



Northwestern Health Sciences
University

University Catalog

2016-2017

ADDENDUM

Acupuncture and Oriental Medicine Program

New Courses Effective Winter 2017

ACL5055 TCM Study in Context

.5 credits (15 hours): 15 lecture hours

Prerequisites: Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Anatomy; Pathophysiology 1; Chinese Medical Pathology 1 and 2

Pre or Co-requisites: Chinese Language course; Patient Assessment and Interactive Skills; Accessory Techniques; Medical Law and Ethics; Needling Anatomy; Pathophysiology 2; Western Medical Screening; Pre-clinical Skills, Clinical Expectations and Policies

Students learn a brief history of China including geography, and characteristics of different districts and their roles in Traditional Chinese Medicine (TCM). Focus will be placed on the historical development of TCM including the emergence of medicine of the various dynasties, public health and medical care. Students will gain an understanding of the cultural and demographic context of TCM. This course provides an overview for students who wish to participate in a China Study Tour.

ACL5056 TCM in China Study Tour

1.5 credits (22.5 hours): 22.5 lecture hours

Prerequisites: Acupuncture Treatment Strategy; Anatomy and Physiology 1 and 2; Diagnostic Analysis in Chinese Medicine; Needling Anatomy; Pathophysiology 1; Chinese Medical Pathology 1 and 2

Pre or Co-requisites: Chinese Language course; Patient Assessment and Interactive Skills; Accessory Techniques; Medical Law and Ethics; Needling Anatomy; Pathophysiology 2; Western Medical Screening; Pre-clinical Skills, Clinical Expectations and Policies

Students will gain an understanding of the cultural and demographic context of TCM, and will travel to China under a guided study to observe the medicine at its root and in cultural context. In China, students partake in lectures delivered by TCM University professors, and observe TCM treatments in clinics and hospitals.

Massage Therapy Program

Course Change Effective Winter 2017

SMT1702 Clinical Massage 1

3.5 credits (90 hours): 15 lecture hours, 75 laboratory hours

Prerequisite: SMT 1701 Relaxation Massage 2

Pre or Co-requisite: SMT 1935-1 Clinical Rotation 1

This course provides advanced clinical 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 clinical 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.

SMT1935-2 Clinic Rotation 2: Enhancement of Therapeutic Skills

1 credit (45 hours): 45 clinic hours

Prerequisite: SMT 1935-1 Clinic Rotation 1: Foundational Skills

Pre or Co-requisite: SMT 1702 Clinical Massage 1

In Clinic Rotation 2, students begin to understand and perform in the role of a massage therapist in a clinic 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 clinical techniques as learned in the classroom.

New Courses

SME1350 Energy Based Medicine

2 credits (30 hours): 30 lecture hours

Prerequisite: SBS1001 Anatomy and Physiology 1; SBS1002 Anatomy and Physiology 2

Pre or Co-requisite: SBS2100 Pathology

This course will present students with the theory and practice of Energy Based Medicine, a scientifically-proven, essential, and missing component of health care. Using reading, lecture, peer learning, self-reflection, and guest speakers, students will define and explore many aspects of energy, from the bioelectric energy field to the energy that exists in every living cell. As students gain an understanding of energy, they will learn basic techniques for working with energy. This course is a pre-requisite for the subsequent courses in the Energy Based Medicine certificate.

SME2950 Massage Therapy for the Medically Complex

2 credits (36 hours): 12 lecture hours, 12 laboratory hours, 12 online hours

Prerequisite: SBS1001 Anatomy and Physiology 1; SBS1002 Anatomy and Physiology 2

Pre or Co-requisite: SBS2100 Pathology

This course serves as an overview of the skills and knowledge required for a massage therapist to successfully work with medically complex clients in diverse environments. Students will learn about hospital-based massage, oncology massage, and massage for the aging population. In addition, this course will provide students with an understanding of hospice and palliative care, common medications, common contraindications, mobility adaptations, and the unique body mechanics required to work around a hospital bed or wheel chair.

SME1360 Orthopedic Care

2.5 credits (37.5 hours): 37.5 lecture hours

Prerequisite: SBS1001 Anatomy and Physiology 1; SBS1002 Anatomy and Physiology 2

Pre or Co-requisite: SBS2100 Pathology

This course serves as an overview of the skills and knowledge required for a massage therapist to be successful in an orthopedic and/or medical work environment. Students will learn about common musculoskeletal injuries, massage modalities that are useful in a clinical environment, and the basics of working alongside other healthcare practitioners. In addition, this course will provide students with an understanding of the differences among various populations, and how these differences may appear in an orthopedic or medical environment.

Nutrition Program

New Courses

NUTR5301 Reading the Research: Statistics/Evidence -Based

2 credits (30 hours): 30 lecture hours

Prerequisites: NUTR 5000/5001 Macronutrients and Micronutrients; NUTR 5002 Nutrition Assessment and Health Eating through Lifecycle; NUTR 5003 Science of Supplements/Nutraceuticals/Functional Foods; NUTR 5004 Healthy Weight Management: Fad, Fact or Fiction?; NUTR 5101 Clinical Nutrition Intervention in Health and Disease; NUTR 5102 Clinical Nutrition Intervention 2: Gastrointestinal/Endocrine; NUTR 5103 Clinical Nutrition Intervention 3: Special Topics; NUTR 5201 Healthy People 2020: Nutrition Strategies for Health/Wellness; NUTR 5202 Food as Medicine: Definition/Practice; NUTR 5203 Sports and Human Performance Nutrition

This course is designed to provide a sound scientific, evidence-based basis on how to read and review the health/wellness literature with special emphasis on nutrition-related literature/studies. Overview and strengths/weaknesses of major types of research designs including statistical data basics will be included.

NUTR5302 Theories of Behavior Change and Motivational Interviewing

2 credits (30 hours): 30 online hours

Prerequisites: NUTR 5000/5001 Macronutrients and Micronutrients; NUTR 5002 Nutrition Assessment and Health Eating through Lifecycle; NUTR 5003 Science of Supplements/Nutraceuticals/Functional Foods; NUTR 5004 Healthy Weight Management: Fad, Fact or Fiction?; NUTR 5101 Clinical Nutrition Intervention in Health and Disease; NUTR 5102 Clinical Nutrition Intervention 2: Gastrointestinal/Endocrine; NUTR 5103 Clinical Nutrition Intervention 3: Special Topics

This course will cover the basic theories of behavior change in individuals as well as populations. Information on how these theories can be applied and used to change health-related behavior will also be included. The technique, practice and use of motivational interviewing skills will be included as well.

Discontinued Courses Effective Winter 2017

19001 Introduction to Clinical Reasoning 1

1 credit (15 hours): 15 laboratory hours

This seminar course is designed as an integrated problem- based case study program. Students meet weekly in the lab section with their faculty facilitator for a guided study of a patient case.

29002 Introduction to Clinical Reasoning 2

.5 credit (15 hours): 15 laboratory hours

Prerequisite: 19001 Introduction to Clinical Reasoning 1

This seminar course is designed as an integrated problem- based case study program. Students meet weekly in the lab section with their faculty facilitator for a guided study of a patient case.



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Explore Northwestern Health Sciences University



For more than 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 University prepares the next generation of health care professionals to deliver and advance health care.

OUR VISION

We are a premier health sciences university creating a healthier world. Live, Learn, Serve Healthy!

OUR VALUES

- Accountability
- Innovation
- Collaboration
- Respect
- Excellence
- Service

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.

GENERAL INFORMATION

Admissions:

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

Email: admit@nwhealth.edu
Website: <http://www.nwhealth.edu>
Publication date: October, 2015

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
230 South LaSalle St., Suite 7-500
Chicago, IL 60604
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, 2005, and 2013. The next program evaluation is designated for 2021.

Council on Chiropractic Education
Commission for Accreditation
8049 N. 85th Way
Scottsdale, AZ 85258-4321
Voice:(480) 443-8877
Fax:(480) 483-7333
E-mail: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).

The Accreditation Commission for Acupuncture and Oriental Medicine is 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

The Massage Therapy certificate program offered by the University is accredited by the Commission on Massage Therapy Accreditation (COMTA).

The Commission on Massage Therapy Accreditation is 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 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 private, 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.

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 nwhealth.edu

Explore Northwestern

APPROACH TO LEARNING

We believe that the students and faculty should be continuously learning. Students learn from faculty, from each other, from their patients 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 evolution and growth of our programs. Students frequently learn by doing. The University 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 patients. This mirrors the experience of most clinicians in practice, who must be dynamically responsive to patient feedback in order to be clinically effective and professionally successful.

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 a public clinic on the Bloomington campus.

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, a Master of Health Science in Applied Clinical Nutrition, 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

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 Health and Wellness, offering the Master of Acupuncture, Master of Oriental Medicine, Herbal Medicine Certificate, a professional massage therapy certificate program and Associate in Applied Sciences degree, a Bachelor of Science in Human Biology degree completion program, a Post-Baccalaureate Pre-Health program, and a Master of Health Sciences in Applied Clinical Nutrition;
- The Centers for Research and Innovation, including the Wolfe-Harris Center for Clinical Studies, the Center for Healthcare Innovation and Policy, the Human Performance Center, and the Sweere Center for Clinical Biomechanics and Applied Ergonomics;
- The University public clinic system, including the Northwestern Health Clinic – Bloomington, the DeRusha Learning Center, 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.

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 obtaining 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

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.

ACADEMIC SUCCESS CENTER

Mission Statement

The mission of the Academic Success Center is to foster academic and personal development and success by providing a cohesive set of support services for students to assist them in achieving their educational goals.

Services

The Academic Success Center (ASC), located in the Center for Student Success and Engagement, is a collection of student services and programs that have been developed to help students reach their academic goals.

All services and programming offered through the Academic Success Center have been designed to help you learn how to be an independent student. It is each student's responsibility to choose and use those supports that will help strengthen learning and improve academic performance.

The following services are available through the Academic Success Center:

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. Referrals will be made for certain counseling services and for longer term counseling services. The University does not cover the cost of referral services.

Counseling services available to students include help with study skills, and short-term individual counseling. 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 Counseling Office.

Educational workshops are offered periodically to students who are interested in improving their performance in areas such as study skills, test anxiety, meditation and stress management. 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.

Academic Advising

Academic advising services for all programs are available through the Academic Success Center. Advising services are available to educate current students on current degree requirements and curriculum; provide individualized long-term program planning for part time and full time students; interpret academic policies and procedures; assist with the development of a personalized academic schedule; and support students in achieving their educational and vocational goals.

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 in individual and group settings, 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.

Student Short Term 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. Short Term Leaves of Absences are requested through the Academic Success Center. Only the College Dean can grant approval for extensions of Short Term Leaves of Absences. Once the student returns to classes, they are responsible for contacting their instructors to create a plan to complete the work that they missed.

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 skills, and setting examples of professional responsibility. Through the Student Senate, students participate in the development of recommendations to the Northwestern faculty and 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, cardio equipment, 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 NW Health 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>. The Information Technology Department provides support for NW Health 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.

Northwestern Health Sciences University Bookstore

The University Bookstore offers the books, equipment and resources that our students need for classroom lecture, laboratory and clinical practice. The 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. The University 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.

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 28 treatment rooms (13 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 two conference rooms. 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.

Northwestern Health Clinic - Bloomington

The Northwestern Health Clinic - Bloomington 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 Acupuncture and Oriental Medicine (AOM) programs and the College of Chiropractic. All interns are closely supervised at all times by highly experienced faculty clinicians. The Northwestern Health Clinic 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). 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.

CENTERS FOR RESEARCH AND INNOVATION

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 benefactors, and John B. Wolfe, DC, the founder and first president of Northwestern College of Chiropractic. The WHCCS was formed in 1991 as part of the 50-year celebration of Northwestern's founding, and expanded in 2008 with the opening of the Wolfe-Harris Center for Excellence.

The WHCCS has engaged in studies investigating treatments and diagnostic tools for back, neck and headache pain conditions that are recognized in the scientific community as some of the highest quality evidence impacting natural health care delivery.

Beginning in 2007, WHCCS faculty engaged in research education for students and university faculty through a \$1.5 million partnership project funded by the National Center for Complementary and Integrated Health, formerly the National Center for Complementary and Alternative Medicine. This landmark project, in collaboration with the University of Minnesota, was charged with the development of an innovative research curriculum spanning all of Northwestern's academic programs. This project laid the foundation for education in evidence-informed practice competencies to develop a generation of health care providers who are able to effectively use research evidence and integrate it with their own clinical expertise and patient preferences.

The WHCCS legacy of work with local, national and international collaborators over the past 15 years has led to acquiring more than \$22 million in research funding from the National Institutes of Health, the Health Resources and Services Administration and other agencies.

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

In 2013, the University established a clinical specialty center consisting of two divisions. With funding provided by the estate of Harry C. Sweere, founder of the Ergotron, Inc., the H. C. Sweere Center for Clinical Biomechanics and Applied Ergonomics was created.

The ergonomics division provides the business community with a variety of prevention and wellness services. These include work-site training and educational seminars, needs assessment, ergonomic intervention, employee wellness coaching, and on-site care. Research goals include tracking of on-site care outcomes and return on investment for employers.

The biomechanics division utilizes a sophisticated 3-D gait analysis and motion capture system to assess human gait, regional and full body motion. This technology provides information for diagnostic, treatment and rehabilitative services for the athletic and business communities. Research applications for the biomechanics division focus on three-dimensional gait and human motion analysis using its instrumented treadmill and sophisticated motion capture video technology.

In 2016 the Center established the Northwestern Health Sweere Clinic, a multi-disciplinary, holistic healing center that will serve as a referral destination for complex neuro-musculoskeletal disorders.

The Sweere Center also provides student work-study learning opportunities. Sweere Center coordinators serve as mentors for students interested in the specialties of occupational health; ergonomics; and clinical biomechanics. In collaboration with NWHSU's Continuing Education Department, the Sweere Center provides continuing education programs in occupational health and ergonomics.

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 injury prevention. Faculty clinicians, fellows 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 NWHSU's other health centers.

The clinical specialists of the Human Performance Center also serve as a resource for the undergraduate, 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 fellows 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, the HPC clinicians, faculty, fellows and interns are actively researching means of improving these services while working towards establishing new standards and best-practices.

The HPC also serves the local professional community by hosting a monthly Sports and Performance Grand Rounds. This monthly seminar secures a prominent local provider to share his/her expertise with the local professional attendees and NWHSU students.

Explore Northwestern

Our Location

MINNESOTA AND THE TWIN CITIES

Visit our website for information about life in the Twin Cities:



Life in the Twin Cities

Experience the fun, culture, and seasonal activities of this major metropolitan area.

[More information on the Twin Cities →](#)

Explore Northwestern

Experience in a Pioneering Clinic System

THE CLINICS

The Northwestern Health Sciences University Clinic System is comprised of:

- The Northwestern Health Clinic - Bloomington, located on the University campus;
- The De Rusha Clinical Education Center on the University campus; and
- The Human Performance Center which provides a comprehensive integrative sports care and performance program located on the University campus.
- The Sweere Clinic – An on-campus multi-disciplinary holistic healing center serving as a referral destination for complex neuro-musculoskeletal disorders.

