

# College of Science and Health

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The College of Science and Health (CSH) houses high quality major and minor programs in the natural and physical sciences, mathematics and computer science, exercise science, recreation, and in selected allied health professions. The college's combination of programs provides both applications for the sciences and a strong science base for the allied health offerings. These programs also collectively provide many scientific literacy offerings within the university's general education program. All major programs offer undergraduate research experiences and/or professional internship experiences through collaborative agreements with external agencies.

Sequences and requirements are listed on the various department pages, with major or minor requirements listed on those specific tabs in the department's section. In addition to the major and general education requirements, all students in the College of Science and Health must complete a core curriculum, which emphasizes diverse in-depth study outside of the major.

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## Department/units

Biology

- Food and Nutrition Sciences

Chemistry and Biochemistry

Computer Science & Computer Engineering

Exercise and Sport Science

Geography and Environmental Science

Health Professions

- Nuclear Medicine Technology
- Occupational Therapy (graduate only)
- Physical Therapy (graduate only)
- Physician Assistant Studies (graduate only)
- Radiologic Science

Mathematics and Statistics

Microbiology

- Clinical Laboratory Science

Physics

Public Health and Community Health Education

Recreation Management and Recreational Therapy

## Degrees offered

Bachelor of Arts

Bachelor of Science

Master of Science (see graduate catalog)

Master of Software Engineering (see graduate catalog)

Doctor of Physical Therapy (see graduate catalog)

## Majors and minors

B.A. = Bachelor of Arts      B.S. = Bachelor of Science      m = minor

Biochemistry with American Society for Biochemistry & Molecular Biology (ASBMB) Certification (<http://catalog.uwslax.edu/undergraduate/chemistry/>) (B.S.)

Biology (<http://catalog.uwslax.edu/undergraduate/biology/>) (B.A., B.S., m)

- Aquatic Science Concentration (B.A., B.S.)
- Biomedical Science Concentration (B.A., B.S.)
- Environmental Science Concentration (B.A., B.S.)
- Molecular Genetics and Cell Biology Concentration (B.A., B.S.)
- Plant and Fungal Biology Concentration (B.A., B.S.)
- Science Education (B.S.)

Chemistry (<http://catalog.uwslax.edu/undergraduate/chemistry/>) (B.S., m)

- Chemistry with American Chemical Society (ACS) Certification (B.S.)
- Business Concentration (B.S.)
- Environmental Science Concentration (B.S.)
- Science Education (B.S.)

Clinical Laboratory Science (<http://catalog.uwslax.edu/undergraduate/clinicallaboratoryscience/>) (B.S.)

Communication, Writing, and Critical Reasoning (<http://catalog.uwslax.edu/undergraduate/mathematics/>) (m)

Computational Science (<http://catalog.uwslax.edu/undergraduate/computationalscience/>) (m)

Computer Engineering (<http://catalog.uwslax.edu/undergraduate/computerscience/>) (B.S.)

Computer Science (<http://catalog.uwslax.edu/undergraduate/computerscience/>) (B.S., m)

- Cybersecurity Emphasis (B.S.)
- Computer Engineering Technology Emphasis (B.S.)

Earth Science (<http://catalog.uwslax.edu/undergraduate/geography/>) (m)

Environmental Science (<http://catalog.uwslax.edu/undergraduate/geography/>)

- Environmental Biology Track (B.S.)
- Environmental Chemistry Track (B.S.)
- Environmental Geospatial Techniques Track (B.S.)
- Environmental Microbiology Track (B.S.)

Exercise and Sport Science (<http://catalog.uwslax.edu/undergraduate/exerciseandsportscience/>)

- Exercise Science Emphasis
  - Fitness Track (B.S.)
  - Pre-Professional Track (B.S.)

- Physical, Adapted, and School Health Education (B.S.)

- Sport Management Emphasis (B.S.)

Food and Nutrition Sciences (<http://catalog.uwslax.edu/undergraduate/foodandnutritionsciences/>) (B.S.)

General Science for Teachers (<http://catalog.uwslax.edu/undergraduate/physics/>) (m)

Geography (<http://catalog.uwlax.edu/undergraduate/geography/>)

- Environmental Science Concentration (B.A., B.S.)
- Geographic Information Science Concentration (B.A., B.S., m)
- Humans and the Environment Emphasis (B.A., B.S., m)

Geoarchaeology (<http://catalog.uwlax.edu/undergraduate/geography/>) (m)

Inclusive Recreation (<http://catalog.uwlax.edu/undergraduate/recreationmanagement/>) (m)

Mathematics (<http://catalog.uwlax.edu/undergraduate/mathematics/>) (B.A., B.S., m)

- Applied Emphasis (B.S.)
- Mathematics Education (B.S.)

