.

**NUE1112      Advanced Nutrition**

1.5 credits (22.5 hours): 22.5 clinic hours  
Prerequisite: SNU 1112 Fundamentals of  
Nutrition

This course provides students the link between nutritional and dietary principles and chronic degenerative disease. Students are introduced to macronutrient balancing, micronutrients, supplements, popular diets, and their clinical applications. They also examine the principles for the promotion of health, wellness, and longevity through diet.

**SBS1001      Anatomy & Physiology 1**

4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisite: None

The first in a two-part sequence of courses introduces students to the organization of the body on a chemical, cellular, tissue and system level. Integrating structures (anatomy) and their function (physiology) is a focus of each course in this sequence with this course focusing the skeletal/articular, muscular, and nervous systems in detail. The laboratory portion of the course will include the opportunity to observe prosected human cadavers.

**SBS1002      Anatomy & Physiology 2**

4 credits (75 hours): 45 lecture hours;  
30 laboratory hours  
Prerequisite: SBS1001 Anatomy &  
Physiology 1

This course builds on the material from Human Anatomy and Physiology I and explores the endocrine, cardiovascular, lymphatic/immune, integumentary, respiratory, digestive, urinary and reproductive systems. All systems are integrated using cross-sectional analysis of the human body. The laboratory portion of the course will include the opportunity to observe prosected human cadavers.

**SMT1210      Applied Anatomy**

2 credits (45 hours): 15 lecture hours;  
30 laboratory hours  
Prerequisite: SBS 1001 Anatomy &  
Physiology 1

Students undertake a detailed exploration of muscles, bones and joints of the human body. Emphasis is placed on the relationships among muscle attachments, bony landmarks and prominent joint structures. Students learn about human movement with relation to levers and their association to planes of movement. The laboratory portion of this course utilizes the anatomically accurate models of the Maniken® Professional system (Anatomy in Clay®) to build three-dimensional musculature out of clay.

**BLS1001      Basic Life Support**

0 credits (4.5 hours): 4.5 laboratory hours  
Prerequisite: None

This course will train students to respond to, assess and manage cardiac and respiratory emergencies using basic life support skills and automatic external defibrillation. Certification is through American Heart Association.

**SMT1170      Business and Practice Management**

1.5 credits (22.5 hours): 22.5 lecture hours  
Prerequisite: SMT 1162 Legal Aspects of  
Therapeutic Massage & SMT 1160 Ethics  
and Professionalism

This course offers a broad base of practical information related to the fundamentals of business and practice management. Common business practices and structures, contracts and legal agreements; financial record keeping, networking, marketing and methods to promote and maintain a successful practice are presented.

**SME2398 Cancer and Massage Therapy**  
1.5 credits (32 hours): 24 lecture hours;  
8 laboratory hours  
Prerequisite: SMT 1701 Relaxation  
Massage 2

This course will cover cancer-related pathology, treatment side effects, massage contraindications and precautions. The benefits of massage and session adaptations for the patient with cancer are discussed. Students will learn to design a massage treatment plan based on the presentation of the patient; whether in active cancer treatment, in the advanced stages or years later in survivorship. Hands-on work to practice low impact techniques is included. Students will have the chance to practice their oncology massage intake and assessment skills by working on a client who has cancer or a history of cancer in a clinic setting followed by a clinical rotation working at a major teaching hospital and/or outpatient treatment center.

**SMT1935-1 Clinic Rotation 1: Foundational Skills**  
1 credit (45 hours): 45 clinic hours  
Prerequisites: BLS 1001 CPR for  
Healthcare Providers, SMT 1700  
Relaxation Massage 1, SMT 1900 Pre-  
Clinic Workshop, and SMT 1162 Legal  
Aspects of Therapeutic Massage

Students provide massage therapy treatment sessions in the School of Massage Therapy Teaching Clinic under the supervision of School faculty. In Clinic Rotation 1, students are exposed to the function and role of a massage therapist in a clinical environment. Under the supervision of faculty, students participate in various aspects of clinic operations including: provision of care, communication regarding client care and services, case management, clinic flow, and documentation. Students perform basic 60/90 minute relaxation sessions on the public as learned in Relaxation Massage 1 & 2.

**SMT1935-2 Clinical Rotation 2: Enhancement of Clinical Skills**  
1 credit (45 hours): 45 clinic hours  
Prerequisite: SMT 1935-1 Clinic Rotation  
1: Foundational Skills, Co: SMT 1702  
Rehabilitative Massage 1

In Clinic Rotation 2, students begin to understand and perform in the role of a massage therapist in a clinical environment as they expand their participation in various aspects of clinic operations. Clinical interaction and communication skills advance beyond the basic level expected in Clinic Rotation 1. Students perform treatment sessions that incorporate both relaxation and rehabilitative techniques as learned in the classroom.

**SMT1935-3 Clinical Rotation 3: Refinement of Clinical Skills**  
1 credit (45 hours): 45 clinic hours  
Prerequisite: SMT 1935-2 Clinic Rotation  
2: Enhancement of Clinical Skills, Pass  
CCA

In Clinic Rotation 3, students enhance their identity and role in a clinical environment. Critical thinking, individualized treatment plans, and in-depth clinical interactions using advanced techniques become central to the student experience. Students perform treatment sessions that focus on client symptoms and goals, incorporating techniques and adapting the session to meet client needs with consideration for diverse populations.

**SMT1935-4 Clinical Rotation 4: Mastery of Clinical Skills**  
1 credit (45 hours): 45 clinic hours  
Prerequisite: SMT 1935-3 Clinic Rotation 3:  
Refinement of Clinical Skills, Co: SMT  
2621 Special Populations

Clinic Rotation 4 represents a culmination, integration and mastery of all classroom and clinical learning. Students refine their professional identity and role in the clinical environment as they master their skills and prepare to enter the profession.

**SME2935 Courage Kenny Rehabilitation Institute Externship**  
1 credit (45 hours): 45 clinic hours  
Prerequisite: SMT 1702 Rehabilitative  
Massage 1, SMT 2200 Foundations of  
Evidence Informed Practice

This externship course enables students to integrate the skills, knowledge and abilities acquired in all massage technique courses as they perform massage at Courage Kenny Rehabilitation Institute, Golden Valley, Minnesota. The selected students will gain first-hand experience working with inpatient clients in transitional care and physical therapists of the ABLE (Active Based Locomotor Exercise) program. Students must successfully complete an individualized learning plan developed by each student and the NWHSU faculty supervisor. Further, students must meet all requirements established by Courage Kenny and Allina Health Systems.

**SME1500 Eastern Perspectives on Healing**  
1.5 credits (22.5 hours): 22.5 lecture hours  
Prerequisite: None

Students will gain an overview of the theory and practice in Eastern Healing approach to wellness and disease, specifically of Asian medicine. The course will include lecture, demonstrations, required reading, and assigned projects. Topics include: history, theory, Qi, Yin/Yang, Five Elements, pathology, etiology, diagnosis and treatment, Zang/Fu organ systems, meridian theory, and conditions treated.