Northwestern's Clinics are unique, integrative natural health care clinics providing chiropractic, acupuncture, Oriental medicine, massage therapy, physical therapy, sports medicine, and naturopathic medicine. 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 Northwestern Clinics 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, La Clinica 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 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 350 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

Northwestern graduates can look forward to continuing contact with the University through the alumni association and our ongoing social media and e-newsletter channels. Our alumni associations are led by boards who strive to build and foster support for the University as well as to provide and facilitate communication between alumni and their alma mater. With a focus on student recruitment and fundraising, this forum encourages identity and pride in the university.

Northwestern Health Sciences University is committed to providing excellent networking resources for career opportunities as well as quality programs and services to all alumni and we encourage you to connect with us and let us know what is important to you. Please feel free to send all inquiries to advancement@nwhealth.edu.

CENTER FOR CAREER AND PROFESSIONAL SUCCESS

The Center for Career and Professional Success, located in the Center for Student Success and Engagement, assists students and alumni in helping with planning for their future profession. 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 2016-2017 edition states that "Employment of chiropractors is projected to grow 17 percent from 2014 to 2024, 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.

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 herbal 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, Abbott Northwestern Hospital, and the Mayo Clinic are among those hospitals who offer acupuncture treatment by licensed acupuncturists. 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.

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 Statistics notes that "Employment of massage therapists is projected to grow 22 percent from 2014 to 2024, much faster than the average for all occupations. Continued growth in the demand for massage services will lead to new openings for massage therapists."

Nutrition

According to the Bureau of Labor Statistics "In recent years, interest in the role of food and nutrition in promoting health and wellness has increased, particularly as a part of preventative healthcare in medical settings."

The role of nutrition in maintaining health and wellness is clear and the need for health care practitioners who are well qualified to provide nutritional advice and counseling will only grow. The nutrition programs at Northwestern are designed to prepare health care practitioners to respond to the needs of their patients for nutritional advice.

While the programs at Northwestern are not intended to prepare students for licensure as licensed nutritionists, it is worth noting that the Bureau of Labor Statistics projects a 16% growth in employment in the related professions - dietitians and nutritionists between 2014 and 2024. This is indicative of the growing trend toward using nutrition as a means of reducing the effects of chronic disease on the body and supporting the body's natural inclination toward health and wellness. Health care practitioners who become better equipped to dispense nutritional advice will be in a better position to serve their patients and provide a more holistic approach to patient care.

Explore Northwestern

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 each 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 Accounting Office, a \$150 late fee will be assessed and registration for that trimester will be canceled. All university tuition and fees are listed in US dollars and must be paid in US dollars. Payments received for students from International Lenders will be accepted in International funds and the foreign exchange rate on the date of deposit will be applied to the student's account.

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. Any student with a balance due at the time of withdrawal must make payment in full or make payment arrangements with the Accounting Office before official transcripts will be released by the school.

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 Student Financial Services at (952/800) 888-4777.

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 student withdraws 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, s/he 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.

RETURN OF MN STATE FINANCIAL AID PROGRAM FUNDS

Recipients of MN State Financial Aid program funds may also have their awards recalculated upon withdrawal. MN State Financial Aid Program funds may need to be returned based on the result of the MN State Programs Refund Calculation.

TUITION AND FINANCIAL AID

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				
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+
Nutrition	<2.00	2	3	4+

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 colleges:

College of Chiropractic	2.0
College of Health and Wellness	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).

ADDITIONAL SAP INFORMATION

Dual Degree Programs/Changed Majors

Students who are enrolled in a dual degree program or who have changed majors* may file a sap appeal to request an extension of the maximum time frame provision of the sap policy. Such requests will be evaluated on an individual basis.

*Human biology is the only undergraduate major offered at this time.

Second Degrees

Students seeking second degrees are monitored like any other students under this policy. Students who exceed the maximum time frame allowed by their respective program may file a sap appeal to request an extension. Appeals will be evaluated on an individual basis.

Transfer/Audit Credits

Transfer and consortium credits accepted by the university will be included when calculating your credit completion ratio and maximum time frame, but not your GPA. This includes credits earned from non-northwestern health sciences university programs. Audit credits are not considered either attempted or earned. Credit hours earned at a foreign institution are included in the sap evaluation if the university accepts the credit hours.

Repeated Coursework

Repeated courses will count toward enrollment status, attempted hours and maximum time frame.

Summer Sessions Courses

All hours attempted and completed in the summer sessions are treated as any other trimester credit hours in determining sap.

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 GRANT (Massage Therapy/Undergraduate Programs)

A Federal Pell Grant, unlike a loan, does not have to be repaid. Federal Pell Grants may be awarded to undergraduate students who have not earned a bachelor's or a professional degree.

Students are not eligible to receive a Federal Pell Grant incarcerated in a federal or state penal institution or are subject to an involuntary civil commitment upon completion of a period of incarceration for a forcible or nonforcible sexual offense.

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. 'Lifetime Eligibility Used' percentage will be displayed in the 'Grants' section. Visit the Federal Student Aid website for more information.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORUNITY GRANT (FSEOG) (Massage Therapy/ Undergraduate Programs)

FSEOG is a campus-based award of federal money given to eligible students enrolled in the Massage Therapy or Undergraduate Health Sciences Programs. Students who will receive Federal Pell Grant and have the most financial need are given priority for this award. Funds are limited. The FSEOG does not need to be repaid.

MINNESOTA STATE GRANT PROGRAM (Massage Therapy/ Undergraduate Programs)

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.

YELLOW RIBBON PROGRAM

If you are a veteran, you may be eligible for the Yellow Ribbon Program. Under the Yellow Ribbon Program, additional funds are provided by Northwestern and the Veterans Administration to cover the difference between your Post-911 GI Bill Chapter 33 benefit and the annual cost of tuition at Northwestern.

If you are eligible, 100% of your out-of-pocket costs for tuition will be covered for one academic year. In addition, there is no limit to the number of eligible students who may receive the annual Yellow Ribbon Program benefit at Northwestern.

Eligibility

Only individuals entitled to the maximum benefit rate (100%) for Post-911 GI Bill Chapter 33 assistance may receive Yellow Ribbon Program funding. If you have not done so already, [apply for Post-GI Bill benefits](#) to receive your Certificate of Eligibility (COE)

You may be eligible if:

- You served an aggregate period of active duty after September 10, 2001, of at least 36 months
- You were honorably discharged from active duty for a service connected disability and you served 30 continuous days after September 10, 2001, OR
- You are a dependent eligible for Transfer of Entitlement under the Post-9/11 GI Bill based on a veteran's service under the eligibility criteria listed above

To be eligible at Northwestern, you must be:

- Accepted for admission to a degree granting program in the Acupuncture and Oriental Medicine Program or College of Chiropractic, OR
- A current student in good academic standing

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

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 Office of Student Financial Services and Registrar for more information about scholarships offered at Northwestern Health Sciences University.

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 (Massage Therapy/Undergraduate Programs)

- 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 (Massage Therapy/Undergraduate Programs)

- 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 a Graduate/Professional Program = up to \$7,000 independent student only

ANNUAL UNSUBSIDIZED LIMITS (Graduate Programs)

- Acupuncture and Oriental Medicine = up to \$20,500
- Master of Health Sciences in Applied Clinical Nutrition = 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).
- Acupuncture and Oriental Medicine - The overall aggregate maximum is \$138,500 (including undergraduate loans).
- Master of Health Sciences in Applied Clinical Nutrition - The overall aggregate maximum is \$138,500 (including undergraduate loans).
- Massage Therapy/ Undergraduate Programs - The overall aggregate maximum is \$31,000, maximum subsidized loan \$23,000, for a dependent student and 57,500, maximum subsidized \$23,000, for an independent student.

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 (see adverse credit definition below).

GRADUATE PLUS LOAN

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

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

Adverse Credit is defined as:

- Having one or more debts with a total combined outstanding balance greater than \$2,085 that are 90 or more days delinquent as of the date of the credit report, or that have been placed in collection or charged off (written off) during the two years preceding the date of the credit report; or
- If, during the five years preceding the date of the credit report, the borrower has been subject to a
 - default determination,
 - discharge of debts in bankruptcy,
 - foreclosure,
 - repossession,
 - tax lien,
 - wage garnishment, or
 - write-off of a federal student aid debt.

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: [Interest rates and fees](#).

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. For current fees visit: [Interest rates and fees](#).

LOAN REPAYMENT

Repayment for most federal student loans begins after a borrower leaves college or drops below half-time enrollment. However, PLUS loans enter repayment begins the loan is fully disbursed (paid out).

Loan servicers or lenders must provide the borrower with a loan repayment schedule that states when the first payment is due, the number and frequency of payments, and the amount of each payment. Some loans may have a grace period. The grace period is a set period of time after the borrower graduates, leaves school, or drops below half-time enrollment before beginning repayment on the loan. Not all federal student loans have a grace period. Note that for most loans, [interest will accrue during your grace period](#).

- Direct Subsidized Loans, Direct Unsubsidized Loans, Subsidized Federal Stafford Loans, and Unsubsidized Federal Stafford Loans have a six-month grace period before payments are due.
- PLUS loans have no grace period. Repayment begins once the loan is fully disbursed, however, the borrower may be eligible for a deferment. Contact the loan servicer for more information.
- Federal Perkins Loans have a nine-month grace period before payments are due.

FEDERAL WORK-STUDY (FWS)

Northwestern participates in the Federal Work Study (FWS) Program, which provides campus-based jobs to financially eligible students. The University also participates in the Community Service Program, which pays FWS-eligible students for jobs involved in community service activities. Opportunities include community events, literacy or reading programs, library and clinic positions. Federal Work Study must be part of a financial aid package. Students may work up to an average of 20 hours per week.

Students who are not eligible for the Federal Work Study (FWS) Program, including Canadian and international students, may obtain student employment through Northwestern's student help program.

Private Alternative Loan Programs

Private alternative loans should be utilized only after all other financial aid resources have been exhausted. Private loan interest rates are variable and are often based on credit plus an index such as PRIME or LIBOR. Private loans can take 2-3 weeks to process. It is recommended that students begin applying for private loans before the trimester starts. For information see: [Student Loans](#)

REQUIREMENTS FOR PRORATING ANNUAL FEDERAL SUBSIDIZED AND UNSUBSIDIZED LOAN LIMITS (Massage Therapy/Undergraduate Programs)

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.

STUDENT LOAN 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 Direct Student Loans to all first year first time borrowers. The emphasis for Exit Counseling shifts to specific information about loan repayment and debt management. Completing the Direct Loan Master Promissory Note and Entrance Counseling, Loan Consolidation, Calculators: <http://www.studentloans.gov>

Student loan borrowers can access their federal aid history at <http://www.nslds.ed.gov>.

[COHORT DEFAULT RATE](#)

The United States Department of Education provides Northwestern Health Sciences University with its annual Official Cohort Default Rate (CDR) Notification Letter (for the most recent available). For information regarding the University's Title IV Cohort default rate, feel free to contact Student Financial Services.

[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.

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

- **Fafsa On-Line:** www.FAFSA.ed.gov
 - File the Free Application for Federal Student Aid (FAFSA) on-line.
- **FASTWEB:** www.fastweb.org
 - Database of 1.5 million private scholarships with matching of scholarships to student profiles.
- **Federal Direct Consolidation Loans:** www.loanconsolidation.ed.gov
 - Information center on loan consolidation including help organizing your records, application process and more.
- **Federal Student Aid:** www.studentloans.gov
 - Complete promissory notes, online entrance counseling along with resources & tools on financial aid programs including repayment information.
- **Financial Aid Information Page:** www.finaid.org
 - General financial information and numerous on-line calculators.
- **Income-Based Repayment:** www.ibrinfo.org
 - An independent, non-profit source of information about new federal student loan repayment (IBR) and loan forgiveness (PSLF) programs.
- **NSLDS (National Student Loan Data System):** www.nsls.ed.gov
 - National database of your federal loans – Direct Loans - subsidized, unsubsidized, graduate PLUS and Perkins loan programs (interest rate, loan amount, lender and servicer name, etc).
- **Scholarship Scam Alert:** www.finaid.org/finaid/scams.html
 - Information on scholarship scams and ways to protect yourself.
- **Student Aid On The Web:** www.studentaid.ed.gov
 - Provides a current list of federal loan servicers, information on Public Service Loan Forgiveness (PSLF), on Loan Consolidation, Income Based Repayment (IBR) and other repayment plans. Also provides general information on financial aid programs.
- **United States Department Of Education And Consumer Information:** <http://www.studentaid.ed.gov>

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

ACADEMIC POLICIES

The following provides a summary of our University Academic Policies. Program-specific academic policies can be found in each program section of the University Catalog. The official academic policies are found in the University Student Handbook, which is available online at 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.

ACADEMIC EVALUATION AND GRADES

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. Some programs allow for + / - grading, which will be noted in each course syllabus.

ACADEMIC HONORS

Students who earn a term grade point average of 3.5 and above and who are enrolled at last half time, will be placed on the Dean's List which will be published every trimester. Students with a cumulative GPA of 3.5 - 3.69 will graduate cum laude, 3.7 - 3.89 magna cum laude, and 3.9 - 4.0 summa cum laude.

ACADEMIC STANDING

Academic Warning

Academic warning is indicative of substandard achievement. A student is placed on academic warning when:

- The student's cumulative GPA falls below 2.0 for the first time
- The student fails one or more courses in a term
- The student fails to successfully complete at least 67% of the courses attempted (completion rate)

The student will remain on academic warning until the student's term grade point average rises to 2.0 and completion rate is at least 67%. Academic warning will be allowed for no more than two consecutive terms. (Please note a student may be dismissed after three terms of difficulty while in the Doctor of Chiropractic (DC) or any master level program.)

Notification of placement on academic warning is sent by the Director of Student Financial Services and Registrar via campus email and US Postal Certified Mail. Students on academic warning:

- Meet with the University's Academic Advisor to determine a schedule. The Academic Advisor must approve the student's final schedule in order to complete the registration process
- Subsequent registration will be placed on hold until revised or approved by the University's Academic Advisor.
- Doctor of Chiropractic (DC) and master level students must:
 - Retake all courses in which unsatisfactory grades were received the next term the course is offered. If the course is not offered the next term, the student must complete the course at the next offering. The student will remain on academic warning status until a satisfactory grade can be achieved.

The Director of Student Financial Services and Registrar will determine whether or not a student has cleared academic warning status. The Director of Student Financial Services and Registrar will notify the student of their academic standing at the end of the next term. A student is removed from academic warning status when a course grade of F has been replaced with a passing grade (DC and master level students), the cumulative GPA is 2.0 or higher, and the completion rate is at or above 67%.

Academic Probation

A student is placed on academic probation whenever one of the following occurs:

- The student fails to obtain a term GPA of 2.0 or higher in the next term of enrollment while on academic warning;
- The student fails to obtain a cumulative GPA of 2.0 after the next term of enrollment while on academic warning, unless eligible for continued academic warning due to circumstances described above;
- The student fails at least one course during a term while on academic warning;
- The student fails the same course for a second time;
- The student fails to complete at least 67% of course work attempted while on academic warning.