Mathematics for Teachers (<http://catalog.uwlax.edu/undergraduate/mathematics/mathematics-for-teachers-minor/>) (m)

Microbiology (<http://catalog.uwlax.edu/undergraduate/microbiology/>) (B.S., m)

- Biomedical Concentration (B.S.)
- Business Concentration (B.S.)
- Environmental Science Concentration (B.S.)

Nuclear Medicine Technology (<http://catalog.uwlax.edu/undergraduate/nuclearmedicinetechology/>) (B.S.)

Nutrition (<http://catalog.uwlax.edu/undergraduate/foodandnutritionsciences/>) (m)

Outdoor, Recreation, Tourism and Event Management (<http://catalog.uwlax.edu/undergraduate/recreationmanagement/>) (m)

- Community-based Recreation Emphasis (B.S.)
- Generalist Emphasis (B.S.)
- Outdoor Recreation Emphasis (B.S.)
- Tourism & Event Management Emphasis (B.S., m)

Physics (<http://catalog.uwlax.edu/undergraduate/physics/>) (B.A., B.S., m)

- Applied Physics Emphasis (B.S.)
- Astronomy Emphasis (B.A., B.S., m)
- Biomedical Concentration (B.S.)
- Business Concentration (B.S.)
- Computational Physics Emphasis (B.S.)
- Optics Emphasis (B.S.)
- Science Education (B.S.)

Public Health and Community Health Education (<http://catalog.uwlax.edu/undergraduate/publichealth/>) (B.S.)

Radiologic Science (<http://catalog.uwlax.edu/undergraduate/radiologicscience/>)

- (<http://catalog.uwlax.edu/undergraduate/radiologicscience/>) Diagnostic Medical Sonography with Echocardiography/Vascular Emphasis (B.S.)
- Diagnostic Medical Sonography with General/Vascular Emphasis (B.S.)
- Radiation Therapy Emphasis (B.S.)
- Radiologic Technology Emphasis (B.S.)

Recreational Therapy (<http://catalog.uwlax.edu/undergraduate/recreationmanagement/>) (B.S.)

Statistics (<http://catalog.uwlax.edu/undergraduate/mathematics/>) (B.S., m)

- Actuarial Science Concentration (B.S.)

### **Dual degree programs**

Biology/Physical Therapy (<http://catalog.uwlax.edu/undergraduate/biology/>)

Chemistry/Engineering (<http://catalog.uwlax.edu/undergraduate/chemistry/>)

Clinical Laboratory Science/Clinical Microbiology (<http://catalog.uwlax.edu/undergraduate/clinicallaboratoryscience/dual-degree-clinical-lab-science-clinical-microbiology/>)

Computer Science/Engineering (<http://catalog.uwlax.edu/undergraduate/computerscience/>)

Computer Science/Software Engineering (<http://catalog.uwlax.edu/undergraduate/computerscience/>)

- Computer Science
- Cybersecurity

ESS: Exercise Sport Emphasis Pre-Professional Track/Athletic Training (<http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/dualdegreeesspreprofessionalandathletictraining/>)

Mathematics/Engineering (<http://catalog.uwlax.edu/undergraduate/mathematics/>)

Outdoor, Recreation, Tourism and Event Management emphasis/Recreation Management (<http://catalog.uwlax.edu/undergraduate/recreationmanagement/>)

- Community-Based Recreation
- Generalist
- Outdoor Recreation
- Tourism and Event Management

Physics/Engineering (<http://catalog.uwlax.edu/undergraduate/physics/>)

Physics/Physical Therapy (<http://catalog.uwlax.edu/undergraduate/physics/>)

Statistics/Applied Statistics (<http://catalog.uwlax.edu/undergraduate/mathematics/dual-degree-program-statistics/>)

Recreational Therapy (<http://catalog.uwlax.edu/undergraduate/recreationmanagement/>)

### **Concentrations**

Coaching Competitive Athletics (<http://catalog.uwlax.edu/undergraduate/exerciseandsportscience/>)

### **Certificate Programs**

Geographic Information Science (<http://catalog.uwlax.edu/undergraduate/geography/geographicinformationsciencecertificate/>)

## **College of Science and Health (CSH) Bachelor of Arts core requirements**

B.S. and B.A. students graduating from the College of Science and Health are required to take two natural laboratory science courses selected from the general education laboratory science category (GE 05) and/or from BIO 203, BIO 210, BIO 304, CHM 104, GEO 221, GEO 222, PHY 104 or PHY 204, and they either must take two mathematics courses or one math course and one computer science course from the math/logical systems category of the general education requirements (GE 02). One of the two science courses must be from a department outside of the student's major department.