**SMT1160 Ethics and Professionalism**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: None  
Ethics and Professionalism outlines effective communication skills needed to manage the therapeutic relationship and to work with colleagues in the health care community. This course includes topics such as professional code of ethics, scope of practice, conflict resolution, boundaries and cultural differences. Emphasis is placed on supporting the emerging therapist to create a successful career.

**SME1164 Exploration of Career Environments**  
1.5 credits (22.5 hours): 22.5 lecture hours  
Prerequisite: None  
Choosing an environment to work in can feel like a monumental decision. At the same time, it can also feel like guesswork. This course assists the student to evaluate various employment options based on their personal goals and values. The course design allows the student to explore details of diverse employment environments within a classroom setting. Guest speakers will also bring real life experience into the classroom. For those students seeking more specific career information and guidance, the Strong Interest Inventory® assessment will be available. This assessment can help students better understand their interests and preferences, and how they can be used together to form a career development plan.

**SMT0040 First Aid**  
0 credits (4 hours):  
4 hours laboratory hours  
Prerequisite: None  
This is a 2 year certification course of the American Heart Association. It includes first aid basics, medical emergencies, injury emergencies and environmental emergencies.

**SMT2200 Foundations of Evidence Informed Practice**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: None  
The Foundations of Evidence Informed Practice will use a blended approach of classroom and online modules to introduce students to the basic principles of Evidence-Informed Practice (EIP). EIP is an approach that integrates clinical findings, patient preferences, research, and clinical experience (all important types of evidence) into the process of health care delivery. Students will learn the strengths and limitations of each element of the model and how to use them together to enhance clinical decision-making and patient outcomes.

**SME1220 Functional Anatomy**  
1.5 credits (30 hours): 15 lecture hours,  
15 laboratory hours  
Prerequisite: SMT 1702 Rehabilitative Massage 1 and SMT 1210 Applied Anatomy  
Discussion of muscle and joint function beyond simple actions, including physics and biomechanics of the human body. Students gain understanding of the body in motion and how anatomical structures work together to create different types of motion. Activities include inspecting, palpating, and moving these structures, enabling the student to link theory with experience to help further understanding of the human body and its movement potential. Students are introduced to imbalances or dysfunctions associated with soft tissue that are most commonly treated by manual and exercise therapists.

**SNU1112 Fundamentals of Nutrition**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: None  
This course serves as a component of self-care and effective client communication. Students examine functions in the body and food sources of various micro- and macronutrients as well as energy balance and the role of nutrition in disease states. An analysis of individual food intake and exploration of the rationale behind specific food choices is included.

**SME2939 Fundamentals of Hospital Based Massage Therapy**  
1.5 credits (31 hours): 19 lecture hours,  
12 laboratory hours  
Prerequisite: SMT 1701 Relaxation Massage 2  
This course prepares students to work in a hospital setting. Common conditions, medical devices and unique elements of the hospital environment are addressed. Students learn infection control practices, body mechanics, and session adaptations to serve medically frail patients. Communication with healthcare providers, patients and staff, along with appropriate boundary issues will be discussed. During the 12-hour clinical rotations at a hospital, students receive hands-on experience in the hospital setting with hospital staff, a variety of medical conditions and diverse patient populations. Students are required to meet certain vaccination requirements, including the flu shot and TB testing, established by the hospital.

**SME1310 Geriatric Massage**  
1.5 credits (30 hours): 15 lecture hours,  
15 laboratory hours  
Prerequisite: SMT 1701 Relaxation  
Massage 2

Geriatric massage is a form of massage that is specific for people generally over the age of 65 with age-related conditions, such as, arthritis, Parkinson's, stroke, fragility, memory impaired diseases, and end of life issues. It helps improve circulation and joint mobility, eases aches and pains, and can help relieve symptoms of stress, depression and loneliness. Students learn techniques for massaging the aging population. Physical, emotional and mental changes associated with the aging client are explored. Common symptomologies and disabilities for which massage is indicated will be discussed. Hands-on experience takes place in a long-term care facility.

**SMT1800 Hydrotherapy**  
.5 credits (11.25 hours): 3.75 lecture hours,  
45 laboratory hours  
Prerequisite: SMT 1700 Relaxation  
Massage 1

Hydrotherapy is the therapeutic use of water in any of its forms, for the treatment of illness and/or pain relief. This course will focus on the physiological effects of heat and cold on the body and address various methods of hydrotherapy that can be used within a massage therapy session. The practical application of hot and cold therapies is included.

**SME1300 Infant Massage**  
1.5 credits (30 hours): 15 lecture hours,  
15 laboratory hours  
Prerequisite: SMT 1701 Relaxation  
Massage 2

Infant Massage will provide the student with skills to teach parents infant massage strokes, and basic instruction in infant social and physical development, effective communication, classroom dynamics, and parent/teacher/child boundaries. It will explore infant massage research, and basic pediatric massage techniques. Students will provide instruction to parents and their babies in the classroom.

**SME1400 Insurance Billing Practices for Massage Therapy**  
.5 credits (7.5 hours): 7.5 lecture hours  
Prerequisite: None

The decision of whether or not to accept insurance as a form of payment, in your office, can be a challenging one to make. This class discusses policies, procedures and a step by step process for submitting claims and successful third-party personal injury reimbursement. Samples of claim forms and information on correct coding will also be included.

**SMT1162 Legal Aspects of Therapeutic Massage**  
.5 credits (7.5 hours): 7.5 lecture hours  
Prerequisite: None

This course introduces the student to the legal issues that a massage therapist faces. Topics to be covered include massage therapy's scope and standards of practice, confidentiality, management of patient health information (PHI) and license regulations required at the federal, state and local levels. The importance of professional associations and continuing education are discussed. The student will leave the course with all legal documents required by Minnesota law and documents that meet or exceed best practice standards.

**SMT2621 Massage Therapy for Special Populations**  
2 credits (30 hours): 30 lecture hours  
Prerequisite: SMT 1702 Rehabilitative  
Massage 1 and SMT 2200 Foundations of  
Evidence Informed Practice

This course integrates the theories, principles, and techniques learned across the curriculum, from both a population and a condition perspective. The focus of the class is the critical thinking skills needed to design an individualized treatment plan to meet a client's specific needs. Students learn and discuss the unique considerations for treating special populations, including older adults, persons with disabilities, terminal illnesses, infants and women in pregnancy. Special conditions are discussed with emphasis on considerations such as indications, contraindications, techniques, and adaptations. Topics of medications and research are also be included.

**SMT1163 Massage Therapy's Evolving Role in Healthcare**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: None

In order to support the developing identity of the student as a health care provider, the role of massage therapy within the greater context of complementary and alternative medicine (CAM) is discussed. Examples of various CAM/P modalities are presented to orient the student to the diverse classifications within the field of massage therapy and bodywork.

**SBS1500 Medical Terminology**  
1 credit (15 hours): 15 lecture hours  
Prerequisite: None

An understanding of basic medical terminology is necessary for any education in the health sciences. Students will learn general medical terminology related to anatomy, physiology, pathology, treatments and medical specialties, including basic Latin and Greek roots, prefixes and suffixes. The online course will utilize written assignments, discussion forums and exams. Methods to analyze word structure as opposed to mere memorization of words serve as a foundation for this course.