Notification of placement on academic probation is sent by the Director of Student Financial Services and Registrar via campus email and US Postal Certified Mail. Students on academic probation:

- May be asked to reduce course load in the following term and retake all courses in which unsatisfactory grades were received. If the course is not offered the next term, the student must complete the course at the next offering. The student is not permitted to enroll in any course(s) for which the course that is being repeated is a designated prerequisite.
- The student's subsequent registration and financial aid will be placed on hold until the student's registration is approved by the University's Academic Advisor and Student Financial Services Office.

In addition, a student on academic probation must:

- Meet with the University's Academic Advisor to determine a schedule. The Academic Advisor must approve the student's final schedule in order to complete the registration process. Meet with University's Academic Advisor on a regular basis (as determined by the Academic Advisor);
- Complete a Financial Aid SAP Appeal Form to be eligible for financial aid during the term of academic probation and allow financial aid to be released for the term.
- Obtain tutorial assistance, which is available through the Student Success Center;
- Consult with and follow the recommendations of the Director of the Student Success Center

The Director of Student Financial Services and Registrar will determine whether or not a student has cleared academic probation status. The Director of Student Financial Services and Registrar will notify the student of their academic standing at the end of the next term. A student is removed from academic probation status when a course grade of F has been replaced with a passing grade (DC and master level students), the cumulative GPA is 2.0 or higher, and the completion rate is at or above 67%.

Academic Dismissal

A student can be academically dismissed whenever one of the following occurs:

- The student fails to obtain a cumulative GPA of 2.0 after the next term of enrollment while on academic probation, unless eligible for continued academic probation due to circumstances described above;
- The student fails at least one course during a term while on academic probation;
- Student receives a third term of SAP difficulty (academic warning or probation)
- The student fails the same course for a third time;
- The student fails to complete at least 67% of course work attempted while on academic probation.

Notification of academic dismissal is sent by the Director of Student Financial Services and Registrar via campus email and US Postal Certified Mail. The student has a right to appeal academic dismissal by following the guidelines outlined in the appeal process as found in the program-specific sections of the University Student Handbook.

ATTENDANCE

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

COMPLAINT PROCEDURE

Northwestern provides a complaint process to allow students to challenge certain actions related to their educational experience at Northwestern. Any student who believes that another student or an employee of the University has subjected him/her to treatment that violates written university policy may seek to have his/her complaint addressed.

Complaints involving the arbitrary or capricious assignment of grades must be handled through the Grade Appeal Policy.

Certain actions are not covered by this complaint process such as allegations of harassment or discrimination (see Title IX Policy).

Process

Most student complaints can be resolved by discussions with the person or group involved. When this approach is unsuccessful, or seems undesirable or inappropriate, the student must summarize the complaint in writing, including a requested remedy, and submit it to the Vice President of Student Affairs and Dean of Students. Receipt of complaints will be acknowledged in writing within seven calendar days. The Vice President of Student Affairs and Dean of Students will consult with the student, and either assist the student with resolution of the complaint, or refer the written complaint to the appropriate supervisor or Dean.

The complaint will be investigated and an appropriate course of action determined. Information disclosed during a complaint will be handled with discretion and disclosed only on a need-to-know basis in order to investigate and resolve the complaint.

The facts of each incident will determine the response to each complaint. Previous or repeated behavior may be taken into consideration. Responses to complaints range from resolution by informal discussion to more serious action, up to and including termination of employment or dismissal from the academic program. Resolution of the complaint will be documented and placed in the student and/or employee's file, and if applicable, copied to the Human Resource Department. The Vice President of Student Affairs and Dean of Students will notify the student in writing when the complaint has been resolved.

Grade Appeal Process

Students are responsible for fulfilling the academic requirements for a course, as established by the instructor in the course syllabus. The instructor is responsible for evaluation of student performance and for determining a student's course grade.

The following procedures are designed to provide a means for students to seek review of final course grades alleged to be arbitrary and capricious, or based on clerical error.

Definitions:

Arbitrary and capricious grading means the assignment of a course grade that:

- was not based on that student's performance in the course, or
- was based on standards different from those which were applied to other students in that course, or
- was made after a substantial, unreasonable and unannounced departure from the instructor's previously articulated standards outlined in the course syllabus.

A clerical error is an error in the calculation of grades or an inaccurate recording of the final grade.

Grade Appeal Procedure

The burden of proof in challenging a grade rests on the student.

The initial step of the student grade appeal procedure is for the student to seek resolution or redress through discussions with the course instructor within two weeks after the start of the following trimester. If the faculty member determines that the grade was based on clerical error, a grade change report will be issued by the faculty member to the Registrar's office. The changed grade can be verified on eNorthwestern as soon as it is made available.

If the student feels that a satisfactory solution or relief has not been obtained the student should discuss the grade appeal with the Program Dean or Director. The Program Dean will investigate the allegation by speaking to the student and the involved faculty member. If the Program Dean or Director finds in favor of the faculty member, the grade is upheld and the process ends.

If the Program Dean or Director finds that the instructor may have graded in an arbitrary or capricious manner, the case will be referred to an Ad Hoc Grade Appeal Committee.

This Committee is comprised of three ranked faculty members jointly selected by the appropriate Program Dean or Director and the Faculty Senate President. Whenever possible, at least one individual will be selected with teaching experience or professional expertise in the subject or discipline which is the source of the appeal; the other two committee members may be selected from other areas within the University.

Upon convening, the Committee selects a chair from the group and will review the facts of the case, interview the involved faculty, student and Dean / Director, and gather pertinent data. The Committee will communicate their decision to the student, the faculty member and the Program Dean / Director.

A student may appeal a decision of the Ad Hoc Grade Appeal Committee. This appeal must be filed in writing to the Provost within ten working days following notification of the Committee's decision, and must present clear and convincing evidence supporting the student's position that the instructor's grade was arbitrary and capricious and/or that the Grade Appeal procedure had not been followed. The Provost will review the decision of the Committee, consult with the Committee Chair and Program Dean, if needed, and notify all parties of the final decision. The decision of the Provost is final.

TRIMESTER CREDITS

The academic calendar includes fall, winter and summer trimesters of 15 weeks each. In general, one credit represents at least 15 lecture hours, 30 laboratory hours, or 45 clinical hours per trimester.

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.

College of Health and Wellness

MISSION STATEMENT

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

VISION

Our graduates will provide exceptional care, promote transformational models of healthcare and transform the health of the communities they serve.

ABOUT ACUPUNCTURE AND ORIENTAL MEDICINE

The College of Health and Wellness includes programs in Acupuncture and Oriental Medicine (AOM). The master's degree programs are accredited by the Accreditation Commission for Acupuncture and Oriental Medicine. Founded in 1990 as the Minnesota Institute of Acupuncture and Herbal Studies, the AOM programs offered through the College of Health and Wellness, are premier 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 AOM 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, May 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 MASSAGE THERAPY PROGRAMS

Students seeking a rigorous professional massage therapy curriculum will find quality and excellence in Northwestern's Massage Therapy programs. The certificate program in 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 43.5 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 DeRusha Learning Center and other community sites. The massage therapy program 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 programs also make 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 UNDERGRADUATE PROGRAMS

The College of Health and Wellness 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.

ABOUT THE MASTER OF HEALTH SCIENCE IN APPLIED CLINICAL NUTRITION

Our master's degree and certification programs are designed for providers from all disciplines who want to help their patients and clients maintain good health – and prevent and manage nutrition-related chronic disease. Students will gain the knowledge and skills to be able to assess and offer nutritional advice as allowed within their discipline's scope of practice.

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 Health and Wellness through an open enrollment process.

Application Procedure

A complete application for admission to the College of Health and Wellness 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 Application forms can be found online at: <http://www.nwhealth.edu>. Admission to the College of Health and Wellness 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 courses.

Qualifications

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

- 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;

- Ability to work cohesively and harmoniously in a team of two or more students in the performance of required classroom and laboratory activities;
- 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.

Transfer Credit Policy:

The College of Health and Wellness will consider requests for transfer credit to be applied to the Baccalaureate degree programs based on the following criteria:

- An official transcript from a regionally accredited institution must accompany any request for transfer credit.
- 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 College of Undergraduate Studies. A course catalog and/or syllabus may be required to demonstrate course content.
- Students must have earned a "C" or better for foundational course requirements and major requirements to be considered for transfer. Other courses may be accepted with credit earned.
- A maximum of 90 semester credits will be transferred per student.
- The College of Health and Wellness 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.
- The final decision regarding transfer credit rests with the Dean of the College.
- Communications, Social Science and Humanities General Education credits will be considered for transfer provided the course is from the same curriculum area and is truly general education in nature. Because not all courses that might address a competency are general education, courses will not be included from: business, health/physical education, computer science, field experience, career orientation, or, in general, any occupational courses or programs.
- A maximum of 16 semester credits of technical courses may be accepted toward bachelor degree programs at Northwestern.
- Credits may not be transferred toward the 12-credit Health Professions Core requirement.

- A maximum of 20 credits combined will be accepted from the CLEP and/or AP program combined.
- Transfer credit toward the Major Requirement must have been completed within the last five (5) years. Other categories do not have a time restriction.
- The College of Health and Wellness honors some military transfer credits. This includes military courses, including basic training, as well as other formal training. Military course completions reviewed by the American Council on Education (ACE) are eligible for specific degree requirement course transfer and general elective credits. Portions of the (ACE) transfer recommendations from the soldier's or sailor's Military Occupational Specialties (MOS) that directly matches one of the College degree requirements may be accepted for credit. These will be reviewed on an individual basis. MOS will not be accepted toward general unclassified elective credit. Only credits earned through military experience and registered through the American Council on Education will be evaluated for possible transfer credit.

Bachelor of Science in Human Biology

The Bachelor of Science (BS) in Human Biology Degree Completion Program allows students to complete the course requirements for a bachelor's degree. Students who earn a B.S. in human biology obtain a multidisciplinary education which explores the interrelationships between biology, structure, physiology, behavior, health and society.

Admission

Students may apply for the Bachelor of Science Degree Completion Program at any time. The completion program is designed for students who have completed approximately the first 60 credits of undergraduate coursework including general education. Selected courses are available to help students complete the 60-credit entrance requirement.

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants must meet the following admission requirements for the Bachelor of Science (BS) in Human Biology Degree Completion Program:

- High school diploma or General Education Development diploma (GED)
- Successful completion of approximately 60 semester baccalaureate level credits at a regionally accredited institution
- Cumulative grade point average (GPA) of 2.0 or better
- Complete an admission application

Career Options

While a number of diverse careers may be open to students with a B.S. degree, many students continue on for an advanced degree in a professional school, graduate school, or medical school. Our B.S. degree completion program is designed for students interested in pursuing a career in:

- Medicine, osteopathic medicine, dentistry, naturopathic medicine, physical therapy, physician's assistant, and related healthcare fields
- Clinical, biomedical or healthcare research
- Laboratory or forensic science technician
- Public health administration

Benefits of the B.S. in Human Biology Degree Completion Program

As a graduate with a B.S. in human biology, you will have acquired the knowledge and skills necessary to become successful in a human biology related profession.

Program Learning Outcomes

Upon completion of the Bachelor of Science in Human Biology, graduates will be able to:

1. Demonstrate an understanding of the basic principles of mathematics, chemistry, and physics and apply these principles to the study of human biology.
2. Demonstrate an understanding of human biological systems in the context of cell structure, evolution and human health.
3. Demonstrate an understanding of human structure, physiology and behavior.
4. Demonstrate an understanding of human interactions with each other and the environment.
5. Demonstrate an ability to appraise research, analyze and communicate information relative to human biology and health.

6. Acquire skills and knowledge necessary to become successful in a human biology related profession.
7. Demonstrate an understanding of human verbal and non-verbal communication, personalities and motivation.
8. Improve ability to listen, write and speak effectively in human biology contexts.
9. Demonstrate skill in critical thinking and ethical decision-making.

You'll acquire knowledge of:

- Basic principles of mathematics, chemistry and physics – and apply these principles to human biology
- Human biological systems in the context of cell structure, evolution and human health
- Human structure, physiology and behavior
- Human interactions with others and the environment
- Human verbal and non-verbal communication, personalities and motivation

You'll develop your ability to:

1. Research, analyze and communicate information relative to human biology and health
2. Listen, write and speak effectively in human biology contexts
3. Use essential skills in critical thinking, ethical decision-making and the assessment of research

COURSE REQUIREMENTS AND CURRICULUM OVERVIEW

1. Undergraduate General Education Requirement (Section A)
2. Foundational Sciences Requirement (Section B)
3. Major Requirement (Section C)
4. Health Professions Core Requirement (Section D)

Section A: Undergraduate General Education Requirement (30 credits)

Your undergraduate education must include 30 semester credits (45 quarter credits) overall with a minimum of 4 semester credits (6 quarter credits) in each of four categories:

- Communications (4 credits)
- Social Sciences (4 credits)
- Humanities (4 credits)
- Natural Sciences/Math (4 credits)
- Additional credits in any of the above categories (14 credits)

Section B: Foundational Sciences Requirement (27 credits)

Many of our science courses are offered in accelerated format, allowing you to complete one full academic year of a two-course sequence in only one 15-week trimester - half the time it typically takes at other universities.

- CHEM2048 General Chemistry 1 (4 credits)
- CHEM2049 General Chemistry 2 (4 credits) - Prerequisite: General Chemistry 1
- CHEM2058 Organic Chemistry 1 (4 credits) - Prerequisite: General Chemistry 2
- CHEM2059 Organic Chemistry 2 (4 credits) - Prerequisite: Organic Chemistry 1
- MATH1005 Foundations of Math (3 credits)

- PHYS2040 General Physics 1 (4 credits) - Prerequisite: Foundations of Math
- PHYS2041 General Physics 2 (4 credits) - Prerequisite: General Physics 1

Section C: Major Requirement (33 credits)

- ANAT1001 Anatomy and Physiology 1 (4 credits)
- ANAT1002 Anatomy and Physiology 2 (4 credits) - Prerequisite: Anatomy and Physiology 1
- BIOL2010 Introduction to Biology (4 credits)
- BIOL3010 Cell Biology (4 credits - Prerequisite: Introduction to Biology)
- BIOL2020 Biology Today (2 credits) - Prerequisite: Introduction to Biology
- BIOL3110 Biochemistry (4 credits) - Prerequisite: Organic Chemistry 2
- BIOL4010 Microbiology (4 credits) - Prerequisite: Introduction to Biology
- BIOL4410 Genetics (4 credits) - Prerequisite: Introduction to Biology
- CAP4900 Capstone Project (2 credits) or RES4910 Directed Research
- MEDT1001 Medical Terminology (1 credit)

Section D: Health Professions Core Requirement (12 credits)

- 12 credits from the following list of courses:
- ANTH1005 Culture and Health (4 credits)
- ANTH2005 Human Origins (4 credits)
- MAND3310 Mandarin for Health Professionals (3 credits)
- HIST3010 Epistemology of Health (4 credits)
- HIST3110 History of Health Care (3 credits)
- PSYC1002 Health Psychology (4 credits)
- PSYC3210 Psychology of Addiction (3 credits)
- SOC1006 Sex and Gender (3 credits)
- SPAN1001 Spanish for Health Professionals (3 credits)
- UGE3710 Communication Skills for Health Professionals (3 credits)
- UGE3720 Critical Thinking for Health Professionals (3 credits)
- UGE3730 Bioethics (3 credits)
- UGE3740 Understanding and Using Research (3 credits)

Graduation Requirements

1. Completion of Undergraduate General Education Requirement (Section A)
2. Completion of Foundational Sciences Requirement courses with a grade of C or better (Section B)
3. Completion of Major Requirement courses with a grade of C or better (Section C)
4. Completion of Health Professions Core Requirement (Section D)
5. Cumulative GPA of 2.0 or better for all Major Requirement (Section C) and Health Professions Core Requirement (Section D) courses

Bachelor of Science in Human Biology for Acupuncture and Oriental Medicine Students

The Bachelor of Science (BS) in Human Biology Degree Completion Program allows our Acupuncture and Oriental Medicine students to complete the course requirements for a bachelor's degree. Students may either complete a bachelor's degree or earn a second bachelor's degree.