**Note:** Math courses can be pairs, i.e. 150 and 151; MTH/CS majors can use two science courses from same department.

**For the Bachelor of Arts degree,** students must complete a major from the college and proficiency in a world language at the 202 level or demonstrate English language proficiency for non-native speakers of English. Contact the CSH Dean's Office for eligibility and regulations.

Students must also complete one of the following options. It is recommended that courses are selected in consultation with your advisor.

1. Complete a minor in the College of Arts, Social Sciences, and Humanities/School of Visual and Performing Arts; or
2. Complete two certificates in the College of Arts, Social Sciences, and Humanities/School of Visual and Performing Arts with at least 12 combined credits at the 300/400 level; or
3. Complete an individualized option, consisting of 15 credits.
  - a. These courses must be from the College of Arts, Social Sciences, and Humanities/School of Visual and Performing Arts.
  - b. At least 9 credits must be earned at the 300/400 level.
  - c. General education courses may apply provided they are not being used to fulfill minimum general education requirements.
  - d. Internship credits may not count toward the individualized option.

## College of Science and Health (CSH) Bachelor of Science core requirements

B.S. and B.A. students graduating from the College of Science and Health are required to take two natural laboratory science courses selected from the general education laboratory science category (GE 05) and/or from BIO 203, BIO 304, BIO 210, CHM 104, GEO 221, GEO 222, PHY 104 or PHY 204, and they either must take two mathematics courses or one math course and one computer science course from the math/logical systems category of the general education requirements (GE 02). One of the two science courses must be from a department outside of the student's major department.

**Note:** Math courses can be pairs, i.e. 150 and 151; MTH/CS majors can use two science courses from same department.

**For the Bachelor of Science degree**, in addition to all other College of Science and Health core requirements, students from non-exempted programs<sup>1</sup> must complete one of the following options. It is recommended that courses are selected in consultation with students' academic advisor.

1. Complete a second major; or
2. Complete a minor outside the major; or
3. Complete two certificates outside the major with at least 12 combined credits at the 300/400 level; or
4. Complete an individualized option, consisting of 18 credits
  - a. At least 12 credits must be earned at the 300/400 level outside the major department.
  - b. The remaining six credits should come from
    - i. 100 level or higher courses outside the major (General education courses may apply provided they are not being used to fulfill minimum general education requirements.); or
    - ii. 300/400 level courses inside major not being used to fulfill major requirements.
  - c. Internship credits may not count toward the individualized option.

<sup>1</sup> The list of exempted CSH programs is below.

## CSH college core exemptions

Students participating in the following programs are exempt from the college core requirements:

Biology: Science Education Concentration  
 Chemistry with a Business Concentration  
 Chemistry with a Environmental Science Concentration  
 Chemistry: Science Education Concentration  
 Clinical Laboratory Science  
 Computer Engineering  
 Computer Science: Computer Engineering Technology Emphasis  
 Exercise and Sport Science: Exercise Science Fitness Track  
 Exercise and Sport Science: Exercise Science Pre-Professional Track  
 BS/Athletic Training MS Dual Degree Program  
 Exercise and Sport Science: Physical, Adapted, and School Health Education  
 Exercise and Sport Science: Sport Management Emphasis  
 Mathematics Education  
 Nuclear Medicine Technology  
 Outdoor, Recreation, Tourism and Event Management: Community Based Recreation Emphasis  
 Outdoor, Recreation, Tourism and Event Management: Generalist Emphasis  
 Outdoor, Recreation, Tourism and Event Management: Outdoor Recreation Emphasis  
 Outdoor, Recreation, Tourism and Event Management: Tourism and Event Management Emphasis  
 Outdoor, Recreation, Tourism and Event Management BS (with an emphasis)/MS Dual Degree Program  
 Physics: Science Education Concentration  
 Physics with a Business Concentration  
 Physics with a Biomedical Concentration  
 Public Health and Community Health Education  
 Radiologic Science: Diagnostic Medical Sonography with Echocardiography/Vascular Emphasis  
 Radiologic Science: Diagnostic Medical Sonography with General/Vascular Emphasis  
 Radiologic Science: Radiation Therapy Emphasis  
 Radiologic Science: Radiologic Technology Emphasis  
 Recreational Therapy  
 Recreational Therapy BS/MS Dual Degree Program