**SBS2100 Pathology**

2 credits (30 hours): 30 lecture hours  
 Prerequisite: SBS 1002 Anatomy & Physiology 2

Students are introduced to common dysfunctions of the human body as a result of disease or injury. The course examines common causes of pathological conditions as well as methods to limit disease transmission. Representative signs, symptoms and treatment options are emphasized. In addition, specific implications for bodywork will be discussed where applicable.

**SME2930 Penny George Institute Externship**

1 credit (45 hours): 0 lecture hours, 45 laboratory hours  
 Prerequisite: SME 2939 Fundamentals of Hospital Based Massage Therapy, SMT 2200 Foundations of Evidence Informed Practice

In this externship course students observe practitioners providing holistic care at the bedside, and provide massage therapy treatment sessions in the specialized clinical environment of the Penny George Institute for Health and Healing at Abbott Northwestern Hospital under the supervision of ANW massage therapists. Students must successfully complete an individualized learning plan established between each student and NWHSU faculty liaison with input from the onsite supervisor. Students will be required to meet requirements established by Abbott Northwestern Hospital.

**SMT1900 Pre-Clinic Workshop**

1 credit (30 hours): 0 lecture hours, 30 laboratory hours  
 Prerequisite: Co: SMT 1700 Relaxation Massage 1, Co: SMT 1162 Legal Aspects of Therapeutic Massage

This course prepares students for their upcoming clinic internship experience, emphasizing effective communication, interviewing, closing the session, creating and implementing optimal treatment plans, electronic health records, HIPAA training, body awareness and self-care. Simulation exercises and role playing will be utilized to give students experience managing common scenarios, as well as more challenging scenarios they will face in the clinic environment.

**SMT1171 Professional Identity Development**

.5 credit (7.5 hours): 7.5 lecture hours  
 Prerequisite: None

This course explores personal and professional strengths to develop the student's unique business identity. Students develop a clear and concise resume, cover letter, effective interviewing skills and a professional mission statement. Upon successful completion of this course, students will be prepared to compete in today's job market.

**SME1100 Reflexology 1**

1.5 credits (30 hours): 15 lecture hours, 15 laboratory hours  
 Prerequisite: SBS 1001 Anatomy & Physiology 1, Co-Requisite SMT 1160 Ethics and Professionalism

This is a 7-week course on basic foot reflexology. Topics covered are basic technique, introductory history, theory, principles, zones, and contraindications. Detailed bony anatomy of the foot and lower leg is also studied. The goal is to prepare the student to use reflexology as an independent modality or as a complement to other therapies.

**SME1102 Reflexology 2**

1.5 credits (30 hours): 15 lecture hours, 15 laboratory hours  
 Prerequisite: SME 1100 Reflexology 1

This course expands the knowledge of techniques and procedures to effectively stimulate foot reflex areas. Students review the systems of the body, common homeostatic imbalances and the role reflexology plays in maintaining optimum function and health. Detailed anatomy of muscles in the foot and lower leg are studied.

**SME1103 Reflexology 3**

1 credit (15 hours): 15 lecture hours  
 Prerequisite: SME 1102 Reflexology 2

This is a 15-hour course to prepare students for the American Reflexology Certification Board (ARCB) exam for national certification in foot reflexology. Topics covered will include continued study of history, pathology of the foot, ligaments of the foot & ankle, biomechanics of the foot and leg, practice of technical application, and knowledge of reflexology maps of the foot. The basics of meridians and how they apply to reflexology will also be introduced. Students will conduct one case study in preparation for ARCB certification.

**SMT1702 Rehabilitative Massage 1**

3.5 credits (90 hours): 15 lecture hours, 75 laboratory hours  
 Prerequisite: SMT 1701 Relaxation Massage 2

This course provides advanced rehabilitative theory and technical skills to work with clients experiencing myofascial pain symptoms of the upper body. Techniques will focus on Trigger Point Therapy and Cross Fiber Friction, with emphasis on developing a basic treatment protocol. Students will expand their anatomical knowledge and palpation skills in the context of rehabilitative massage. Assessment and rehabilitation of soft tissue structures and related symptomologies of the upper body provide the focus for this course. In addition to laboratory sessions, learners engage in practice massage sessions outside scheduled class hours. Advanced SOAP note charting skills are emphasized.

**SMT1703      Rehabilitative Massage 2**

3.5 credits (90 hours): 15 lecture hours,  
75 laboratory hours  
Prerequisite: SMT 1702 Rehabilitative  
Massage 1

This course provides advanced rehabilitative theory and technical skills to work with clients experiencing myofascial pain symptoms of the lower body. Techniques continue to focus on Trigger Point Therapy and Cross Fiber Friction, with emphasis on refining the treatment protocol and palpation skills for assessment of changes within the soft tissue. In addition to laboratory sessions, learners engage in practice massage sessions outside of scheduled class hours. The student will demonstrate clinical reasoning skills through SOAP documentation and creation of a treatment plan based on anatomy, physiology and the presenting client condition.

**SMT1700      Relaxation Massage 1**

2.5 credits (60 hours): 15 lecture hours,  
45 laboratory hours  
Prerequisite: Co-Requisite SMT 1160  
Ethics and Professionalism

Students learn techniques for a full-body massage, including palpation skills. Best practices are introduced in proper body mechanics, therapist self care, session management, contraindications and draping methods. Students are introduced to principles of documentation for the health care setting. In addition to classroom experience, students are required to engage in practice massage sessions outside of scheduled class hours.

**SMT1701      Relaxation Massage 2**

2 credits (60 hours): 0 lecture hours,  
60 laboratory hours  
Prerequisite: SMT 1700 Relaxation  
Massage 1

Students master enhanced techniques for a full-body massage, building from the knowledge base acquired in Relaxation Massage 1. Students learn and practice on-site chair massage. Documentation skills are refined and SOAP charting skills are introduced. Learners participate in a classroom clinic, open to the public, to prepare for the clinic rotation course. In addition to classroom experience, students are required to engage in practice massage sessions outside of scheduled class hours.

**SME1320      Sports Massage**

.5 credits (7.5 hours): 7.5 clinic hours  
Prerequisite: SMT 1700 Relaxation  
Massage 1

Massage is an important tool for providing specific benefits to athletes and active clientele. Sports massage is a system of massage techniques designed to address this specialized population. This class is an introduction to: (a) the purpose and effects of sports massage (b) the various goals of sports massage (c) the categories of sports massage and (d) the techniques used in sports massage. Also included is plenty of hands-on time for practicing the delivery of the 10, 12 and 15 minute sports massage post-event sessions.