Admission

Students may apply for the Bachelor of Science Degree Completion Program at any time if they are:

- A prospective student in the application process for the Acupuncture and Oriental Medicine, OR
- Currently enrolled in the Acupuncture and Oriental Medicine program.

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants to or students currently enrolled in and continuing in the Acupuncture and Oriental Medicine program must meet the following admission requirements for the Bachelor of Science (BS) in Human Biology Degree Completion Program:

- High school diploma or General Education Development diploma (GED)
- Successful completion of approximately 60 semester baccalaureate level credits at a regionally accredited institution
- Cumulative grade point average (GPA) of 2.0 or better
- Complete an admission application

Benefits of the BS in Human Biology Degree Completion Program:

- Develop your professional skills – including effective oral and written communications.
- Strengthen your understanding of the philosophical foundations for the scientific method, healthcare ethics and healthcare research.
- Improve your professional credentials.
- Increase your chances to be included in managed care networks – some managed care organizations show a preference for practitioners with a bachelor's degree.
- Expand your career options beyond clinical practice and be able to pursue other degree programs and professions, including teaching and research. Many master's degree and Ph.D. programs require a bachelor's degree as an entrance requirement.

Course Requirements and Curriculum Overview

- Undergraduate General Education Requirement (Section A)
- Foundational Sciences Requirement (Section B)
- Major Requirement - courses taken in the Master of Acupuncture or Master of Oriental Medicine programs at Northwestern (Section C)
- Health Professions Core Requirement (Section D)

Section A: Undergraduate General Education Requirement (30 credits)

Your Undergraduate General Education requirement must include a minimum of 30 semester credits (45 quarter credits) overall with a minimum of 4 semester credits (6 quarter credits) in each of four categories:

- Communications (4 credits)
- Social Sciences (4 credits)

- Humanities (4 credits)
- Natural Sciences/Math (4 credits)
- Additional credits in any of the above categories (14 credits)

Section B: Foundational Sciences Requirement (27 credits)

If you completed any of these courses prior to enrolling at Northwestern, you may request that they be evaluated for possible transfer credit.

If you need to complete these requirements, most of these courses are offered in the Undergraduate Health Sciences program - and many are taught in an accelerated format. Your academic advisor can assist you in working these courses into your schedule.

- CHEM2048 General Chemistry 1 (4 credits)
- CHEM2049 General Chemistry 2 (4 credits) - Prerequisite: General Chemistry 1
- CHEM2058 Organic Chemistry 1 (4 credits) - Prerequisite: General Chemistry 2
- CHEM2059 Organic Chemistry 2 (4 credits) - Prerequisite: Organic Chemistry 1
- MATH1005 Foundations of Math (3 credits)
- PHYS2040 General Physics 1 (4 credits) - Prerequisite: Foundations of Math
- PHYS2041 General Physics 2 (4 credits) - Prerequisite: General Physics 1

Section C: Major Requirement (36.25 credits)

Courses taken in the Acupuncture and Oriental Medicine program:

- ANAT1001 Anatomy and Physiology 1 (4 credits)
- ANAT1002 Anatomy and Physiology 2 (4 credits) - Prerequisite: Anatomy and Physiology 1
- AWM4031 Pathophysiology 1 (2 credits)
- AWM4032 Pathophysiology 2 (2 credits) - Prerequisite: Pathophysiology 1
- AWM6061 Topics in Cardiopulmonary Health (1.5 credits)
- AWM6062 Topics in Orthopedic Health (1.5 credits)
- AWM6063 Topics in Neurological Health (3 credits)
- AWM6064 Topics in Pediatric, Obstetric and Women's Health (3 credits)
- AWM6066 Topics in Digestive Health (1.5 credits)
- AWM6067 Topics in Endocrine and Male Uro-Genital Health (1.5 credits)
- MEDT1001 Medical Terminology (1 credit)

Courses taken in the Undergraduate Health Sciences program:

- Additional Selected Biology Courses (10 credits total)

Section D: Health Professions Core Requirement (12 credits)

12 credits from the following list of courses offered in the Undergraduate Health Sciences program:

- ANTH1005 Culture and Health (4 credits)
- ANTH2005 Human Origins (4 credits)
- HIST3010 Epistemology of Health (4 credits)
- HIST3110 History of Health Care (3 credits)
- PSYC1002 Health Psychology (4 credits)
- PSYC3210 Psychology of Addiction (3 credits)
- SOC1006 Sex and Gender (3 credits)
- SPAN1001 Spanish for Health Professionals (3 credits)
- UGE3710 Communication Skills for Health Professionals (3 credits)
- UGE3720 Critical Thinking for Health Professionals (3 credits)
- UGE3730 Bioethics (3 credits)
- UGE3740 Understanding and Using Research (3 credits)

Graduation Requirements

1. Completion of Undergraduate General Education Requirement (Section A)
2. Completion of Foundational Sciences Requirement courses with a grade of C or better (Section B)
3. Completion of Health Professions Core Requirement (Section D)
4. Cumulative GPA of 2.0 or better for Major Requirement (Section C) and Health Professions Core Requirement (Section D)

Bachelor of Science in Human Biology for Chiropractic Students

The Bachelor of Science (BS) in Human Biology Degree Completion Program allows College of Chiropractic students to complete the course requirements for a bachelor's degree. Students may either complete a bachelor's degree or earn a second bachelor's degree.

Admission

Students may apply for the Bachelor of Science Degree Completion Program at any time:

- A prospective students in the application process for the College of Chiropractic should contact the Office of Admissions
- Currently enrolled students in the College of Chiropractic may submit an online election form.

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants to or students currently enrolled in and continuing in the College of Chiropractic must meet the following admission requirements for the Bachelor of Science (BS) in Human Biology Degree Completion Program:

- High school diploma or General Education Development diploma (GED)
- Successful completion of approximately 60 semester baccalaureate level credits at a regionally accredited institution
- Cumulative grade point average (GPA) of 2.0 or better
- Complete an admission application

Benefits of the BS in Human Biology Degree Completion Program:

- Develop your professional skills – including effective oral and written communications.
- Strengthen your understanding of the philosophical foundations for the scientific method, healthcare ethics and healthcare research.
- Improve your professional credentials – including enhancing your credibility as an expert witness in court cases.
- Expand your choices for chiropractic licensure – many states require a bachelor's degree for chiropractic licensure. For more information, contact the Federation of Chiropractic Licensing Boards.
- Increase your chances to be included in managed care networks – some managed care organizations show a preference for chiropractors with a bachelor's degree.
- Expand your career options beyond clinical practice and be able to pursue other degree programs and professions, including teaching and research. Many master's degree and Ph.D. programs require a bachelor's degree as an entrance requirement.

Course Requirements and Curriculum Overview

1. Undergraduate General Education Requirement (Section A)
2. Foundational Sciences Requirement (Section B)
3. Major Requirement - courses taken in the Doctor of Chiropractic program at Northwestern (Section C)
4. Health Professions Core Requirement (Section D)

Section A: Undergraduate General Education Requirement (30 credits)

Your Undergraduate General Education requirement must include 30 semester credits (45 quarter credits) overall with a minimum of 4 semester credits (6 quarter credits) in each of four categories:

- Communications (4 credits)

- Social Sciences (4 credits)
- Humanities (4 credits)
- Natural Sciences/Math (4 credits)
- Additional credits in any of the above categories (14 credits)

You may have completed some, or all, of these courses as part of your 90-credit pre-chiropractic admission requirements.

Section B: Foundational Sciences Requirement (27 credits)

You may have completed some, or all, of these courses as part of your pre-chiropractic admission requirements.

If you need to complete these requirements, most of these courses are offered in the Undergraduate Health Sciences program - and many are taught in an accelerated format.

- CHEM2048 General Chemistry 1 (4 credits)
- CHEM2049 General Chemistry 2 (4 credits) - *Prerequisite: General Chemistry 1*
- CHEM2058 Organic Chemistry 1 (4 credits) - *Prerequisite: General Chemistry 2*
- CHEM2059 Organic Chemistry 2 (4 credits) - *Prerequisite: Organic Chemistry 1*
- MATH1005 Foundations of Math (3 credits)
- PHYS2040 General Physics 1 (4 credits) - *Prerequisite: Foundations of Math*
- PHYS2041 General Physics 2 (4 credits) - *Prerequisite: General Physics 1*

Section C: Major Requirement (36.25 credits)

Courses taken in the College of Chiropractic:

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)

Section D: Health Professions Core Requirement (12 credits)

12 credits from the following list of courses offered in the Undergraduate Health Sciences program:

- ANTH1005 Culture and Health (4 credits)
- ANTH2005 Human Origins (4 credits)
- HIST3010 Epistemology of Health (4 credits)

- HIST3110 History of Health Care (3 credits)
- MAND3310 Mandarin for Health Professionals (3 credits)
- PSYC1002 Health Psychology (4 credits)
- PSYC3210 Psychology of Addiction (3 credits)
- SOC1006 Sex and Gender (3 credits)
- SPAN1001 Spanish for Health Professionals (3 credits)
- UGE3710 Communication Skills for Health Professionals (3 credits)
- UGE3720 Critical Thinking for Health Professionals (3 credits)
- UGE3730 Bioethics (3 credits)
- UGE3740 Understanding and Using Research (3 credits)

Graduation Requirements

1. Completion of Undergraduate General Education Requirement (Section A)
2. Completion of Foundational Sciences Requirement courses with a grade of C or better (Section B)
3. Completion of Health Professions Core Requirement (Section D)
4. Cumulative GPA of 2.0 or better for Major Requirement (Section C) and Health Professions Core Requirement (Section D)

POST BACCALAUREATE PRE-HEALTH PROGRAM

The Post-Baccalaureate Pre-Health Program allows students with a bachelor's degree to complete the prerequisite requirements for a healthcare professional school. We offer a comprehensive curriculum for students who are seeking Post-Bacc Pre-Med or other pre-health coursework.

Students may complete the entire 41-credit program or choose individual courses to meet their educational goals.

Our program is designed for students interested in pursuing a career in:

- Medicine, Osteopathic Medicine
- Dentistry, Pharmacy, Nursing
- Physician's Assistant, Physical Therapy
- Many other related fields, including Public Health, Public Policy, Healthcare Administration and Healthcare MBA

Admission

Students may apply for the Post-Baccalaureate Pre-Health Program at any time. Our Post-Baccalaureate Pre-Health Program is designed for students who hold a bachelor's degree from an accredited institution and:

- Have not yet completed their science or general pre-professional prerequisites,
- Would like to enhance their current academic record or improve their GPA,
- Are seeking a career change to a healthcare profession, or
- Plan to complete Post Baccalaureate Pre-Med coursework

NOTE: It is the student's responsibility to check with their intended institution's Admissions Office to ensure that our Post Baccalaureate Premed/Pre-Health coursework meets the prerequisite requirements. We do not advise or guarantee compatibility with the requirements of other institutions or programs.

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants to the Post-Baccalaureate Pre-Health Program must submit:

- Bachelor's degree from an accredited institution
- Official transcripts from all previously attended institutions

Course Requirements and Curriculum Overview

You may complete the entire 41-credit program or choose individual courses that fit your needs.

Total of 41 credits in:

1. Science and Math Requirement (Section A)
2. Health Care Professions Core Requirement (Section B)

Section A: Science and Math Requirement (35 credits total)

Several of our science courses are offered in accelerated format, allowing you to complete one full academic year of a two-course sequence in only one 15-week trimester - half the time it typically takes in other Post-Bacc Pre-Med/Pre-Health programs.

Foundational Sciences (complete these 27 credits):

- CHEM2048 General Chemistry 1 (4 credits)
- CHEM2049 General Chemistry 2 (4 credits) - Prerequisite: General Chemistry 1
- CHEM2058 Organic Chemistry 1 (4 credits) - Prerequisite: General Chemistry 2
- CHEM2059 Organic Chemistry 2 (4 credits) - Prerequisite: Organic Chemistry 1
- MATH1005 Foundations of Math (3 credits)
- PHYS2040 General Physics 1 (4 credits) - Prerequisite: Foundations of Math
- PHYS2041 General Physics 2 (4 credits) - Prerequisite: General Physics 1

Biological Sciences (complete a selection of 8 credits):

- ANAT1001 Anatomy and Physiology 1 (4 credits)
- ANAT1002 Anatomy and Physiology 2 (4 credits) - Prerequisite: Anatomy and Physiology 1
- BIOL2010 Introduction to Biology (4 credits)
- BIOL2020 Biology Today (2 credits) - Prerequisite: Introduction to Biology
- BIOL3010 Cell Biology (4 credits) - Prerequisite: Introduction to Biology
- BIOL3110 Biochemistry (4 credits) - Prerequisite: Organic Chemistry 2
- BIOL4010 Microbiology (4 credits) - Prerequisite: Introduction to Biology
- BIOL4410 Genetics (4 credits) - Prerequisite: Introduction to Biology
- MEDT1001 Medical Terminology (1 credit)

Section B: Health Professions Core Requirement (complete a selection of 6 credits):

- ANTH1005 Culture and Health (4 credits)
- ANTH2005 Human Origins (4 credits)
- MAND3310 Mandarin for Health Professionals (3 credits)
- PSYC1002 Health Psychology (4 credits)
- PSYC3210 Psychology of Addiction (3 credits)
- SOC1006 Sex and Gender (3 credits)

- SPAN1001 Spanish for Health Professionals (3 credits)
- UGE3710 Communication Skills for Health Professionals (3 credits)
- UGE3720 Critical Thinking for Health Professionals (3 credits)
- UGE3730 Bioethics (3 credits)
- UGE3740 Understanding and Using Research (3 credits)

Completion Requirements (full program)

Our Post-Baccalaureate Pre-Health Program is a recommended course of study. You may complete the entire 41-credit program if it fits your educational goals – or you may choose individual courses. The full program completion requirements are:

1. Completion of Science and Math Requirement (Section A)
2. Completion of Health Professions Core Requirement (Section B)
3. Of the 41 credits, at least 18 of the Science and Math (Section A) credits and 6 of the Health Professions Core (Section B) credits must be completed at Northwestern Health Sciences University

UNDERGRADUATE COURSE LIST:

Course Number	Title	Hours				
		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
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

As a health care professional, you'll want to give people the right treatment, but you'll also want to treat them right morally. This is not always as easy as it sounds. Situations may be complicated; there may be plusses and minuses on both sides of a decision. Your good intentions and instincts may not serve you, or your patients, well. This course will give you tools for thinking clearly about morality, and we'll give those tools a good workout in classroom discussions and writing assignments. (Note: This class meets weekly.)