## CSH assurance of progress to degree after 60 credits policy

The College of Science and Health is committed to student success and completion of a baccalaureate degree in a timely manner. Students must have a declared academic major<sup>1</sup> after the completion of 60 credits. For programs requiring an application for admission, students must be admitted to that program or have a qualifying second major<sup>2</sup> after the completion of 60 credits. Students who do not meet this requirement will (1) have an advising hold placed on their registration for the next semester; (2) be required to make an appointment with staff in the College of Science and Health Academic Services Office to discuss plans for degree completion and to request removal of the advising hold.

<sup>1</sup> The undeclared major is not an academic major.

<sup>2</sup> A qualifying second major will not have a competitive application process.

## Pre-professional curricula

[www.uwlax.edu/csh/pre-professional-programs/](http://www.uwlax.edu/csh/pre-professional-programs/) (<http://www.uwlax.edu/csh/Pre-professional-programs/>)

Students have the opportunity to complete requirements in a variety of pre-professional fields prior to applying for admission to a professional program either here at UWL or at another college or university. Declaring a pre-professional track is a statement of student's intention to apply to a professional school and helps students determine common requirements for professional programs in our region.

Pre-professional program requirements vary widely; some require a degree while others do not. **Students are expected to be aware of the requirements of the school to which they plan to apply. Therefore, when selecting coursework, students should first consult the applicable program's website.**

Advisors with knowledge of pre-professional tracks can be of assistance to students with their academic planning. Contact the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) in 1209 Centennial Hall, or inquire at the College of Science and Health Academic Services Office in 105 Graff Main Hall for more information. Some departments on campus have designated advisors or program experts who can also assist with academic planning. In addition, many of the pre-professional tracks have related student organizations, and these clubs can be found at UWL's student organization website MyOrgs (<https://orgs.uwlax.edu/>).

Pre-professional programs are **not majors** and are referred to as "tracks" in the WINGS Student Center (e.g. pre-medicine track). Although coursework recommended by the pre-professional program may be needed for admission to a graduate school, it **may or may not** be required for graduation from UWL. It is the student's responsibility to understand the requirements for their undergraduate degree and admission requirements for graduate programs of interest. Students must select a major to complete a degree at UWL and cannot graduate with only a pre-professional track.

## Pre-athletic training track

Athletic trainers (ATs) are health care professionals who collaborate with physicians to provide emergency care and prevent, diagnose and treat injuries and medical conditions for people in work, life, and play, including athletes, industrial workers, military service members, and public servants. More information about athletic trainers and the health care services they provide are available at [nata.org](http://nata.org) (<https://www.nata.org/>) and/or [atyourownrisk.org](http://atyourownrisk.org) (<https://www.atyourownrisk.org/>).

Graduate athletic training program admission requirements vary by program, but generally include an undergraduate degree, GPA requirements, satisfactory scores on the GRE, and completion of coursework in the following areas: biology, chemistry, math and statistics, physics, exercise science, and nutrition. Undergraduate students must also declare a major in another field in order to complete a baccalaureate degree at UWL. The typical major is exercise science-pre-professional track. Other majors are equally feasible with appropriate planning.

Consult the pre-athletic training advising website (<https://www.uwlax.edu/academics/pre-professional/athletic-training/>) as to specific coursework recommendations & admission requirements, or

contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. A pre-AT advisor will be assigned once the pre-athletic training track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

For admission requirements specific to UWL's Athletic Training Graduate Program, visit the UWL Athletic Training Program website (<https://www.uwlax.edu/grad/athletic-training/>).

## Pre-chiropractic track

Chiropractors diagnose, treat, and work to prevent disorders of the neuro-musculoskeletal system and the effects of these disorders on general health. Chiropractors emphasize manual and manipulative therapy for the treatment of joint dysfunctions. Chiropractic is generally classified as complementary/alternative medicine. Most chiropractors earn a Doctor of Chiropractic (DC) degree. See [ExploreHealthCareers.org](http://ExploreHealthCareers.org) (<https://explorehealthcareers.org/career/chiropractic-medicine/chiropractor/>) for more information on the chiropractic profession.