# Explore Northwestern

## BOARD OF TRUSTEES

David E. Peterson, DC, *Chair*  
Keith M. Johnson, DC, *Vice Chair*  
Christopher D. Jo, DC, *Treasurer*  
N. Walter Graff, LLB, *Secretary*

Vivi-Ann R. Fischer, DC  
Richard N. Long, BA  
Molly J. Magnani, DC, MMA  
Bonita Myhers, DC  
Robert A. Servais, DC, DACAN, DABFE,  
DABCC, FIACN  
David V. Taylor, PhD  
David L. Valentini, JD  
Brent L. Wilde, MBA

Irvin C. (Jack) Holtz, DC, *Trustee Emeritus*  
Russell E. Sawyer, Jr., DC, *Trustee Emeritus*

## SENIOR LEADERSHIP

**Christopher Cassirer**, *President and CEO*

- ScD, The John Hopkins Bloomberg School of Public Health, 1998
- MPH, Yale School of Medicine, 1991

**Renée M. DeVries**, *Faculty Senate President*

- Associate Professor (1996)
- BS, Northwestern College of Chiropractic, 1989
- DC, Northwestern College of Chiropractic, 1989

**Ross B. Dugas**, *Vice President*

- MBA, University of St. Thomas, 1975
- BA, University of St. Thomas, 1979

**Steven N. Hidy**, *Vice President of Information Technology and Interim Director of Institutional Effectiveness*

- BCS, University of Minnesota, 1983

**Scott D. Munsterman**, *Chief of Care Delivery*

- DC, Northwestern College of Chiropractic, 1984

**Deborah A. Peterson**, *Executive Director, Alumni Relations, Career Services and Development*

**Jeffrey B. Rich**, *Vice President of Marketing and Institutional Advancement*

- BA, St. John's University, 1990

**Charles E. Sawyer**, *Senior Vice President*

- DC, Northwestern College of Chiropractic, 1977
- BA, College of St. Thomas, 1972

**Emily J. Tweed**, *Vice President of Student Affairs and Enrollment Management*

- PhD, University of Minnesota, 2004
- MA, University of Minnesota, 1998
- BA, St. Olaf College, 1995

**Michael R. Wiles**, *Provost and Vice President for Academic Affairs*

- MEd, Brock University, 1983
- FCCS(C), 1979
- BS, University of Toronto, 1979
- DC, Canadian Memorial Chiropractic College, 1976

## ADMINISTRATION

**Bradford C. Bennett**, *Director of H.C. Sweere Center, Associate Professor*

- BS, University of Wisconsin, 1975
- PhD, Stanford University, 1982

**Diana L. Berg**, *Director of Continuing Education*

**Monika A. Brady**, *Director of Website Strategy and Digital Media*

**Patricia M. Casello-Maddox**, *Interim Dean of the College of Acupuncture and Oriental Medicine, Assistant Professor*

- MBA, St. Thomas University, 1987
- BS, Northwestern College of Chiropractic, 1997
- DC, Northwestern College of Chiropractic, 1998
- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2012
- DiplAc (NCCAOM)
- LAc

**Joel Farrington**, *Controller*

- BBA, Baker College, 2008
- MBA, Baker College, 2010

**Jan L. Featherstone**, *Director of Student Records*

- AAS, North Hennepin Junior College, 1969

**Janet E. Halleen**, *Director of Purchasing and Bookstore*

- BA, University of Nebraska-Lincoln, 1976

**Dale K. Healey**, *Dean of the College of Undergraduate Health Sciences*

- DC, Parker College of Chiropractic, 1996
- PhD, University of Minnesota, 2014

**Deborah C. Hogenson**, *Director of Human Resources*

- SPHR, 1991
- BS, Arizona State University, 1982

**Marissa K. Machado**, *Director of Admissions*

- BA, Augsburg College, 1999
- MAE, Augsburg College, 2006

**Anne H. Mackereth**, *Director of Library Services, Assistant Professor*

- BA, College of St. Catherine, 1990
- MA, University of Arizona, 2000

**Anita L. Manne**, *Director of Radiological Consultation Services; Professor*

- BS, Logan College of Chiropractic, 1979
- DC, Logan College of Chiropractic, 1981
- DACBR, 1985

**Susan Neppl**, *Registrar and Director of Student Financial Services*

- BA, Hamlin University, 1994

**Craig A. Schulz**, *Director of the Wolfe-Harris Center for Clinical Studies, Assistant Professor*

- DC, Northwestern College of Chiropractic, 1999
- MS, University of Minnesota, 2008

**Debra J. Twite**, *Comptroller*

- BS, University of Minnesota Moorhead, 1984

**Michael R. Wiles**, *Provost and Vice President for Academic Affairs, Acting Dean for the College of Chiropractic*

- MS, University of New England, 2010
- Med, Brock University, 1983
- FCCS(C), 1979
- BS, University of Toronto, 1979
- DC, Canadian Memorial Chiropractic College, 1976

**Kevin Wolpern**, *Director, Physical Plant*

## FACULTY

**Kashif A. Ahmad**, *Co-director of the Office of Faculty Development, Associate Professor (2007)*

- MBBS, University of Karachi, Pakistan, 1996
- MMEL, University New England, 2011
- MS, Master of Science, University of London, U.K., 1998
- PhD, National University of Singapore, Singapore, 2005

**Kathleen H. Allen**, *Associate Dean of Academic Services for the College of Acupuncture and Oriental Medicine*

- BS, University of Tulsa, 1971

**Nancy E. Anderson-Bierma**, *Associate Clinic Faculty (2002)*

- MOm, Minnesota College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 1999
- LAc
- DiplAc (NCCAOM)

**Kayla M. Bauer**, *Associate Clinic Faculty, Instructor (2009)*

- NCTMB, 2006
- Certificate, School of Massage Therapy at Northwestern Health Sciences University, 2006
- AAS, Northwestern Health Sciences University, 2013
- Certificate, Infant Massage Instructor, 2013

**Bradford C. Bennett**, *Associate Professor (2013)*

- BS, University of Wisconsin, 1975
- PhD, Stanford University, 1982

**Mary E. Berg**, *Associate Professor (2003)*

- BS, University of Minnesota, 1970
- MA, University of Minnesota, 1981

**Thomas F. Bergmann**, *Lecturer (2014)*

- BS, Northern Illinois University, 1969
- DC, National College of Chiropractic, 1977

**Jennifer C. Blair**, *Associate Clinic Faculty (1999)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2001
- DiplAc/CH/OM (NCCAOM)
- LAc

**Cara L. Borggren**, *Assistant Professor (2009)*

- BS, College of Chiropractic at Northwestern Health Sciences University, 2006
- DC, College of Chiropractic at Northwestern Health Sciences University, 2006

**Linda J. Bowers**, *Professor (1981)*

- BS, University of Minnesota, 1978
- DC, Northwestern College of Chiropractic, 1981
- DACAN, 1992
- DACBN, 1988
- DABCI, 1987
- DABCO, 1985

**Thomas S. Braem**, *Assistant Professor (2007)*

- BA, St. Olaf College, 1982
- MS, St. Cloud State University, 1990

**Lisa A. Bransford**, *Associate Clinic Faculty (2013)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2009
- LAc

**Karen A. Brezinka**, *Instructor (2002)*

- BA, University of Minnesota, 1986
- Certificate, Florida School of Massage, 1993
- NCTMB, 1997

**Sara E. Bublitz**, *Associate Clinic Faculty (2011)*

- MAcOm, Oregon College of Oriental Medicine, 2009
- DiplAc (NCCAOM)
- LAc

**Dinah Bunn**, *Associate Dean for the College of Chiropractic, Associate Professor (2012)*

- BS, St. Francis University, 2000
- MA, St. Mary's University, 2002
- EdD, Argosy University, 2005