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 bachelor's 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. And 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 imparts knowledge and skills related to personal and professional communication. There are three main ingredients – speech, writing, and graphics – presented with a dose of theory. You'll learn about business writing, academic writing, talking to patients, and using visuals. (Note: this class meets weekly.)

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.

RES4910 Directed Research

2 credits (30 hours): 30 lecture hours

Prerequisite: BIOL 2010 Introduction to Biology, CHEM 2048 Chemistry 1, CHEM 2049 Chemistry 2, BIOL 3010 Cell Biology

This is a hands-on research course involving students in experimental design and interpretation of results, as well as providing exposure to and training in molecular biology techniques. Students will perform literature searches for relevant research papers and present their results, along with experimental conclusions, in an oral presentation and/or poster session. For interested students, this directed research course could be used to satisfy the research option of the Capstone project.

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

This is 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 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 cannot 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.

Master of Health Sciences in Applied Clinical Nutrition and Associated Graduate Certificates

MISSION STATEMENT

Our master's degree and graduate certificate programs are designed for health care and wellness providers from all disciplines who want to help their patients and clients maintain good health through healthy eating - and to help prevent and manage nutrition-related chronic disease. We prepare health care and wellness professionals to be able to assess and offer nutritional advice as allowed within your discipline's scope of practice by providing evidence-based knowledge and skills. Graduates of our program will ground their work in scientific knowledge, applied clinical proficiency, and the highest standards of ethical and professional behavior.

PROGRAM LEARNING OUTCOMES FOR MASTER OF HEALTH SCIENCES IN APPLIED CLINICAL NUTRITION:

Within their discipline's scope of practice, health care and wellness professionals who successfully complete the **Master of Health Science in Applied Clinical Nutrition** program will be able to:

1. Perform a competent nutritional assessment and create a patient-centered nutrition care plan based on sound nutrition principles, scientific evidence, and biomedical reasoning.
2. Critically appraise nutrition-related literature and apply this information to the practice of clinical nutrition and evaluate the reliability and validity of patient directed materials and create effective patient nutrition materials based on current, accurate and scientifically-supported evidence.
3. Provide competent and reliable nutritional consultations and demonstrate professional written and oral communication skills as appropriate to the practice of applied clinical nutrition.
4. Understand the value of a personal professional development and the role of life-long learning in a professional career, as well as their role in lifelong contribution to the body of knowledge in their field, including but not limited to the ability to produce scholarship worthy of publication in peer-reviewed journals.

ROLE OF APPLIED CLINICAL NUTRITION IN MAINTAINING HEALTH AND WELL-BEING

Whether you are preparing to enter a health career or if you are already a health care or wellness professional, you are aware of the significant role that nutrition plays in maintaining health and in the prevention, management and treatment of chronic disease.

According to the [Scientific Report of the 2015 Dietary Guidelines Advisory Committee](http://health.gov/dietaryguidelines/2015-scientific-report/02-executive-summary.asp) Executive Summary [<http://health.gov/dietaryguidelines/2015-scientific-report/02-executive-summary.asp>] their work was guided by two fundamental realities. *First, about half of all American adults—117 million individuals—have one or more preventable, chronic diseases, and about two-thirds of U.S. adults—nearly 155 million individuals—are overweight or obese. These conditions have been highly prevalent for more than two decades. Poor dietary patterns, overconsumption of calories, and physical inactivity directly contribute to these disorders.* Hence, healthcare professionals outside of the field of nutrition and dietetics also need to be prepared to help address these nutritional needs and concerns within their discipline's scope of practice. To help address this need, our Applied Clinical Nutrition Program is designed to provide sound, evidence-based nutrition information and skills for you, as current/future health care and wellness professionals, to apply within your current or future scope of practice.

As another example, nutrition plays an important role in the prevention of chronic disease. According to the [Centers for Disease Control](#), diseases and conditions that are more chronic in nature such as arthritis, cancer, stroke, heart disease, diabetes and obesity are very common, costly as well as the most preventable of all health problems. Adequate vs. inadequate nutrition plays a role in the prevention, treatment, management and/or causation of the majority of these common chronic diseases and conditions.

Moreover, dietary risk factors have been associated with death and disability as shown by a 2010 report from the [U.S. Burden of Disease Collaborators](#). This report identified dietary risk factors as responsible for 26% of deaths

and 14% of disability-adjusted life-years (estimated as the sum of years lived with disability and life lost to premature mortality). The report goes on to say that the identified dietary risk factors included diets low in fruits, low in nuts and seeds, high in sodium, high in processed meats, low in vegetables, and high in trans fats – which is generally a typical American diet.

Given the significant role that diet and good nutrition play in maintaining health, our Applied Clinical Nutrition Program is designed to provide sound, evidence-based nutrition information for you to incorporate within your current or future scope of practice to ultimately enhance patient care and optimize individual health and well-being.

ADMISSION

Students may apply for the Applied Clinical Nutrition Program at any time. Our programs are designed for health care and wellness professionals, who can, within their discipline's particular scope of practice, provide nutritional consultation/advice.

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants and non-degree or certificate seeking students must meet the following admission requirements for the Applied Clinical Nutrition Program:

- Completion of an undergraduate biology, chemistry or physiology course prior to enrolling in any of the graduate-level courses
- Completion of a bachelor's degree from an accredited university prior to awarding either of the certificates or master's degree
- A minimum cumulative grade point average (GPA) of 2.5

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. 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 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

Requests for transfer credit will be considered 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. 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 8 credits will be transferred per student in the certificate program and 15 credits per student in the Master's Degree program;
7. Requests for transfer credit will only be considered prior to matriculation into the program;
8. The final decision regarding transfer credit rests with the Dean of the College of Health and Wellness.

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 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 16 and 150 percent of 16 credits is 24 credits.)

The Institutional Refund Policy applies to students who withdraw and students who are dismissed and in the case of cancellation of the program in which the student is enrolled.

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.

GRADUATION

Graduation Requirements

The Master of Health Science as well as Graduate Certificates in Applied Clinical Nutrition are granted to those candidates who have:

1. Satisfactory completion of a bachelor's degree (can be completed concurrently);
2. Completed the required curriculum for their specific program of study;
2. Earned a cumulative grade point average (GPA) of 2.0 or better;
3. Fulfilled all financial obligations to the University.

Graduation Rate

Please refer to our website for the most recent graduation rate statistics, if applicable. Neither the College of Health and Wellness nor the Applied Clinical Nutrition Program guarantees employment or licensure or certification of students upon completion of the program.

PROFESSIONAL LICENSURE, REGISTRATION, OR CERTIFICATION

Neither of the Graduate Certificates in Applied Clinical Nutrition nor the Master of Health Science in Applied Clinical Nutrition awards licensure or certification as a dietitian and/or nutritionist. In addition, these academic programs do not provide any supervised practice hours to meet the requirement for a dietetic internship or other licensure or certification.

Statewide standards for licensure or certification as a nutritionist have been established in the majority of states and the District of Columbia. Each state has established slightly differing standards for professional eligibility. Since professional licensure requirements vary by jurisdiction, students should not rely upon staff descriptions or statements regarding licensure requirements but rather should consult directly with the licensure board for the profession and in the state or province in which they intend to practice. Hence, contact your state or province as to the academic and professional requirements necessary for that type of licensure or certification.

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.

CURRICULUM OVERVIEW

Master of Health Science (MHS) in Applied Clinical Nutrition

Graduate Certificates in Applied Clinical Nutrition

Our program in applied clinical nutrition offers, in addition to a Master of Health Science (MHS) in Applied Clinical Nutrition, the opportunity to earn two separate graduate certificates in lieu of the entire MHS degree. One of the Graduate Certificates in Applied Clinical Nutrition emphasizes *Nutrition Intervention in Health and Disease* and the second, *Health, Wellness, Human Performance*. These two Graduate Certificates in Applied Clinical Nutrition can be earned individually and/or as components of the complete master's degree. Hence, all 22-credits earned upon completion of both graduate certificates can be applied toward the 30-credit Master of Health Science in Applied Clinical Nutrition.

Graduate Certificate in Applied Clinical Nutrition: Nutrition Intervention Health, Disease

Develop expert knowledge in the management of various disease states including hypertension, obesity, diabetes and cardiovascular disease.

Graduate Certificate in Applied Clinical Nutrition: Health, Wellness, Human Performance

Become a skilled professional in the areas of maintaining and improving health and wellness, including sports nutrition.

There are 4 Core Courses (10 credits) common to all programs that must be completed:

- NUTR5000 or 5001 Macronutrients and Micronutrients (3 credits)
- NUTR5002 Nutrition Assessment and Healthy Eating through Lifecycle (3 credits)
- NUTR5003 Science of Supplements/Nutraceuticals/Functional Foods (2 credits)
- NUTR5004 Healthy Weight Management: Fad, Fact or Fiction? (2 credits)

For Graduate Certificates in Applied Clinical Nutrition:

Each certificate is comprised of 7 courses for 16 credits: The 4 core courses noted above plus an additional 3 courses per each graduate certificate emphasis area as follows:

Nutrition Intervention for Health and Disease

- NUTR5101 Clinical Nutrition Intervention 1: Cardiovascular Disease, Hypertension, Osteoporosis (2 credits)
- NUTR5102 Clinical Nutrition Intervention 2: Gastrointestinal/Endocrine (2 credits)
- NUTR5103 Clinical Nutrition Intervention 3: Special Topics (2 credits)

Nutrition for Health, Wellness, Human Performance

- NUTR5201 Healthy People 2020: Nutrition Strategies for Health/Wellness (2 credits)
- NUTR5202 Food as Medicine (2 credits)

- NUTR5203 Sports and Human Performance Nutrition (2 credits)

For Master of Health Science in Applied Clinical Nutrition

All 22 academic credits you earn upon completion of both certificates (10 total courses) can be applied toward the 30-credit Master of Health Science (MHS) in Applied Clinical Nutrition degree. The 8 additional credits required for the Master's degree consist of the following 3 additional courses:

- NUTR5301 Reading the Research: Methods/Stats/Evidence-based Research (2 credits)
- NUTR5302 Theories of Behavior Change and Motivational Interviewing Techniques (2 credits)
- NUTR5303 Capstone Project (4 credits)

PROGRAM SUMMARY: Applied Clinical Nutrition

- Part-time enrollment
- A combination of online and on-campus graduate-level courses
- Each stand-alone graduate certificate is comprised of 7 courses (16 credits)
- Core courses: 4 courses (10 credits) are common to both certificates
- Emphasis area: 3 courses (6 credits) are specialty-area courses unique to each certificate
- Completion of both certificates can be done for a total of 10 courses (22 credits)
- Course credit can be applied toward completion of Master of Health Science (MHS) in Applied Clinical Nutrition (30 credits)
- Only 3 additional courses (8 credits) are needed to complete the MHS degree

CORE COURSES DESCRIPTIONS

NUTR5000 Macronutrients and Micronutrients

3 credits (45 hours): 45 lecture hours

Prerequisite: Grade of C or better in an undergraduate chemistry, biology or physiology course.

This course introduces the structure and function of macronutrients (carbohydrates, fat, and protein) and micronutrients (vitamins and minerals), and their importance in the human diet. Vitamins and minerals are also covered with respect to dietary need, metabolism, and clinical disorders associated with deficiency and excess consumption. Carbohydrate, fat, and protein are also covered with respect to integrated metabolism in tissues and how the ingestion of combined macronutrients affects overall metabolism. The concept of food as medicine will be introduced.

or **NUTR5001 Macronutrients and Micronutrients**

4 credits (60 hours): 60 lecture hours

Prerequisite: Grade of C or better in an undergraduate chemistry, biology or physiology course

This is the same course as NUTR 5000 with a one credit additional research project requirement for chiropractic students who wish to use this course to satisfy the Clinical Nutrition 1 and 2 requirements in the chiropractic program.

NUTR5002 Nutrition Assessment and Healthy Eating through Lifecycle

3 credits (45 hours): 45 lecture hours

Prerequisite: Grade of C or better in an undergraduate chemistry, biology or physiology course

This course provides information on what constitutes a healthy eating plan in general as well as specifically at each stage of the lifecycle. This course will also describe ways to achieve this type of healthy eating plan throughout the lifecycle. General nutrition information regarding food labels and how to interpret and apply this information for correct use by the general public will also be included. This course also describes, in great detail, how to assess for nutritional adequacy using anthropometric, biochemical, clinical, dietary, environmental, and focused nutrition exam findings and information for a nutrition assessment and how to obtain such information in a clinical and/or wellness setting.

Prerequisite: Grade of C or better in an undergraduate chemistry, biology or physiology course

NUTR5003 Science of Supplements/Nutraceuticals/Functional Foods

2 credits (30 hours): 30 lecture hours

Prerequisite: NUTR5000 or NUTR5001

This course defines as well as provides an overview of the entire supplement/nutraceutical/ and functional foods aspect of nutritional advice and use that has become commonplace over the past decades. The broad area of

phytonutrients/phytochemicals will also be included. Evidence-based research, resources and practices regarding use of these consumables will be covered.

NUTR5004 Healthy Weight Management: Fad, Fact or Fiction?

2 credits (30 hours): 30 lecture hours

Prerequisite: NUTR5002

This course will cover the overall management of obesity in an individual, including its etiology and contributing mechanisms, pathophysiology, evaluation, assessment, medical nutrition therapy, as well as considerations in its treatment and prevention throughout the lifecycle. The latter aspects will include individual as well as public health/community approaches.

Emphasis Area: Nutrition Intervention in Health and Disease

NUTR5101 Clinical Nutrition Intervention 1: Cardiovascular Disease, Hypertension, Osteoporosis

2 credits (30 hours): 30 lecture hours

Prerequisites: NUTR5000 or NUTR5001; NUTR5002

This stand-alone course is one of a three-part series that covers the pathophysiology, treatment and management of nutrition-related diseases and conditions as well as recommended guidelines for their clinical nutrition intervention. This course will cover the nutritional interventions regarding cardiovascular diseases, hypertension and osteoporosis.

NUTR5102 Clinical Nutrition Intervention 2: Gastrointestinal/Endocrine

2 credits (30 hours): 30 lecture hours

Prerequisites: NUTR5000 or NUTR5001; NUTR5002

This stand-alone course is the second of a three-part series that covers the pathophysiology, treatment and management of nutrition-related diseases and conditions as well as recommended guidelines for their clinical nutrition intervention. This course will cover the nutritional interventions regarding diseases of the gastrointestinal tract and endocrine disorders.

NUTR5103 Clinical Nutrition Intervention 3: Special Topics

2 credits (30 hours): 30 lecture hours

Prerequisites: NUTR5000 or NUTR5001; NUTR5002

This course is one of a three-part series that covers the pathophysiology, treatment and management of nutrition-related diseases and conditions as well as recommended guidelines for their clinical nutrition intervention. This course will cover the nutritional interventions regarding inflammation, oral health, food allergies, nutrition-related anemias, renal disorders, cancers, HIV/AIDS, neurologic/psychiatric/cognitive disorders including Alzheimer's Disease.