Chiropractic admission requirements vary by program. While it's possible to start chiropractic school after 60-90 credits, most schools strongly recommend that students earn a bachelor's degree before matriculation. Minimum life and physical science course requirements are 24 credits (biology, chemistry, exercise science, physics), with at least 12 credits including a laboratory component. Some chiropractic universities require more than 24 credits of science coursework. A statistics course is also recommended, and college algebra will likely be required before taking chemistry.

Consult the pre-chiropractic advising website (<https://www.uwlax.edu/academics/pre-professional/chiropractic/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Pre-clinical exercise physiology track

Clinical exercise physiologists (CEP) are healthcare professionals who typically work in cardiopulmonary rehabilitation, cancer rehabilitation, stress testing, health education, and/or wellness centers. They develop fitness and exercise programs for patients who have a history of cardiovascular (heart), pulmonary (lung), and metabolic disorders and chronic diseases. CEPs work closely with patients and their medical providers during the rehabilitation process to develop individualized treatment plans.

Graduate clinical exercise physiology program admission requirements vary by program, but generally include an undergraduate degree, GPA requirements, and completion of coursework in biology and exercise science. Undergraduate students must also declare a major in order to complete a baccalaureate degree at UWL. The typical major is exercise science-pre-professional track, but other majors are equally feasible with appropriate planning.

Consult the pre-clinical exercise physiology advising website (<https://www.uwlax.edu/academics/pre-professional/clinical-exercise-physiology/>) as to specific coursework recommendations & admission

requirements, or contact an advisor in the Pre-Health Student Resource Center with questions.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website.

For admission requirements specific to UWL's Clinical Exercise Physiology Graduate Program, visit the program's website here.

## Pre-dentistry track

Dentists play a significant role in our oral health care throughout our lives. Whether it's maintenance in the early years, braces in the adolescent years, or treatment for gum disease or teeth extractions in the senior years, successful dentists are capable and compassionate practitioners. See ExploreHealthCareers.org (<https://explorehealthcareers.org/career/dentistry/dentist/>) for more information on dentistry.

Dental school requirements for admission varies, but most recommend completing a baccalaureate degree. The coursework prerequisites may require courses in biology, chemistry, biochemistry, microbiology, college writing, English literature, mathematics & statistics, physics, and psychology. A certain amount of labwork will likely be required in biology and chemistry. Admission to dental school is also based on grade point average, interviews, aptitude tests, and letters of recommendation. An aptitude test is taken in the year preceding application to dental school.

Consult the pre-dentistry advising website (<https://www.uwlax.edu/academics/pre-professional/dentistry/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Pre-engineering track

Engineers fill a variety of roles in a variety of settings. Most of the basic mathematics, chemistry and physics courses that the prospective engineer needs in the first two years of an engineering curriculum can be taken at UWL, and a wide choice of electives is also available. In the first two years, every pre-engineer should complete three semesters of calculus, two semesters of chemistry, and two semesters of physics. Engineering curricula require four or more years of study; therefore, students spending the first two years at UWL will need to spend two or more years at an engineering school to complete degree requirements. See DiscoverE.org (<http://www.discovere.org/discover-engineering/engineering-careers/>) for more information on different engineering careers.

Since requirements vary with the engineering school and the particular major, students should see a pre-engineering advisor in the chemistry, computer science, mathematics, or physics department as early as possible. The advisor can furnish information about specific majors within engineering schools, specific coursework recommendations, and admission requirements.

Dual degree agreements are available in which students receive two bachelor of science degrees in approximately five years, one from UWL and one from the partner engineering school. The UWL major/engineering partnerships include the following: chemistry & engineering (<http://catalog.uwlax.edu/undergraduate/chemistry/dual-degree-program-in-chemistry-and-engineering/>), computer science & engineering (<http://catalog.uwlax.edu/undergraduate/computerscience/>),

dual degree program in computer science and engineering (<http://catalog.uwlax.edu/undergraduate/mathematics/dual-degree-program/>), and physics & engineering (<http://catalog.uwlax.edu/undergraduate/physics/dual-degree-physics-engineering/>). Students do not need to declare the pre-engineering track to enter into one of these programs, but they should consult with an advisor first. Explore the engineering advising website (<https://www.uwlax.edu/academics/pre-professional/engineering/>) for more details on the physics & engineering dual degree program.