**Beth A. Burgan**, *Assistant Professor (2001)*

- MA, Kent State University, 1972
- MFA, Kent State University, 1976
- Certificate, Northern Lights School of Massage Therapy, 1988
- Certificate, NeuroMuscular Therapist, 1991
- NCTMB, 1992

**Katie A. Burns Ryan**, *Associate Professor (2005)*

- BS, University of Wisconsin, 1998
- DC, College of Chiropractic at Northwestern Health Sciences University, 2002

**Adrienne C. Caldwell**, *Lecturer (2010)*

- BA, Ripon College, 1995
- Certificate in Reflexology, 2005

**Nita J. Champion**, *Assistant Professor (2010)*

- BA, University of Minnesota, 2002
- ND, Southwest College of Naturopathic Medicine, 2007

**Natalie Clausen-Meyers**, *Assistant Professor (2012)*

- BS, Briar Cliff University, 2000
- DC, Palmer College of Chiropractic, 2004

**G. Steven Compton**, *Associate Clinic Faculty (2006)*

- BA, Oklahoma State University, 1971
- MOm, Minnesota College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2004
- LAc
- DiplAc (NCCAOM)

**Shelly J. Conn**, *Associate Clinic Faculty (2008)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University (2003)
- LAc

**Jennifer Connell**, *Associate Clinic Faculty (2002)*

- BA, Simmons College, Boston, 1989
- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2001
- LAc
- DiplAc (NCCAOM)

**Sheryl L. Cota**, *Assistant Professor (2011)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University (2008)
- LAc

**Donald B. Deal**, *Assistant Professor (2004)*

- BA, Occidental College, Los Angeles, 1976
- PhD, University of California, Los Angeles, 1982

**Sher Demeter**, *Assistant Professor (2003)*

- MAc, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2003
- DiplAc (NCCAOM)
- LAc

**Amrit Devgun**, *Assistant Professor (2003)*

- ND, Canadian College of Naturopathic Medicine, Toronto, 1995
- Certified Ayurvedic Practitioner, 2000
- Applied Ayurvedic Practitioner, 2003

**Renee M. DeVries**, *Associate Professor (1996)*

- BS, Northwestern College of Chiropractic, 1989
- DC, Northwestern College of Chiropractic, 1989

**Nancy T. Djerdjian**, *Associate Professor (2014)*

- BS, University of North Dakota 1995
- PhD, University of North Dakota, 2001

**Alisha K. Duckett**, *Instructor (2012)*

- BA, The College of St. Catherine, 2000
- Certificate in Massage Therapy, 2004
- Certified Healing Touch Practitioner, 2013
- NCTMB, 2012

**Mahmoud Eid**, *Lecturer (2014)*

- PhD, Cairo University, 1988

**Michael P. Egan**, *Associate Clinic Faculty, Lecturer (2009)*

- BA St. Cloud State University, 1993
- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2008
- DiplOM
- LAc

**Donald L. Eggebrecht**, *Professor (1988)*

- BA, University of Minnesota, 1978
- DC, Northwestern College of Chiropractic, 1986
- DABCO, 1991

**William C. Elkington**, *Professor (1985)*

- BA, Hamline College, 1979
- DC, Northwestern College of Chiropractic, 1984
- 

**Nancy J. Erickson**, *Associate Clinic Faculty (2011)*

- BA, St. Cloud State, 1992
- Certificate in Massage Therapy, 2010
- NCTMB, 2010

**Terry A. Erickson**, *Associate Professor (1994)*

- BS, Northwestern Health Sciences University, 2002
- DC, Palmer College of Chiropractic, 1988

**Alejandra Estrin Dashe**, *Director of the Office of Diversity and Inclusion, Assistant Professor (2011)*

- BA, Gustavus Adolphus College, 1995
- MS, Minnesota State University-Mankato, 1998
- PhD, University of Wisconsin-Milwaukee, 2008

**Jeffrey A. Ewald**, *Associate Professor (1983)*

- BA, University of Minnesota, 1974
- DC, Northwestern College of Chiropractic, 1981
- DABCO, 1991

**Bradley A. Finer**, *Professor (1985)*

- DC, Northwestern College of Chiropractic, 1982
- DACAN, 1992

**Anita Fojtik-Craggs**, *Lecturer (2013)*

- BS, University of Wisconsin-Eau Claire, 1980
- MEd, University of Wisconsin-River Falls, 1985

**Karen A. Ganzhorn**, *Instructor (2006)*

- CLT, 1975

**Amanda R. Gebhardt-Fitzgerald**, *Assistant Professor (2006)*

- BA, Jamestown College, 2001
- DC, Northwestern College of Chiropractic at Northwestern Health Sciences University, 2005

**Colleen A. Gegen**, *Associate Clinic Faculty (2010)*

- MAc, Five Branches University, 2001
- LAc

**Deborah Genrick**, *Associate Clinic Faculty (2013)*

- BA, Gustavus Adolphus College, 1992
- DC, Northwestern College of Chiropractic, 1997
- MAc, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2012

**Tao Gong**, *Associate Professor (2003)*

- MS, Tianjin College of Traditional Chinese Medicine, 2001
- LAc
- DiplAc (NCCAOM)

**Barbara J. Gosse**, *Assistant Professor (2005)*

- MSOM, Southwest Acupuncture College, 1993
- LAc
- DiplAc (NCCAOM)

**Catherine M. Gray**, *Associate Clinic Faculty (2000)*

- DC, Northwestern College of Chiropractic, 1992

**Christian M. Hanson**, *Associate Clinic Faculty; Instructor (2009)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2005
- LAc

**Linda M. Hanson**, *Fellow, Wolfe-Harris Center for Clinical Studies (2010)*

- BS, University of Victoria, 2006
- DC, College of Chiropractic at Northwestern Health Sciences University, 2009

**William J. Hejny**, *Assistant Professor (1999)*

- DC, Northwestern College of Chiropractic, 1982

**Jamie S. Hicks**, *Associate Clinic Faculty (2013)*

- BS, University of Minnesota, 2008
- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2011
- LAc

**Glori L. Hinck**, *Director of the Office of Educational Technology, Associate Professor (2003)*

- BS, University of Wisconsin-Stout, 1983
- DC, Northwestern College of Chiropractic, 1996
- MS, St. Cloud State University, 1994
- Certification, Instructional Technology, 2008
- MET, Boise State University, 2010

**K. Joanie Holst**, *Assistant Professor (2001)*

- BS, Mankato State University, 1979
- MS, Capella University, 2008
- Certificate, Northern Lights School of Massage Therapy, 1990
- Certificate, NeuroMuscular Therapist, 1991
- NCTMB, 1992

**Amy L. Horton**, *Assistant Professor (2000)*

- BA, Carleton College (Minnesota), 1996
- DC, Northwestern College of Chiropractic at Northwestern Health Sciences University, 2000
- CSCS, 1997
- DIBCN, 2005

**Xiaoyan Hu**, *Associate Professor (2000)*

- BMed, Hubei Traditional Chinese Medical School, 1983
- LAc
- DiplAc (NCCAOM)

**Scott Hudson**, *Lecturer (2014)*

- BA, University of Minnesota-Duluth, 1986
- MS, University of Wisconsin, 1988
- PhD, Minnesota School of Professional Psychology, 1993