Emphasis Area: Nutrition for Health, Wellness, Human Performance

NUTR5201 Healthy People 2020: Nutrition Strategies for Health/Wellness

2 credits (30 hours): 30 lecture hours

Prerequisite: NUTR5002

Healthy People 2020 are science-based, 10-year national objectives for improving the health of all Americans. This course explores those national objectives on a population basis as well as individual basis. In particular, those overall objectives coupled with the leading health indicators that have a nutrition component will be covered and possible strategies/approaches to address these health concerns will be covered.

NUTR5202 Food as Medicine: Definition/Practice

2 credits (30 hours): 30 lecture hours

Prerequisite: NUTR5002

The concept and value of food as providing more than nutrients per se will be covered including evidence-based research on food-based eating plans and the health benefits they provide. Information regarding healthy eating plans that have survived generations and across cultures/nations will be included as will what is known about healthy eating within the context of healthy living as noted by Hippocrates. As Hippocrates said "If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health."

NUTR5203 Sports and Human Performance Nutrition

2 credits (30 hours): 30 lecture hours

Prerequisites: NUTR5000 or NUTR5001; NUTR5002

This course addresses the main nutritional needs of athletes, from weekend warriors to elite performers. Nutritional assessment, needs, concerns, requirements, and recommendations for optimal human performance will be covered for macro/micronutrients as well as supplements.

Master of Health Science in Applied Clinical Nutrition courses (after all courses for both Graduate Certificates are completed)

NUTR5301 Reading the Research: Stats/Evidence-Based

2 credits (30 hours): 30 lecture hours

This course is designed to provide a sound scientific, evidence-based basis on how to read and review the health/wellness literature with special emphasis on nutrition-related literature/studies. Overview and strengths/weaknesses of major types of research designs including statistical data basics will be included.

NUTR5302 Theories of Behavior Change and Motivational Interviewing

2 credits (30 hours): 30 lecture hours

This course will cover the basic theories of behavior change in individuals as well as populations. Information on how these theories can be applied and used to change health-related behavior will also be included. The technique, practice and use of motivational interviewing skills will be included as well.

NUTR5303 Capstone Project

4 credits (60 hours): 60 lecture hours

Prerequisites: Final semester only

This will be a multifaceted research-based project that will demonstrate attainment of skills and objectives to serve as a culminating academic and intellectual experience for students to successfully obtain a Master of Health Science in Applied Clinical Nutrition. Similar to a thesis, each student's capstone project will vary, but will be at least a trimester long and produce a final written product that will also be given as an oral presentation. Students will select a topic in the area of applied clinical nutrition, outline the objectives of the project and receive approval of their proposed capstone project from designated faculty mentor/advisor prior to beginning. Demonstration of learning and proficiency of applied clinical nutrition skills through the written as well as oral presentation of these findings will be required for successful completion of program and awarding of the degree.

Acupuncture and Oriental Medicine

Master's Degrees and Internationally Trained Faculty

STATEMENT OF PURPOSE

The purpose of the Acupuncture and Oriental Medicine programs is to prepare a new generation of healers who will lead the advancement of acupuncture and Oriental medicine in the West. We will achieve this purpose by offering professional, graduate degree and advanced programs and by providing innovative clinical training that prepares our graduates for work in the health care environments of the future.

GOALS

1. Build and maintain a team of experts skilled in their fields and capable of transmitting that skill to learners;
2. Provide accredited programs that meet national educational standards and reflect the college's unique character as part of a multi-disciplinary university of health sciences;
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 practice of acupuncture and Oriental medicine in contemporary health care environments;
5. Provide clinical training in diverse environments that enables students to gain experience in the practical application of their knowledge and skills;
6. Support the ongoing educational needs of the acupuncture and Oriental medical community through continuing education and advanced programs;
7. Increase public awareness of acupuncture and Oriental medicine by providing community outreach programs and community-based clinical services;
8. To increase the utilization of acupuncture and Oriental medicine in integrative care environments and to provide leadership in the advancement of public health and safety.

PROGRAM LEARNING OUTCOMES

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

Master of Acupuncture:

1. Compile all necessary diagnostic data through accurate employment of the Four Examinations and other appropriate examinations.
2. Using the theories of Chinese medicine, develop a diagnosis that is accurate and appropriate for the delivery of acupuncture and/or accessory techniques.
3. Based on the diagnostic findings, develop an effective treatment plan using acupuncture and/or accessory techniques.
4. Skillfully and safely execute a plan to treat or prevent illness using acupuncture techniques while complying with current best practices.
5. Assess the effectiveness of the Acupuncture treatment plan and modify as needed.
6. Apply contemporary professional, ethical and legal standards in care delivery.
7. Recognize emergency situations or situations for which biomedical care or follow-up is needed, and take appropriate action.
8. Demonstrate professional communication skills that are appropriate to all parties involved in the continuum of care.

9. Apply the basic principles of Evidence Informed Medicine in their clinical internships.
10. Demonstrate an understanding of contemporary business models and the ability to establish a clinical practice in a private, integrative, or community health care setting.

Master of Oriental Medicine:

The following PLOs are recommended for the Masters of Oriental Medicine program in addition to PLOs # 1 through 10 above:

11. Using Chinese medical theory and the Four Examinations, develop a diagnosis that has the detail and sophistication necessary to treat or prevent illness with Chinese herbal medicine and dietary therapy.
12. Demonstrate a comprehensive knowledge of the properties, functions, dosages, indications and contraindications of a core list of Chinese herbs and food items.
13. Demonstrate a comprehensive knowledge of the principles of combination and formulation of Chinese herbs, focusing on a core list of formulas.
14. Plan and execute a Chinese herbal treatment through the selection of strategy, assignment of formula and diet, and modification of treatment according to the diagnosis and response of the patient.
15. Apply contemporary ethical, legal, biomedical, and quality control practices related to Chinese herbs.

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 Programs

Northwestern admits individuals qualified by previous education and experience to meet the program's academic challenges and rigor in order to become a practitioner of acupuncture and Oriental medicine. New students are admitted in September, May 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. 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 College of Health and Wellness):

<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 Dean of the College of Health and Wellness.
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 it is determined 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 application for admission. Please type or print neatly;
2. An application processing fee of \$50. 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 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 Director 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 Program Director, 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.

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 intern-ships 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.

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
MAND3310	Mandarin for Health Professionals	3	3			45
MEDT1001	Medical Terminology	1	1			15
ACH3034	Tai Ji	.5		1		15
TOTALS: Trimester 1, 1 st year		17	12	7	3	330

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 st 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	1		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 st year		13.5	10	6	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	3	3			45
ARS5062	Pre-Clinical Skills, Clinical Expectations and Policies	1	1			15
AWM4041	Western Medical Screening	2.5	2	1		45
TOTALS: Trimester 4, 2 nd year		14.5	9	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 nd 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
AWM5060	Nutrition	3	3			45
AWM5082	Pharmacology for Chinese Medical Practitioners 1	2	2			30
AWM6063	Topics in Neurological Health	3	3			45
TOTALS: Trimester 6, 2 nd year		17	12	2	8	330

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	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 rd 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	2	2			30
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 rd year		14	8		12	300
TOTAL HOURS FOR ENTIRE PROGRAM		120	79	37	46	2,419.5

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
MAND3310	Mandarin for Health Professionals	3	3			45
MEDT1001	Medical Terminology	1	1			15
ACH3034	Tai Ji	.5		1		15
TOTALS: Trimester 1, 1 st year		17	12	7	3	330

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 st 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	1		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 st year		16.5	13	6	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			75
AAC4256	Needling Techniques 2	2.5		5		75
AWM4032	Pathophysiology 2	2	2			30
AAC4030	Patient Assessment and Interactive Skills	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 nd year		17.5	14	9	2	375

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 nd 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
AWM5060	Nutrition	3	3			45
AWM5082	Pharmacology for Chinese Medical Practitioners 1	2	2			30
AWM6063	Topics in Neurological Health	3	3			45
TOTALS: Trimester 6, 2 nd year		22	17	2	8	405

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 rd 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
AWM6066	Topics in Digestive, Health	1.5	1.5			22.5
AWM5083	Pharmacology for Chinese Medical Practitioners 2	1	1			15
AWM6067	Topics in Endocrine and Male Uro-genital Health	1.5	1.5			22.5
TOTALS: Trimester 8, 3 rd year		18	12		12	360

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 rd year		14	8		12	300
TOTAL HOURS FOR ENTIRE PROGRAM		159	114	37	58	3124.5

HERBAL MEDICINE CERTIFICATE

Course Number	Course Title	Credits	Lecture Hours	Lab Hours	Clinic Hours	Contact Hours
TRIMESTER 1						
AHB4021	Materia Medica 1	4				60
AAC4257	Medical Asepsis and Risk Management for Acupuncturists	.4		.8		12
TRIMESTER 2						
AHB4022	Materia Medica 2	5	5			75
TRIMESTER 3						
AHB5035	Herbal Formulas and Strategies 1	4	4			60
TRIMESTER 4						
AHB5036	Herbal Formulas and Strategies 2	5	5			75
TRIMESTER 5						
AHB5091	Herbal Clinical Medicine 1	3	3			45
TRIMESTER 6						
AHB5092	Herbal Clinical Medicine 2	3	3			45
TRIMESTER 7						
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	28	.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 NWHSU 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

(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

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.

MAND3310 Mandarin for Health Professionals

3 credits (45 hours): 45 lecture hours

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.

ARS5091 Introduction to Practice Management and Business Basics

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: Minnesota 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 Minnesota 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

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

2 credits (30 hours): 30 lecture hours

Co-requisite: Pharmacology for Chinese Medical Practitioners 2

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.

AWM5083 Pharmacology for Chinese Medical Practitioners 2

1 credit (15 hours): 15 lecture hours

Co-requisite: Pharmacology for Chinese Medical Practitioners 1

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.

ARS5062 Pre-Clinical Skills, Clinical Expectations and Policies

1 credit (15 hours): 15 lecture hours

Prerequisites: 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.

Co-requisite: Accessory Techniques

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 in 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 uro-genital 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.

MASSAGE THERAPY

Comprehensive Science-Based Training

MISSION STATEMENT

The mission of the Massage Therapy programs 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 Massage Therapy programs will ground their work in scientific knowledge, clinical proficiency, and the highest standards of ethical and professional behavior.

PROGRAM LEARNING OUTCOMES

Therapists who successfully complete either certificate program of study offered by the College 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 College of Health and Wellness are 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 College of Health and Wellness 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 College 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.

ADMISSION INFORMATION

Admission to the Massage Therapy programs

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 and a criminal background check fee of \$20. 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

In addition to meeting the qualifications of a student of the College of Health and Wellness, applicants must meet the following admission requirements for the Massage Therapy Program:

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.

Qualifications

A student must possess the following abilities, with or without reasonable accommodation, for completion of the professional certificate programs 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 College 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.

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 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 College 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 within the Massage Therapy program. 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 College 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 Massage Therapy programs;
9. The final decision regarding transfer credit rests with the Dean of the College of Health and Wellness.

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 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.

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.

GRADUATION

Graduation Requirements

The Certificates or AAS in Massage Therapy are 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 College of Health and Wellness makes no guarantee of employment of students upon completion of the program.

PROFESSIONAL LICENSURE, REGISTRATION, OR CERTIFICATION

As of 2015, 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.

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.

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 prepare 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.

Three Convenient Program Options

Students have the option of choosing either Certificate in Relaxation Massage, Certificate in Therapeutic Massage or the Associate of Applied Science Program (AAS). Graduates of the Certificate in Therapeutic Massage and Associate of Applied Science 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 in Relaxation Massage Program

- 23.5 trimester credits
- 533.5 hours
- Day and Evening scheduling options

Certificate in Therapeutic Massage 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 in Therapeutic Massage program and six credits for the AAS program. This brings the total curriculum to 43.5 credits (963.75 hours) for the Certificate in Therapeutic Massage program and 61.5 credits (1,234 hours) for the AAS program.

CERTIFICATE IN RELAXATION MASSAGE (DAY):

Trimester 1

Course		Hours				
Number	Title	Credits	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
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	1.5	30	15	15	0
SMT1700	Relaxation Massage 1	2.5	60	15	45	0
SMT1701	Relaxation Massage 2	2	60	0	60	0
TRIMESTER 1 TOTAL		14.5	301	142.5	158.5	0

Trimester 2

Course		Hours				
Number	Title	Credits	Contact	Lecture	Lab	Clinic
SBS1002	Anatomy and Physiology 2	4	75	45	30	0
SMT1600	Transition to Clinical Massage	2	45	15	30	0
SMT1171	Professional Identity Development	.5	7.5	7.5	0	0
SMT1935-1	Clinic Rotation 1: Foundational Skills	1	45	0	0	45
SMT1610	Clinic Placement Externship	1	45	0	0	45
SMT1750	Introduction to Special Populations	1	15	15	0	0
TRIMESTER 2 TOTAL		9.5	232.5	82.5	60	90
CORE CURRICULUM TOTAL		24.0	533.5	225	188.5	90

CERTIFICATE IN RELAXATION MASSAGE (EVENING)

Trimester 1

Course		Hours				
Number	Title	Credits	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
SBS1500	Medical Terminology	1	15	15	0	0
SMT1700	Relaxation Massage 1	2.5	60	15	45	0
TRIMESTER 1 TOTAL		9.5	188.5	105	83.5	0

Trimester 2

Course		Hours				
Number	Title	Credits	Contact	Lecture	Lab	Clinic
SBS1002	Anatomy and Physiology 2	4	75	45	30	0
SMT1701	Relaxation Massage 2	2	60	0	60	0
SMT1900	Pre-Clinic Workshop	1.5	30	15	15	0
SMT1162	Legal Aspects of Therapeutic Massage	.5	7.5	7.5	0	0
TRIMESTER 2 TOTAL		8.0	172.5	67.5	105	0

Trimester 3

Course		Hours				
Number	Title	Credits	Contact	Lecture	Lab	Clinic
SMT2200	Foundations of Evidence-Informed Practice	1	15	15	0	0
SMT1600	Transition to Clinical Massage	2	45	15	30	0
SMT1171	Professional Identity Development	.5	7.5	7.5	0	0
SBS1935-1	Clinical Rotation 1: Foundational Skills	1	45	0	0	45
SMT1750	Clinic Placement Externship	1	45	0	0	45
SMT1610	Introduction to Special Populations	1	15	15	0	0
TRIMESTER 3 TOTAL		6.5	172.5	52.5	30	90
CORE CURRICULUM TOTAL		24	533.5	225	218.5	90

CERTIFICATE IN THERAPEUTIC MASSAGE (DAY):**Trimester 1**

Course		Hours				
Number	Title	Credits	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	1.5	30	15	15	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		16.5	331	172.5	158.5	0

Trimester 2

Course		Hours				
Number	Title	Credits	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 Therapeutic Skills	1	45	0	0	45
SMT1163	Massage Therapy's Evolving Role in Healthcare	1	15	15	0	0
SMT1702	Clinical Massage 1	3.5	90	15	75	0
TRIMESTER 2 TOTAL		14.0	337.5	112.5	135	90

Trimester 3

Course		Hours				
Number	Title	Credits	Contact	Lecture	Lab	Clinic
SMT1935-3	Clinic Rotation 3: Refinement of Therapeutic Skills	1	45	0	0	45
SMT1935-4	Clinic Rotation 4: Mastery of Therapeutic 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	Clinical Massage 2	3.5	90	15	75	0
TRIMESTER 3 TOTAL		10.5	258.75	86.25	82.5	90
CORE CURRICULUM TOTAL		41.0*	927.25	371.25	376	180

* does not include elective requirements

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

CERTIFICATE IN THERAPEUTIC MASSAGE (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	1.5	30	15	15	0
SMT1701	Relaxation Massage 2	2	60	0	60	0
TRIMESTER 2 TOTAL		12.0	217.5	112.5	105	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 Therapeutic 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	Clinical 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 Therapeutic Skills	1	45	0	0	45
SMT1935-4	Clinic Rotation 4: Mastery of Therapeutic 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	Clinical Massage 2	3.5	90	15	75	0
TRIMESTER 4 TOTAL		10	251.25	78.75	82.50	90
CURRICULUM TOTAL		41.0*	927.25	371.25	376	180

* does not include electives requirement

** classes per trimester will vary per start time

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
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
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	2.0	45	15	30	0
SME1320	Sports Massage	.5	7.5	7.5	0	0

* Other NWHSU courses may be eligible based on prerequisite requirements.