## Pre-forestry (natural resources, conservation, wildlife management) track

Forestry jobs and careers include the following: timber buyer, district or city forester, natural resource manager, forest supervisor, forest engineer, insect and disease specialist, tree improvement forester, park ranger, pulp and paper chemist, fire control officer, land use planner, forest ecologist, university faculty, arborist, silviculturist, wood technologist, forest pathologist, forest entomologist, or an environmental education specialist. See ForestryDegree.Net (<https://forestrydegree.net/>) for more information about forestry careers.

Pre-forestry advising is available to help prepare students for forestry programs and jobs around the country. However, students entering one of these fields are reminded that forestry schools set their own requirements for admission, and thus, it is imperative that exact requirements be obtained from current catalogs of the schools to which students plan to transfer to complete their professional training. Generally, the requirement for admission to professional school is junior standing and 60 semester hours. It is also recommended that calculus, chemistry, and physics be taken during the first two years of college. Students may also find it advantageous to earn a bachelor's degree before entering a professional program, in which case, they should allow more years before applying to a professional school.

Students are urged to contact the pre-forestry advisor early in their first semester. Explore the pre-forestry advising website (<https://www.uwlax.edu/academics/pre-professional/forestry/>) for more details.

## Pre-genetic counseling track

Genetic counselors are healthcare professionals who specialize in medical genetics and counseling. They work to evaluate and understand individual and family risk of inheriting a variety of conditions by studying the patient's genes through DNA testing. For example, they may work with families who are expecting children and adults who may have a risk of developing certain diseases such as cancer.

Graduate genetic counseling program admission requirements vary by program, but generally include an undergraduate degree, GPA requirements, and completion of coursework in biology, chemistry, and social sciences. Undergraduate students must also declare a major in order to complete a baccalaureate degree at UWL.

Consult the pre-genetic counseling advising website (<https://www.uwlax.edu/academics/pre-professional/genetic-counseling/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center with questions. An advisor will be assigned once the track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website.

## Pre-medical dosimetry track

Medical dosimetrists work as part of the cancer treatment team. Working in collaboration with the medical physicist and radiation oncologist, the medical dosimetrist uses their knowledge of physics, anatomy, and radiobiology to plan optimal radiation treatment techniques and dosing.

Graduate medical dosimetry program admission requirements vary by program, but generally include an undergraduate degree, GPA requirements, and completion of coursework in biology, math, and physics. Undergraduate students must also declare a major in order to complete a baccalaureate degree at UWL. Although radiologic science: radiation therapy emphasis is common, students may enter a program with any natural or physical science major.

Consult the pre-medical dosimetry advising website (<https://www.uwlax.edu/academics/pre-professional/medical-dosimetry/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. An advisor will be assigned once the track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website.

For admission requirements specific to UWL's Medical Dosimetry Graduate Program, visit the program's website [here](#).

## Pre-medicine track

Medical doctors fill a variety of roles in a variety of settings. Physicians diagnose and care for people of all ages who are ill or have been injured, and also work to prevent health problems before they occur. Students interested in the intricacies of the human body's systems, leadership, and helping others may find a right fit in the medical profession. The AAMC (<https://students-residents.aamc.org/choosing-medical-career/article/medical-student-perspective-best-advice/>) has a wealth of information on what it means to become a doctor.

Requirements for admission to each medical school varies, but include significant coursework in the following fields biology, chemistry; mathematics (pre-calculus and statistics), physics, and English (a writing intensive and/or upper division coursework may be required). Admission to medical school is highly competitive, and admission decisions are based on factors such as overall grade point average, grade point average in the required science courses, performance on the national Medical College Admission Test (MCAT), usually taken in the spring of the junior year, non-academic credentials (activities and work experiences), letters of evaluation from faculty, and a personal interview. Undergraduate students must also declare a major in another field in order to complete a baccalaureate degree at UWL. Although the majority of pre-medical students major in chemistry, biology, or microbiology, students may major in any field of interest as long as the minimal requirements are satisfied.