**Victoria L. Huitt**, *Associate Clinic Faculty, Assistant Professor (2002)*

- MAcOM, Oregon College of Oriental Medicine, 1997
- LAc
- DiplAc (NCCAOM)

**James R. Hulbert**, *Associate Professor (1994)*

- BA, University of Iowa, 1967
- MA, University of Iowa, 1975
- MS, Iowa State University, 1982
- PhD, Iowa State University, 1985

**Krista J. Jacobson**, *Public Services Librarian, Assistant Professor (2013)*

- BA, University of Wisconsin, Madison, 1999
- MLIS, St. Catherine University, 2011

**Evelyn E. Jaffee**, *Associate Clinic Faculty, Lecturer (2012)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2000
- LAc

**Martin S. Javinsky**, *Instructor (2005)*

- Certificate, Northern Lights School of Massage Therapy, 1992
- NCTMB, 2007

**Yongping Jiang**, *Professor (2006)*

- BMed, Shandong University of Traditional Chinese Medicine, 1983
- MMed, Shandong University of Traditional Chinese Medicine, 1992
- PhD, Shandong University of Traditional Chinese Medicine, 1995
- DiplAc (NCCAOM)
- LAc

**Kerry L. Johnson**, *Lecturer (2005)*

- DC, Life University, 1985

**Valerie A. Johnson**, *Instructor (2000)*

- BS, University of Minnesota, 1974
- Certificate, Northern Lights School of Massage Therapy, 1995
- Certificate, Neuromuscular Therapist, 1998
- NCTMB, 1995

**Kevin E. Kalb**, *Assistant Professor (1985)*

- BS, Clarkson College of Technology, 1970
- DC, Northwestern College of Chiropractic, 1983

**Ann E. Kempke**, *Technical Librarian, Assistant Professor, (1998)*

- BA, College of St. Catherine, 1994
- MS, University of Illinois at Urbana-Champaign, 1995

**Andrew S. Klein**, *Lecturer (1995)*

- BA, Herbert Lehman College, 1981
- MEd, Queens College, 1985
- DC, New York Chiropractic College, 1987
- DACBSP, 1993

**Jill M. Larsen**, *Associate Clinic Faculty (2007)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2002
- DAOM, Oregon College of Oriental Medicine, 2012
- LAc

**Dian L. Larson**, *Serials Librarian, Instructor (1991)*

**Link P. Larson**, *Professor (1993)*

- BS, St. Mary's College, 1975
- DC, Northwestern College of Chiropractic, 1986
- CCST, 1998

**Candace S. Lutt**, *Instructor, Associate Clinic Faculty (2007)*

- BA, Manchester College, 1995
- Certificate, School of Massage Therapy at Northwestern Health Sciences University, 2007
- NCTMB, 2007

**Susan C. Lawrenz-Smith**, *Lecturer (2013)*

- BA, Colby College, 1987
- PhD, University of Virginia, 1993

**Brent D. Leininger**, *Fellow, Wolfe-Harris Center for Clinical Studies (2009)*

- DC, Palmer College of Chiropractic, 2006

**Charles A. Lininger**, *Instructor (2000)*

- BA, Michigan State University, 1970
- Certificate in Herbal Studies, Minnesota Institute of Acupuncture and Herbal Studies, 1996
- LAc
- DiplAc (NCCAOM)

**Wei Liu**, *Professor (2000)*

- BMed, Tianjin College of Traditional Chinese Medicine, 1988
- PhD, Tianjin College of Traditional Chinese Medicine, 2011
- LAc
- DiplAc/CH (NCCAOM)

**Jeffrey R. Lockhart**, *Associate Clinic Faculty (2006)*

- BA, Iowa State University, 2000
- Certificate, School of Massage Therapy at Northwestern Health Sciences University, 2005
- NCTMB, 2005

**Kelsey N. Lumpkin**, *Associate Clinic Faculty (2009)*

- BFA, State University of New York, 2005
- Certificate in Massage Therapy, 2006

**Huan Ma**, *Associate Professor (2001)*

- BMed, Tianjin College of Traditional Chinese Medicine, 1993
- MMed, Tianjin College of Traditional Chinese Medicine, 2000
- PhD, Tianjin College of Traditional Chinese Medicine, 2004
- LAc
- DiplAc (NCCAOM)

**Anne H. Mackereth**, *Assistant Professor, Director of Library Services (2001)*

- BA, The College of St. Catherine, 1990
- MA, University of Arizona, 2000

**Michele J. Maiers**, *Associate Professor (2000)*

- MPH, University of Minnesota, 2006
- DC, Northwestern College of Chiropractic at Northwestern Health Sciences University, 2000
- BS, Northwestern Health Sciences University, 2000

**Christopher C. Major**, *Assistant Professor (2003)*

- BS, University of Wisconsin, 2002
- DC, Northwestern College of Chiropractic at Northwestern Health Sciences University, 2006
- ATC, Certified Athletic Trainer, 2002

**Anita L. Manne**, *Professor (1985)*

- BS, Logan College of Chiropractic, 1979
- DC, Logan College of Chiropractic, 1981
- DACBR, 1985

**Margaret E. Miller**, *Associate Clinic Faculty (2004)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2002
- LAc
- DiplAc (NCCAOM)

**Warren L. Moe**, *Professor (1982)*

- AA, Waldorf College, 1970
- DC, Los Angeles College of Chiropractic, 1980
- CCSP, 1994

**Colleen A Moore**, *Associate Clinic Faculty (2010)*

- MOm, Minnesota School of Acupuncture and Herbal Medicine, 1994
- LAc

**Amy L. Mueller**, *Instructor (2011)*

- BA, University of Wisconsin, Madison, 2000
- Certificate in Massage Therapy, 2003
- NCTMB, 2003

**Jeffrey J. Novak**, *Assistant Professor (2003)*

- DC, Northwestern College of Chiropractic, 1997

**Amy L. Nystrom**, *Associate Clinic Faculty (2001)*

- BS, University of Wisconsin, 1986
- BS, Bastyr University, 1991
- MSTOM, Pacific College of Oriental Medicine, 1998
- LAc
- DiplAc/CH (NCCAOM)

**Lisa Oppegard**, *Lecturer (2013)*

- BA, University of Minnesota, 1998
- PhD, University of California, 1997

**Paul J. Osterbauer**, *Associate Professor (1998)*

- BS, Northwestern College of Chiropractic, 1986
- DC, Northwestern College of Chiropractic, 1986
- MPH, University of Washington, 1993

**Tolulope A. Oyelowo**, *Associate Professor (1995)*

- BA, University of Minnesota-Duluth, 1986
- DC, Northwestern College of Chiropractic, 1989
- MS, New England College, 2009

**Anne M. Packard Spicer**, *Associate Professor (1991)*

- BA, College of Saint Benedict (Minnesota), 1983
- DC, Northwestern College of Chiropractic, 1991
- DACCP, 2004

**David R. Patterson**, *Associate Clinic Faculty (2006)*

- DC, Northwestern College of Chiropractic, 1984

**John E. Pirog**, *Professor (2000)*

- MSOM, Midwest Center for the Study of Oriental Medicine (Illinois), 1999
- LAc
- DiplAc/CH (NCCAOM)