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 Clinical Massage 2

This course is designed to expand upon the training received in the core curriculum of Northwestern's Massage Therapy programs. A specific focus of this course is the integration of the protocol from Clinical 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.

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.

SMT1750 Clinic Placement Externship

1 credit (45 hours): 45 clinic hours

Prerequisites: SMT1935-1 Clinic Rotation 1: Foundational Skills

Students apply skills they learned in Relaxation I and II, Transition to Clinical Massage, and Clinical Rotation I in an externship program. They meet as a group to be oriented to the six-week assignment and expectations thereof, and then are placed in an extern position with a massage employer, such as Massage Envy. The supervisor of this course will visit the site before and during the externship experience and be in regular communication with the extern and the site manager. Students will be expected to work within the clinic site doing relaxation massage with an emphasis on areas of concern, maintaining documentation consistent with the expectations of the particular to which they are assigned.

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 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 program 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 Clinic Rotation 2: Enhancement of Therapeutic Skills

1 credit (45 hours): 45 clinic hours

Prerequisite: SMT 1935-1 Clinic Rotation 1: Foundational Skills, Co-requisite: SMT 1702 Clinical Massage 1

In Clinic Rotation 2, students begin to understand and perform in the role of a massage therapist in a clinic 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 clinical techniques as learned in the classroom.

SMT1935-3 Clinic Rotation 3: Refinement of Therapeutic Skills

1 credit (45 hours): 45 clinic hours

Prerequisite: SMT 1935-2 Clinic Rotation 2: Enhancement of Therapeutic Skills, Pass CCA

In Clinic Rotation 3, students enhance their identity and role in a clinic 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 Clinic Rotation 4: Mastery of Therapeutic Skills

1 credit (45 hours): 45 clinic hours

Prerequisite: SMT 1935-3 Clinic Rotation 3: Refinement of Therapeutic 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.

SMT1702 Clinical Massage 1

3.5 credits (90 hours): 15 lecture hours, 75 laboratory hours

Prerequisite: SMT 1701 Relaxation Massage 2

This course provides advanced clinical 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 clinical 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 Clinical Massage 2

3.5 credits (90 hours): 15 lecture hours, 75 laboratory hours

Prerequisite: SMT 1702 Clinical Massage 1

This course provides advanced clinical 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.

SME2935 Courage Kenny Rehabilitation Institute Externship

1 credit (45 hours): 45 clinic hours

Prerequisite: SMT 1702 Clinical 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

Pre- or co-requisite: SMT1162 Legal Aspects of Therapeutic Massage

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: SMT1162 Legal Aspects of Therapeutic Massage

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 Clinical Massage 1 and SMT 1210 Applied Anatomy

In this course, students discuss 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, 7.5 laboratory hours

Prerequisite: SMT 1700 Relaxation Massage 2

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.

SMT1610 Introduction to Special Populations

1 credit (15 hours) 15 lecture hours

Prerequisite: SBS1001 Anatomy & Physiology 1

Co-requisite: SBS1001 Anatomy & Physiology 2

This course identifies considerations for providing massage safely to people in a variety of ages and stages of life, as well as an understanding of some common pathological conditions seen in practice. Topics include pregnancy, geriatrics, peripheral neuropathy, post-surgery conditions, cancer and others. Students learn when massage is appropriate, when a doctor's permission is required, and when a referral to another practitioner is needed.

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 Clinical Massage 1 and SMT 2200 Foundations of Evidence Informed Practice

Pre- or Co-requisite: SBS1500 Pathology

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 will 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

Pre- or Co-requisites: SMT1703 Clinical Massage 2 SMT2621 Massage Therapy for Special Populations, 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

1.5 credit (30 hours): 15 lecture hours, 15 laboratory hours

Pre- or Co-requisite: SMT 1700 Relaxation Massage 1, 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, energy 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

2.0 credits (30 hours): 15 lecture hours, 15 laboratory hours

Prerequisite: SBS 1001 Anatomy & Physiology 1, Co-Requisite SMT 1160 Ethics and Professionalism

This course focuses 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 in independent modality or as a complement to other therapies.

SME1102 Reflexology 2

2.0 credits (45 hours): 15 lecture hours, 30 laboratory hours

Prerequisite: SME 1100 Reflexology 1

This course continues preparation for the American Reflexology Certification Board (ARCB) exam for national certification in foot reflexology. The knowledge of techniques and procedures to effectively stimulate foot reflex areas are expanded. Students review the systems of the body, common homeostatic imbalances and the role reflexology plays in maintaining optimum function and health. Topics covered include pathology of the foot, ligaments of the foot and ankle, biomechanics of the foot and leg, practice of technical application and knowledge of reflexology maps of the foot. The basics of meridians on the foot and how they apply to reflexology will also be introduced. One case study is conducted in preparation for the ARCB certification process.

SMT1700 Relaxation Massage 1

2.5 credits (60 hours): 15 lecture hours, 45 laboratory hours

Pre- or 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 lecture 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.

SMT1600 Transition to Clinical Massage

2 credits (45 hours) 15 lecture hours, 30 lab hours

Prerequisite: SBS1001 Anatomy & Physiology 1

Co-requisite: SBS1001 Anatomy & Physiology 2

Transition to Clinical Massage provides introductory clinical theory and technical skills to work with clients experiencing common conditions found in a non-clinical massage setting. Techniques will focus on slow, focused work with emphasis on developing a basic application protocol. Students will expand their anatomical knowledge and palpation skills in the context of clinical massage. Assessment and rehabilitation of soft tissue structures and related symptomologies of common complaints will be the focus. In addition to laboratory sessions, learners engage in practice massage sessions outside scheduled class hours.

College of Chiropractic

MISSION STATEMENT

The College of Chiropractic prepares doctors of chiropractic as leaders for the delivery and advancement of natural and holistic approaches to patient-centered health care through excellence in education, professional and scholarly activity, clinical service and community engagement.

Program Learning Outcomes

Within their scope of practice, health care providers who successfully complete the **Doctor of Chiropractic** program will be able to:

1. Assessment and Diagnosis – Demonstrate clinical reasoning skills by gathering and interpreting information from history, physical examination, imaging, laboratory, and other diagnostic tests.
2. Management Plan – Demonstrate case management skills by developing, implementing and documenting a patient care plan that addresses the patient's chief complaint and positively impacts their health and well-being by establishing specific therapeutic goals and prognoses and determining appropriate follow-up, referral, and/or collaborative care.
3. Health Promotion and Disease Prevention – Apply epidemiologic principles regarding the nature and impact of health issues in diverse populations, and recognize the impact of biological, chemical, behavioral, structural, psychosocial and environmental factors on general health.
4. Communication and Record Keeping – Demonstrate effective oral, written and nonverbal communication skills - with appropriate sensitivity, clarity and control - in a wide range of healthcare related activities, including patient care professional communication, health education, and record keeping and reporting.
5. Professional Ethics and Jurisprudence – Demonstrate understanding of and compliance with laws pertaining to practice and business, and exhibit ethical behavior.
6. Information and Technology Literacy – Demonstrate information and technology literacy by being able to locate, evaluate and integrate research and other types of evidence, including clinical experience, to explain and manage health-related issues; and use emerging technologies appropriately.
7. Intellectual and Professional Development – Demonstrate maturing values and clinical practice skills by seeking and applying new knowledge and adapting appropriately to change.

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 the Northwestern Health Clinic - Bloomington, a growing number of interdisciplinary community clinic partnerships, more than 125 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, May 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.

Education, Philosophy and Experience

Your Northwestern chiropractic education is hands-on from day one. Beginning in the first trimester, we emphasize learning chiropractic techniques so you have time to develop your skills.

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 neuromusculoskeletal specialists who employ hands-on clinical case management
- Are primary care providers who conduct comprehensive patient evaluations
- Collaborate with other healthcare professionals for optimal patient care
- Can treat patients without the need for a referral
- Promote disease prevention and wellness by treating the whole person
- Embrace emerging evidence while respecting the profession's historical foundation

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, January and May. 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. 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 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

Students who do not meet prerequisite requirements should consult the Office of Admissions for further options under the Custom Track Plan.

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 foundational for the understanding of chiropractic science and the application of chiropractic methods.

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

Prerequisite offerings at Northwestern Health Sciences University:

For prospective chiropractic students who are interested in completing their undergraduate science prerequisites: Northwestern offers several foundational science and general education courses through the College of Health and Wellness to assist students in satisfying entrance requirements. 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).

Qualifications

All students must meet both our academic standards and our technical standards in order to be admitted, progress through, and graduate from the College of Chiropractic. These qualifications assist you in progressing through the curriculum and clinical training in the doctor of chiropractic program.

Academic standards

Academic standards refer to acceptable demonstrations of competency in various disciplines, before admission and after, as judged by faculty members, examinations, and other measurements of performance.

For detailed information about academic standards, refer to the [University Student Handbook](#) (pdf).

Technical standards

Technical standards refer to the essential aptitudes and abilities that allow chiropractic students to perform in a modern healthcare environment in a variety of ways. Students must demonstrate the capacity/ability on their own, with reasonable accommodations, in these areas of competency:

1. **Perception/Observation** - vision, hearing, tactile and proprioceptive abilities
2. **Communication** - speaking, reading and writing
3. **Gross and Fine Motor Coordination**
4. **Cognition** - conceptual, integrative and quantitative abilities
5. **Professionalism, Behavioral and Social Attributes**

To review the specific criteria for these areas of competency, refer to the [Technical Standards Guide](#) (pdf).

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 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 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 Direct Student 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.

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

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 Clinics 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 Clinics of 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 Northwestern Clinics are located in the Twin Cities metropolitan area. The Northwestern Health Clinics are located on the University campus. The Northwestern Clinics feature a variety of patient services, including chiropractic, massage therapy, acupuncture, and Oriental medicine.

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 Concordia Academy 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.

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.

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 De Rusha 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 seven 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 Sciences (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: Katie BurnsRyan, BS, 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: Interim Trevor Foshang DC, DACBR

Northwestern's business and professional foundations curriculum is one of the most extensive business curriculums 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: Interim Trevor Foshang DC, DACBR

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 Northwestern Clinics 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.

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	16
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	–	–	.5	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	–	–	22.45	431.5

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	16
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	9	–	.27	27	466

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		20.73	7.5	–	3.02	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	2	–	–	–	2	30
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
	Totals	17.75	9.5	–	1.3	22.5	409.5

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
36351	Clinical Nutrition 2	2	–	–	–	2	30
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	3	0	–	–	3	45
20661	Radiology of the Chest and Abdomen	2	1	–	–	2.5	90
	Totals	22.5	10.5	4	–	28.5	582

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	8
41170	Clinic Internship 2	1	–	6	–	3	105
36470	Clinical Nutrition 3	2	–	–	–	2	30
23890	Dermatology	1	–	–	–	1	15
25570	Emergency Care	1	1	–	–	1.5	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	20.75	398

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*	–	–	–	–	–	–
	Totals	8	–	20	–	17	420

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
	Totals	–	–	25-40		10	375-600
Total Program Minimum						218.83	4445

* 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

1001 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 is a 2 year certification course of the American Heart Association (AHA). It includes cardiopulmonary resuscitation (CPR) for adults, children and infants, the use of automatic external defibrillation (AED), the use of bag-valve mask, choking and special resuscitation and cardiopulmonary emergencies. This course will train students to respond to cardiac, respiratory and choking emergencies using basic life support skills and AED. Students receive the AHA – BLS for Health Care Providers 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, followed by a detailed look at aerobic cellular respiration. The lab includes methods of separation and identification of biochemical constituents.

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 are stressed.

23510 Business and Professional Foundations 1

1 credit (16 hours): 16 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, budgeting, and personal/time management. Students will choose a field clinic to observe as a project in this course.

23520 Business and Professional Foundations 2

1 credit (16 hours): 16 lecture hours

This course will introduce concepts in personal and public communication for the practitioner including verbal and non-verbal communication. Discussions including legislative involvement/scope of practice, research/evidence realities, and community outreach will occur. Public speaking and 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 building rapport and trust with patients during the consultation/history, examination, diagnostic testing, report of findings, first treatment and routine office visit. Students will have the opportunity to observe/evaluate student clinicians regarding these skills in a laboratory clinic setting.

23540 Business and Professional Foundations 4

.75 credit (12 hours): 12 lecture hours

This course will focus on thinking and planning in a strategic manner. The students will be exposed to the concepts of business management systems with their application to a chiropractic practice. Students will create a business system with process & procedure for a particular task within a chiropractic practice.

23550 Business and Professional Foundations 5

.75 credit (12 hours): 12 lecture hours

This course will provide a discussion of the role of Leadership as a doctor in their practices and communities. Students will reflect on different perspectives in business and practice from several viewpoints provided by guest lecturers with a variety of practice perspectives and styles. The student will be creating/updating their resume'.

23565 Business and Professional Foundations 6

.75 credit (12 hours): 12 lecture hours

This course will focus on reimbursement for services. Evaluation and Management codes will be reviewed with respect to proper documentation and coding for third-party payer reimbursement. Rules regarding proper documentation, Medicare, Health Savings Accounts and cash payments plans will be discussed.

23575 Business and Professional Foundations 7

.5 credit (8 hours): 8 lecture hours

This course will focus on aspects of networking for practice opportunities, your team of practice advisors and practice promotion. Demographics, psychographics, practice options, financing, contracts/agreements, and looking toward practice will be reviewed.

23576 Business and Professional Foundations 8

2 credits (30 hours): 30 lecture hours

This course will present a variety of topics including several marketing strategies/tactics, general office topics/tips, capacity/cluster booking, principles of investing, vendors, and clinic/utilization review processes.

23577 Business and Professional Foundations 9

3 credits (45 hours): 45 lecture hours

The essentials of proper business and practice management are discussed. Topics include accounting, taxes, budget preparation, bank financing, marketing, employment/associate contracts, office sharing arrangements, practice acquisition (purchase & start-up), business entities, and personal injury practice. 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 Clinics 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 Clinics 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 Clinics 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 Clinical Internship 2

A variety of patient cases are presented and discussed in an interactive format. Real-patient cases are discussed while improving the student-interns' systems for a successful, efficient and accurate process for taking histories, performing examinations and applying best-practice interventions.