Consult the pre-medicine advising website (<https://www.uwlax.edu/academics/pre-professional/medicine/>) as to specific coursework recommendations & admission requirements. Students with questions or needing guidance on whether to choose this track may also contact the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>). A specific pre-med advisor will be assigned once the pre-medicine track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Pre-occupational therapy track

Occupational therapists are health professionals who work with individuals to maximize performance in their everyday life tasks when impacted by injury, disease, or other health risk. Occupational therapists are part of a healthcare team that may also include physicians, physician assistants, physical therapists, speech pathologists, and recreational therapists. "Occupation" refers to those everyday meaningful tasks that individuals do each day. The goal of occupational therapy is to help individuals successfully engage in purposeful tasks that comprise daily life. The AOTA (<https://www.aota.org/about/what-is-ot/>) has more details on what it means to be an occupational therapist.

Occupational therapy admission requirements vary by program, but may include a minimum GPA requirement, an undergraduate degree, and satisfactory completion of coursework in the following subjects: human anatomy and physiology, physics, psychology, and statistics. There may also be a minimum grade requirement on the prerequisite coursework.

Consult the pre-occupational therapy advising website (<https://www.uwlax.edu/academics/pre-professional/occupational-therapy/>) as to full coursework and admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. A specific pre-OT advisor will be assigned once the pre-occupational therapy track has been added to the student's academic record. The pre-occupational therapy track is not a major; therefore, undergraduate students must also declare a major in another field in order to complete a baccalaureate degree at UWL before going on to graduate school.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

For admission requirements specific to UWL's Occupational Therapy Graduate Program, visit the UWL Occupational Therapy Program website (<https://www.uwlax.edu/grad/occupational-therapy/>).

## Pre-optometry track

Optometry is a healthcare profession focusing on the eyes and related structures, as well as vision, visual systems, and vision information processing in humans. Optometrists are trained to prescribe and fit lenses to improve vision and are trained to diagnose and treat various eye diseases. See [ExploreHealthCareers.org](https://explorehealthcareers.org/field/optometry/) (<https://explorehealthcareers.org/field/optometry/>) for more information on optometry.

Students should plan to complete an undergraduate degree (usually in biology or chemistry). Typical course requirements for admission to an optometry program include courses in biology, microbiology, chemistry, biochemistry, calculus, and physics. A certain amount of lab work is required in the sciences. Additional coursework in English, sociology, and psychology may also be required. The Optometry Admission Test (OAT) must be taken before or during the semester in which students apply for admission to a school of optometry.

Consult the pre-optometry advising website (<https://www.uwlax.edu/academics/pre-professional/optometry/>) as to specific coursework recommendations & admission requirements, or contact with the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. In addition, the Pre-Optometry Club (<https://uwlmyorgs.campuslabs.com/engage/organization/preoptometryclub/>)

provides student members resources and opportunities that introduce and develop a stronger understanding of the field of optometry, along with preparation for the OAT and application to optometry school.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Pre-osteopathic medicine track

Osteopathic medicine (<https://www.uwlax.edu/academics/pre-professional/medicine/>) is a branch of medical practice that emphasizes a whole-person approach to treatment and care. It provides all of the benefits of modern medicine including prescription drugs, surgery, and the use of technology to diagnose and evaluate. It also offers the added benefit of hands-on diagnosis and treatment through a system of therapy known as osteopathic manipulative medicine. The statement in the section on pre-medicine (p. 6) applies equally to pre-osteopathic medicine. Medical school and osteopathic coursework are nearly identical, and the practice of medicine by graduates of either type of school is essentially identical. Osteopathy is best considered an alternative within medicine rather than an alternative to medicine.

Consult the pre-medicine advising website (<https://www.uwlax.edu/academics/pre-professional/medicine/>) as to specific coursework; admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions.

## Pre-pharmacy track

Pharmacy is the science and technique of preparing and dispensing drugs. It is a health profession that links health sciences with chemical sciences and aims to ensure the safe and effective use of pharmaceutical drugs. See ExploreHealthCareers.org (<https://explorehealthcareers.org/career/pharmacy/pharmacist/>) for more information on the pharmacy profession.

Most pharmacy programs offer a Doctor of Pharmacy degree. These programs require pre-pharmacy coursework of about 70 credits that can be taken at UWL. A college of pharmacy's professional program is an additional four years. The specific admission requirements are set by each individual pharmacy program, but prerequisite coursework generally consists of biology, microbiology, chemistry with lab components, biochemistry, physics, calculus, and statistics. In addition, coursework in psychology, sociology, minority cultures, microeconomics & public policy, and English composition may also be required.