**Michael J. Przeslawski**, *Professor (1984)*

- BS, Eastern Michigan University, 1976
- DC, Northwestern College of Chiropractic, 1983

**Paul J. Ratté**, *Assistant Professor (2003)*

- ND, National College of Naturopathic Medicine, 1997

**Sandra L. Rebrovich**, *Associate Clinic Faculty (2001)*

- DC, College of Chiropractic at Northwestern Health Sciences University, 2000

**Michele J. Renee**, *Assistant Professor; (2008)*

- BS, Northwestern Health Sciences University, 2008
- DC, College of Chiropractic at Northwestern Health Sciences University, 2008

**Jeff A. Rich**, *Assistant Professor (2005)*

- DC, Northwestern College of Chiropractic, 1996
- DACBR

**Jane E. Richardson**, *Assistant Professor (1982)*

- BS, University of Minnesota, 1972
- MEd, University of Minnesota, 1993
- MT (A.S.C.P.), 1973

**Christina J. Robert**, *Lecturer (2013)*

- BA, Ball State University, 1991
- MA, St. Mary's University of Minnesota 1998
- PhD, University of Minnesota, 2009

**Steven R. Schroer**, *Lecturer (2011)*

- MA, University of Minnesota, 1998

**Craig A. Schulz**, *Assistant Professor (2001)*

- DC, Northwestern College of Chiropractic, 1999
- MS, University of Minnesota, 2008

**Kristianne H. Seelye**, *Associate Clinic Faculty (2011)*

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2008
- LAc
- DiplOM, NCCAOM

**Jodell M. Skaufel**, *Assistant Professor (2006)*

- BS, St. Cloud State University, 1989
- DC, College of Chiropractic at Northwestern Health Sciences University, 2007

**David J. Smith**, *Associate Professor (1996)*

- DC, Northwestern College of Chiropractic, 1983
- CCSP

**Timothy W. Stark**, *Associate Professor (2013)*

- BA, North Dakota State University, 1990
- DC, Northwestern College of Chiropractic, 1996
- MPhil, Murdoch University, 2012

**Julie E. Streeter**, *Lecturer Associate Clinic Faculty (2010)*

- BSN, Bachelor of Science in Nursing, St. Olaf College, 1982

**Kim L. Swineheart**, *Associate Professor (1994)*

- BS, Central Michigan University, 1980
- DC, Northwestern College of Chiropractic, 1996

**Ellen K. Tansey**, *Associate Clinic Faculty (2010)*

- MSAc, Pacific College of Oriental Medicine, 2004
- LAc

**Jason C. Thoen**, *Assistant Professor (2002)*

- PhD, Purdue University, 2001

**Mary M. Tuchscherer**, *Professor (1985)*

- BS, Saint Norbert College (Wisconsin), 1979
- DC, College of Chiropractic at Northwestern Health Sciences University, 1991
- MS, University of Minnesota, 1983
- PhD, University of Minnesota, 1987

**RondaKae K. Vainikka**, *Lecturer (2010)*

- Certificate in Massage Therapy, School of Massage Therapy at Northwestern Health Sciences University 2012
- NCTMB, 2012

**Verena Van Fleet**, Co-director of the Office of Faculty Development, *Associate Professor (2004)*

- MS, University of Zurich, 1986
- MEd, University of Zurich, 1991
- PhD, University of Zurich, 1994

**Heidi A. Vander Velden**, *Lecturer (2006)*

- BS, University of Wisconsin, 2000
- MA, University of Minnesota, 2006

**Blong B. Vang**, *Assistant Professor (2008)*

- DC, Northwestern College of Chiropractic at Northwestern Health Sciences University, 2002

•

**Michele M. Vincent**, *Assistant Professor (2005)*

- AA, Wisconsin Indianhead Technical College, 1984
- BS, Northwestern Health Sciences University, 2002
- DC, College of Chiropractic at Northwestern Health Sciences University, 2003

**Mei Wang**, *Professor (2001)*

- BMed, Henan University of Traditional Chinese Medicine, 1986
- MMed, Henan University of Traditional Chinese Medicine, 1999
- PhD, Shandong University, 2002
- DiplAc/CH (NCCAOM)
- LAc

**Lynn R. Weatherson**, *Associate Clinic Faculty (2012)*

- Certificate in Massage Therapy, School of Massage Therapy at Northwestern Health Sciences University, 2008

**Sarah L. Weaver, Assistant Professor (2000)**

- BA, Oberlin College, 1989
- MFA, University of Minnesota, 2000
- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2008
- NCTMB, 1992
- LAc

**David A. Wells, Lecturer (2013)**

- BS, Ohio Northern University, 1982
- PhD, University of Kentucky, 1986

**Jerrold R. Wildenauer, Lecturer (2009)**

- BS, Upper Iowa University, 1981
- DC, Northwestern College of Chiropractic, 1978

**Jonathan C. Williams, Professor (1993)**

- BA, University of Plano, 1974
- DC, Northwestern College of Chiropractic, 1989
- FAACP, 2001
- DABCI, 1996
- DAAPM, 1991

**Jane E. Wittich, Professor (1981)**

- BSN., University of Minnesota, 1970
- PhD, University of Minnesota, 1981

**John B. Wolfe, Jr., Associate Professor (1989)**

- DC, Northwestern College of Chiropractic, 1985
- JD, William Mitchell College of Law, 1989

**Tlahtoka Xochimeh, Lecturer (2013)**

- PhD, University of Minnesota, 2009

**Xianhui Yang, Lecturer (2003)**

- MOm, College of Acupuncture and Oriental Medicine at Northwestern Health Sciences University, 2003
- BS, Peking University, 1991
- LAc
- DiplAc/CH (NCCAOM)

**Jinming Yue, Associate Professor (2004)**

- BMed, Henan University of Traditional Chinese Medicine, 1996
- LAc
- DiplAc/CH (NCCAOM)

**Xiangdong Yu, Associate Clinic Faculty (2014)**

- BMed, Shangdong College of Traditional Medicine, 1998
- MMed, Chinese Academy of Traditional Chinese Medicine, 2002
- PhD, Chinese Academy of Traditional Chinese Medicine, 2002

**Zachary J. Zachman, Professor (1987)**

- BS, Northwestern College of Chiropractic, 1988
- DC, Northwestern College of Chiropractic, 1985
- DABCO, 1989

**Sarah L. Zamastil, Instructor (2003)**

- BS, University of Minnesota, 2001
- Certificate, School of Massage Therapy at Northwestern Health Sciences University, 2003
- NCTMB, 2003