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

2 credits (30 hours): 30 lecture hours

Prerequisites: 11010 Biochemistry 1, 11330 Biochemistry 2, 11120 Physiology 1, 11230 Physiology 2

This foundation nutrition course for chiropractic practice presents the fundamentals of nutrient biochemistry, metabolism, and dietary therapy. Components of nutrition including vitamins, major minerals, and trace elements are addressed.

36351 Clinical Nutrition 2

2 credits (30 hours): 30 lecture hours;

Prerequisite: 36350 Clinical Nutrition 1

This foundation nutrition course for chiropractic practice presents the fundamentals of nutrient biochemistry, metabolism, and dietary therapy. Macronutrients and micronutrients are discussed along with clinical applications.

36470 Clinical Nutrition 3

2 credits (30 hours): 30 lecture hours;

Prerequisite: 36351 Clinical Nutrition 2

This course applies foundational nutrition knowledge to the clinical management of common conditions encountered in chiropractic practice. This includes disorders of the organ systems and a discussion of general and individual nutritional needs.

24050 Clinical Pathology 1

2.75 Credits (52.5 hours): 30 lecture hours, 22.5 lab hours

Pre-requisites: Pathology 1, Pathology 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: 36001 Clinical Skills 1, 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

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.

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. Disease features are highlighted: 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

This seminar course is designed as an integrated problem- based case study program. Students meet weekly in the lab section with their faculty facilitator for a guided study of a patient case.

29002 Introduction to Clinical Reasoning 2

.5 credit (15 hours): 15 laboratory hours

Prerequisite: 19001 Introduction to Clinical Reasoning 1

This seminar course is designed as an integrated problem- based case study program. Students meet weekly in the lab section with their faculty facilitator for a guided study of a patient case.

47190 Legal Aspects of Chiropractic Health Care

2 credits (30 hours): 30 lecture hours

Prerequisite: 24760 Principles and Philosophy 5: Professional Ethics

An overview of the legal environment surrounding chiropractic practice. Topics include the entities that regulate chiropractic practice, where and how to find statutes, administrative rules, common-law and attorney general opinions, how to read a statute, how to negotiate contracts like leases, malpractice and risk management, business entity selection, professional boundaries, administrative law, employment law, employment and other practice relationships, professional boundaries, coding, documentation and compliance, fees, fee-splitting, cash and discount programs, the chiropractor's role in patient claims and litigation and cautions concerning questionable, unethical and illegal practices.

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

Learners will develop an understanding of normal physiological and biomechanical changes in pregnancy. Emphasis is placed on lifestyles and behaviors that maximize health in pregnancy for the mother and her unborn child. Health aspects of the first year of life are also discussed. This hybrid course consists of face-to-face weekly lectures and accompanying online content which is completed independently.

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 topo-graphical 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): 10.5 lecture hours; 52.5 laboratory hours; 12 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, 36140 NMS-2

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

In depth study of the structure and function of the central nervous system. Included are the sensory and motor tracts of the spinal cord and the brain, discussion of the basal nuclei, limbic systems, and the central connections of the special senses. The cranial nerves and their central connections are also discussed in this course.

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

Prerequisite: 36030 NMS-1

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

The history of chiropractic, with particular focus on the events that influenced the development of chiropractic philosophy and theory.

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

3.0 credits (45 hours): 45 lecture 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 (45 hours): 30 lecture hours; 15 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.

E7305 Concussion/TBI – Baseline Testing, Diagnosis and Management – NWSU Certificate Program

.75 credits (16 hours): 4 lecture hours; 7 laboratory hours; 4 hours off-campus assignment

Prerequisites: All T1-T6 courses

This is a NWSU Certificate Course in which the student will learn to recognize a traumatic brain injury and concussion, understand the physiology of the injury and the recovery phases. The student will know what can and cannot be prescribed or recommended during each phase of recovery. The student will demonstrate competency in performing baseline and follow-up concussion testing. The student will be able to demonstrate the steps to documenting full recovery from the concussion and a return to play challenge. The student will be able to demonstrate onsite recognition and care for such head injuries.

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 (14 hours): 7 lecture hours; 7 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.

E7310 Integrating Complementary Services into Emerging Health Care Systems

1 credit (16 hours): 16 lecture hours

There is marked growth and interest in recent years to incorporate complementary and integrative services into both public and private medical settings. This course will use a blended approach of online content and classroom application to introduce students to opportunities for integrative care delivery. Students will have the opportunity to explore their professional potential within these settings, learn the skills and attributes necessary to participate in team-based care, and network with a range of professionals in this field. Students will complete the course better prepared for integrative and collaborative opportunities in health care.

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-A Instrument Assisted Soft Tissue Mobilization (Graston)

.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-B Instrument Assisted Soft Tissue Mobilization (Graston)

.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.

E7307 Introduction to Sports Taping

.75 credits (15 hours): 11 laboratory hours; 4 hours of off-campus or open lab practice

Prerequisites: All T1-T6 courses

Laboratory Fee: \$65.00 covers additional costs of taping supplies

Introductory course for the identification, treatment and management of frequently occurring sports related injuries using athletic tape, kinesiology taping, and other elastic tape.

This course will provide a basic understanding of the mechanism of injury, the evaluation, treatment and management.

Conditions covered will be a variety of common sport injuries ranging from finger sprains to turf toe.

E7306 Pre-Participation Physicals – NWHSU Certificate Program

.75 credits (12 hours): 4 lecture hours; 8 laboratory hours

Prerequisites: All T1-T6 courses

This is a NWHSU Certificate Course that will provide a basic understanding of what the roles of a Sports Chiropractor are, the importance of the Pre-Participation Physical and the components of a high quality sports physical. The student will be able to demonstrate competence in assessing for cardiac anomalies, respiratory anomalies, skin infections, and levels of maturation, body composition, joint stability, muscle imbalance, predisposing conditions, special considerations for sport participation, the female athlete and timing of the exams. They will be able to provide proper documentation of the exam and appropriate recommendations to the organization and parents of the athlete.

E7202-A Special Diversified Techniques

.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-B Special Diversified Techniques

.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.

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CREDENTIAL REFERENCES

AA	Associate in Arts
AAS	Associate in Applied Science
ALA	Associate in Liberal Arts
ASCP	American Society of Clinical Pathologists
ATC	Certified Athletic Trainer
BA	Bachelor of Arts
BCACP	Board Certified Anatomic and Clinical Pathology
BFA	Bachelor of Fine Arts
BMed	Bachelor of Medicine (China)
BS	Bachelor of Science
BSME	Bachelor of Science in Mechanical Engineering
BSN	Bachelor of Science in Nursing
CCSP	Certified Chiropractic Sports Physician
CCST	Chiropractic Certification in Spinal Trauma
CLT	Certified Laboratory Technician
CSCS	Certified Strength and Conditioning Specialist
DAAPM	Diplomate of the American Academy of Pain Management
DABCC	Diplomate of the American Board of Chiropractic Consultants
DABCI	Diplomate of the American Board of Chiropractic Internists
DABCO	Diplomate of the American Board of Chiropractic Orthopedists
DABCSP	Diplomate of the American Board of Chiropractic Sports Physicians
DABFE	Diplomate of the American Board of Forensic Examiners
DACAN	Diplomate of the American Chiropractic Academy of Neurology
DACBOH	Diplomate of the Chiropractic Board of Occupational Health
DACBN	Diplomate of the American Chiropractic Board of Nutrition
DACBR	Diplomate of the American Chiropractic Board of Radiologists
DACBSP	Diplomate of the American Chiropractic Board of Sports Physicians
DACCP	Diplomate of the Academy Council of Chiropractic Pediatrics
DACRB	Diplomate of the American Chiropractic Rehabilitation Board
DC	Doctor of Chiropractic
DIBCN	Diplomate of the International Board of Chiropractic Neurology
Diploma Om	Diploma of Oriental Medicine
DiplAc	Diplomate in Acupuncture
DiplCH	Diplomate in Chinese Herbology
DiplOM	Diplomate in Oriental Medicine
DO	Doctor of Osteopathic Medicine
FAACP	Fellow of the American Academy of Chiropractic Physicians
FACO	Fellow of the American Board of Chiropractic Orthopedists
FCCS	Fellow of the College of Chiropractic Sciences
FIACN	Fellow of the International Academy of Chiropractic Neurologists
FICC	Fellow of the International College of Chiropractic
JD	Juris Doctor
LAc	Licensed Acupuncturist
LLB	Bachelor of Laws
LPN	Licensed Practical Nurse
MA	Master of Arts
MAc	Master of Acupuncture
MAOM	Master of Acupuncture and Oriental Medicine
MBA	Master of Business Administration
MBBS	Bachelor of Medicine and Surgery (Pakistan)

MD	Medical Doctor
MEd	Master of Education
MFA	Master of Fine Arts
MMed	Master of Medicine (China)
MMA	Master of Management and Administration
MOm	Master of Oriental Medicine
MPH	Master of Public Health
MS	Master of Science
MSAc	Master of Science in Acupuncture
MSEd	Master of Science in Education
MSIE	Master of Science in Industrial Engineering
MSOM	Master of Science in Oriental Medicine
MSTOM	Master of Science in Traditional Oriental Medicine
MT	Medical Technologist
NCCAOM	National Certification Commission for Acupuncture and Oriental Medicine
NCTMB	National Certification in Therapeutic Massage and Bodywork
ND	Doctor of Naturopathic Medicine
PharmD	Doctor of Pharmacy
PhD	Doctor of Philosophy
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 supersedes 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: Ms. Mary Gale, Vice President of Human Resources, 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 PRIVACY ACT (FERPA)

FERPA, the Family Educational Rights and Privacy Act of 1974, is a federal law that pertains to the release of and access to educational records. The law, also known as the Buckley Amendment, applies to all schools that receive funds under an applicable program of the U.S. Department of Education. To learn more, visit www.ed.gov.

For questions, contact the Director of Student Financial Services and Registrar

FERPA applies to personally identifiable information in educational records

This includes items such as the student's name, names of family members, addresses, personal identifiers such as social security numbers, and personal characteristics or other information that make the student's identity easily traceable.

Definition of educational records

Educational records are all records that contain information directly related to a student and are maintained by an educational agency or institution, or by a party acting on its behalf. A record means any information recorded in any way, including handwriting, print, tape, film, microfilm, microfiche, and digital images.

Educational records do not include the following:

- Sole possession records - records kept in the sole possession of the maker which are used only as a personal memory aid and are not accessible or reviewed by any other person except a temporary substitute for the maker of the record
- Medical or psychological treatment records that include those maintained by physicians, psychiatrists and psychologists
- Employment records, provided that employment is not contingent upon being a student
- Law enforcement records
- Records collected about an individual after that person is no longer a student

FERPA rights apply to students

At Northwestern, FERPA rights apply to students. A student is a person who is or has been in attendance at the institution, regardless of the person's age.

Student rights under FERPA

Under FERPA, as a student, you have:

- The right to inspect and review any of your educational records that Northwestern maintains
- The right to seek amendment of these records
- The right to consent to disclosure of these records
- The right to file a complaint with the Family Policy Compliance Office, U.S. Department of Education

The University notifies students annually of their FERPA rights in the annual calendar booklet. If students believe that such rights have been violated, they may contact the Family Policy Compliance Office at the Department of Education, 400 Maryland Ave SW, Washington DC 20202-4605. Additional information is available at www.ed.gov.

A student's right to see and change educational records

Upon written request, the University shall provide a student access to his or her educational records except for financial records of the student's parents or guardian; and confidential letters of recommendation where the student has signed a waiver of right of access. If the records contain information on more than one student, the requesting student may inspect, review, or be informed on only the specific information about his or her own records.

A student may obtain copies of his or her educational records at a cost of 10 cents per page, an official transcript of academic record for \$10.00, and an unofficial copy of the permanent academic record for \$10.00. Educational records covered by FERPA normally will be made available within 45 days of the request.

The contents of a student's educational records may be challenged by the student on the grounds that they are inaccurate, misleading, or otherwise in violation of the privacy rights of the student by submitting a written statement to the custodian of records. The Registrar's Office is the official custodian of records at the University.

Directory information

FERPA identifies certain information, called directory information that may be disclosed without the student's permission. The University has designated the following information as directory information:

- Student's name
- Local, permanent and email addresses
- Telephone listing
- Place of birth
- Major fields of study
- Dates of attendance
- Enrollment status
- Degrees, awards and honors received, including selection criteria
- Most recently attended previous educational institution
- Expected graduation date
- Participation in officially-recognized activities
- Student parking permit information
- Job title and dates of employment when employed by the University in a position that requires student status

Restricting access to directory information (FERPA block)

A currently-enrolled student may restrict access to their directory information during the first 10 class days in any trimester. (Restricted information remains so until revoked by the student.)

- [Request to Invoke or Revoke FERPA Block of Directory Information Form](#) (pdf)

FERPA block of an education record

A FERPA block on your education record means that no information is released about you to outside parties with the exception of third parties necessary for financial aid. In addition, you will not appear in the student directory and will have to sign special releases to appear in the yearbook, Student Senate directory or have your name appear publicly on an Academic Dean's List.

Access to student educational records

According to FERPA, non-directory information may not be released without prior written consent from the student. Exceptions include access by appropriate University administrators, faculty members, or staff members who require access to educational records in order to perform their legitimate educational duties; officials of other schools in which the student seeks or intends to enroll; and in connection with a student's application for, or receipt of, financial aid.

Legitimate educational interest

Legitimate educational interest is access to educational records by appropriate University administrators, faculty members, staff members, appropriate administrators or staff members of Northwestern Health Sciences University, or contractors acting on behalf of the University, who require such access in order to perform their legitimate educational and business duties, when such records are needed in furtherance of the educational or business purposes of the student or University.

Authorization to discuss your information with outside parties

Students must give written permission for Northwestern to discuss their educational records with an outside party, such as a parent or a spouse. Concerns may include financial aid processing, account payment or academic performance. To grant permission, complete the Student Release of Information Form and return to the Office of the Registrar:

- [Student Release of Information Form \(pdf\)](#)

Permission for letter of reference and/or verbal recommendation

Students must give written permission for any Northwestern faculty member or administrator to write a letter of reference or provide a verbal recommendation for you that includes information that could be construed to be part of your student record (e.g. GPA, classroom observances).

Complete the Letter of Reference and/or Verbal Recommendation Form and provide it to the faculty member or administrator. If you want grade or GPA information included in the letter, you must provide the letter writer with a copy of your transcript (can be an unofficial copy).

- [Letter of Reference and/or Verbal Recommendation Form \(pdf\)](#)

APPLICATIONS

The Office of Admissions at Northwestern Health Sciences University does not accept, or use, paper applications. All applications can be accessed online at the University website.

View program applications here:

[Non degree application](#)

[Undergraduate application](#)

[Post Baccalaureate Pre-Health application](#)

[Nutrition application](#)

[Acupuncture and Oriental Medicine application](#)

[Massage Therapy application](#)

[Chiropractic application](#)