## CREDENTIAL REFERENCES

AA	Associate in Arts	DO	Doctor of Osteopathic Medicine
AAS	Associate in Applied Science	FAACP	Fellow of the American Academy of Chiropractic Physicians
ALA	Associate in Liberal Arts	FACO	Fellow of the American Board of Chiropractic Orthopedists
ASCP	American Society of Clinical Pathologists	FCCS	Fellow of the College of Chiropractic Sciences
ATC	Certified Athletic Trainer	FIACN	Fellow of the International Academy of Chiropractic Neurologists
BA	Bachelor of Arts	FICC	Fellow of the International College of Chiropractic
BCACP	Board Certified Anatomic and Clinical Pathology	JD	Juris Doctor
BFA	Bachelor of Fine Arts	LAc	Licensed in Acupuncture
BMed	Bachelor of Medicine (China)	LLB	Bachelor of Laws
BS	Bachelor of Science	LPN	Licensed Practical Nurse
BSME	Bachelor of Science in Mechanical Engineering	MA	Master of Arts
BSN	Bachelor of Science in Nursing	MAc	Master of Acupuncture
CCSP	Certified Chiropractic Sports Physician	MAOM	Master of Acupuncture and Oriental Medicine
CCST	Chiropractic Certification in Spinal Trauma	MBA	Master of Business Administration
CLT	Certified Laboratory Technician	MBBS	Bachelor of Medicine and Surgery (Pakistan)
CSCS	Certified Strength and Conditioning Specialist	MD	Medical Doctor
DAAPM	Diplomate of the American Academy of Pain Management	MEd	Master of Education
DABCC	Diplomate of the American Board of Chiropractic Consultants	MFA	Master of Fine Arts
DABCI	Diplomate of the American Board of Chiropractic Internists	MMed	Master of Medicine (China)
DABCO	Diplomate of the American Board of Chiropractic Orthopedists	MMA	Master of Management and Administration
DABCSF	Diplomate of the American Board of Chiropractic Sports Physicians	MOm	Master of Oriental Medicine
DABFE	Diplomate of the American Board of Forensic Examiners	MPH	Master of Public Health
DACAN	Diplomate of the American Chiropractic Academy of Neurology	MS	Master of Science
DACBOH	Diplomate of the Chiropractic Board of Occupational Health	MSAc	Master of Science in Acupuncture
DACBN	Diplomate of the American Chiropractic Board of Nutrition	MSEd	Master of Science in Education
DACBR	Diplomate of the American Chiropractic Board of Radiologists	MSIE	Master of Science in Industrial Engineering
DACBSP	Diplomate of the American Chiropractic Board of Sports Physicians	MSOM	Master of Science in Oriental Medicine
DACCP	Diplomate of the Academy Council of Chiropractic Pediatrics	MSTOM	Master of Science in Traditional Oriental Medicine
DACRB	Diplomate of the American Chiropractic Rehabilitation Board	MT	Medical Technologist
DC	Doctor of Chiropractic	NCCAOM	National Certification Commission for Acupuncture and Oriental Medicine
DIBCN	Diplomate of the International Board of Chiropractic Neurology	NCTMB	National Certification in Therapeutic Massage and Bodywork
Diploma Om	Diploma of Oriental Medicine	ND	Doctor of Naturopathic Medicine
DiplAc	Diplomate in Acupuncture	PharmD	Doctor of Pharmacy
DiplCH	Diplomate in Chinese Herbology	PhD	Doctor of Philosophy
DiplOM	Diplomate in Oriental Medicine	PsyD	Doctor of Psychology
		RD	Registered Dietitian
		SPHR	Senior Professional in Human Resources

*The material contained here is for informational purposes only. Northwestern Health Sciences University has the right to add to, change or deviate from this information at any time, with or without notice.*

*This information does not constitute, nor is it intended to constitute, a contract with any student.*

*This information replaces and supercedes all prior information.*

## **NONDISCRIMINATION POLICY**

It is the policy of the Board of Trustees that Northwestern Health Sciences University does not unlawfully discriminate on the basis of race, color, creed, religion, national or ethnic origin, age, gender, marital status, sexual orientation, gender identity, disability, veteran/military status, genetic information, status with regard to public assistance, familial status, status as a family caregiver, membership or activity in a local commission, or any other characteristic protected by law, in administration of and access to the University's educational, research, and clinical programs, students organizations and events, employment, and other University-administered activities.

Further, it is the policy of the Board of Trustees of Northwestern Health Sciences University to maintain the University community as a place of work and study for staff, faculty, students, and patients free of racial or sexual harassment.

Inquiries regarding compliance and grievance procedures can be directed to: Deborah Hogenson, Human Resources Director, Northwestern Health Sciences University.

## **STUDENT RIGHT TO KNOW**

In accordance with the Student Right to Know Act (Title I of Public Law 101-542), graduation rates for degree-seeking students are available to all current or prospective students from the Office of Admissions and will be provided upon request. However, as a general statement, Northwestern has high graduation rates in all its programs.

In accordance with the Student Right to Know Act (Title II of Public Law 101-542), students may receive, on request, information about campus security, including campus crime statistics from the Office of Admissions. However, as a general statement, Northwestern has an extremely low crime rate and an excellent security program.

## **FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA) AND STUDENT EDUCATION RECORDS**

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 45 days of the day that the University receives a request for access. Students should submit to the Registrar, or other appropriate official, a written request that identifies the record(s) they wish to inspect. The Registrar, or other appropriate official, will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request an amendment of the student's education records that the student believes are inaccurate or misleading.

Students may ask the University to amend a record they believe is inaccurate or misleading. They should write the University official responsible for the record, clearly identify the part of the record they want changed and specify why it is inaccurate or misleading.

If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in any administrative, supervisory, academic or research position, or support staff position (including law enforcement unit personnel and

health staff); a person or company with whom the University has contracted (such as an attorney, auditor, collection agent or community-based mentor); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll. The University shall make reasonable efforts to notify a student of such a record request.

4. The right to file a complaint with the United States Department of Education concerning alleged failures by the University to comply with the requirements of FERPA The name and address of the office that administers FERPA is:

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue SW  
Washington, DC 20202-4605

The following information is public information, unless the student has requested non-disclosure:

- Name;
- Address;
- E-mail address;
- Telephone number;
- Dates of enrollment;
- Enrollment status (full-time, part-time, not enrolled);
- Major/course of study;
- Name of adviser/program director;
- Class/term;
- Academic awards and honors;
- Degree(s) received;
- Photograph;
- Past and present participation in officially recognized sports and activities;
- Physical factors (e.g. height, weight) of athletes.

Students have the option to suppress directory information. If this option is selected, no information pertaining to attendance will be released and the student's name and other information will not appear in University directories. Students who receive financial aid provide consent for release of certain directory and other information to lenders and/or guarantors as a consequence of their financial aid contract(s).

Students must express in writing their wish to suppress directory information to the Office of the Registrar or other appropriate official.

Under the Act, the University reserves the right to disclose educational records or components thereof, to parents of dependent students as defined according to the Internal Revenue Code: Section 152 Dependent defined (as amended). All students will be assumed to be independent unless a parent presents a certified copy of their most recent Federal Income Tax Form establishing the student's dependent status.

No official transcript will be released if the student or graduate is delinquent or in default either to the University or to any student loan-servicing agency handling any student loans undertaken while enrolled. Requests must be submitted one week prior to the date transcripts are needed. Official transcripts must be mailed directly to the designated recipient. They cannot be released to the student.

A student file is also kept on each student from the time of application. These files are also confidential and are available for administration, faculty and the individual student. Students may examine their individual file at any time, but it may not be removed from the Registrar's office.