Consult the pre-pharmacy advising website (<https://www.uwlax.edu/academics/pre-professional/pharmacy/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Pre-physical therapy track

Physical therapists have an opportunity to make a positive difference in people's quality of life. When individuals are recovering from injury or disease, the physical therapist evaluates and directs the recovery process to relieve pain, make them stronger, and help them to regain use of an affected limb. Physical therapists also promote wellness and injury prevention. They teach the importance of personal fitness and explain how to prevent injury at work or at play. As an integral part of a healthcare team, physical therapists have an opportunity to

make a positive difference in people's quality of life. The APTA (<https://www.apta.org/ProspectiveStudents/>) has more details on what it means to be a physical therapist.

Physical therapy admission requirements vary by program, but generally include an baccalaureate degree, a minimum GPA, satisfactory scores on the Graduate Records Examination (GRE), and coursework in the following subjects: biology, chemistry, physics, psychology, sociology, and statistics. Programs may also require volunteer experience with letters of recommendation. PT programs are competitive and typically conduct early admissions screening of completed applications. Most programs, including UWL's PT Program, use the Physical Therapy Centralized Application Service (PTCAS) to gather application information.

Undergraduate students must also declare a major in another field in order to complete a baccalaureate degree at UWL. Typical majors include biology, exercise & sport science, psychology, and physics, but other majors are equally appropriate and feasible with appropriate planning. Dual degree agreements are available for biology majors (<http://catalog.uwlax.edu/undergraduate/biology/dual-degree-program-in-biology-physical-therapy/>) and physics majors (<http://catalog.uwlax.edu/undergraduate/physics/dual-degree-physics-physical-therapy/>) in which students receive both a bachelor of science and a graduate physical therapy degree from UW-La Crosse. The total length of time for both degrees is approximately five and three-quarter years. It is important that students selecting this option work with their major advisor early and declare their intent officially.

Consult the pre-physical therapy advising website (<https://www.uwlax.edu/academics/pre-professional/physical-therapy/>) as to specific coursework and admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. A pre-PT advisor will be assigned once the pre-physical therapy track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

For admission requirements specific to UWL's Physical Therapy Graduate Program, visit the UWL Physical Therapy website. (<https://www.uwlax.edu/grad/physical-therapy/>)

## Pre-physician assistant studies track

Physician assistants (PAs) are medical providers who are licensed to diagnose and treat illness and disease and to prescribe medication for patients. They work in physician offices, hospitals and clinics in collaboration with a licensed physician. To become a PA, students must graduate from an accredited PA education program. The AAPA (<https://www.aapa.org/what-is-a-pa/>) has more details on what it means to be a physician assistant.

Prerequisite requirements are vary among PA programs across the country. In general, requirements will include coursework in the following subjects: biology, including two lab courses; chemistry, including at least two lab courses; mathematics; and psychology. Admission will also likely depend on the cumulative GPA, the GPA in science courses, and satisfactory scores in the Graduate Record Exam (GRE). Prior direct patient care health experience, which provides evidence of a career commitment to healthcare as a PA, may also be expected.

Pre-PA students should consider making application to several PA programs and carefully review the specific requirements of the programs in which they are interested. Many programs, including the UWL-Gundersen-Mayo PA program, utilize the Centralized Application

Service for Physician Assistants (CASPA) and require a program specific supplemental application. Consult the pre-assistant physician advising website (<https://www.uwlax.edu/academics/pre-professional/physician-assistant-studies/>) as to specific coursework and admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions. A pre-PA advisor will be assigned once the pre-physician assistant track has been added to the student's academic record.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

For admission requirements specific to UWL's Physician Assistant Graduate Program, visit the UWL Physician Assistant website. (<https://www.uwlax.edu/grad/physician-assistant-studies/#tab-the-profession>)

## Pre-podiatry track

Podiatry or podiatric medicine (<https://www.uwlax.edu/academics/pre-professional/medicine/>) is a branch of medicine devoted to the study of diagnosis, medical and surgical treatment of disorders of the foot, ankle, and lower extremity. Requirements for admission to a school of podiatric medicine are the same as those listed in the pre-medicine (p. 6) section.

pre-medicine advising website as to specific coursework & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) with questions.

## Pre-veterinary medicine track

Veterinarians work in a variety of settings - clinics, zoos, farms, corporate, non-profit, and more - and with a wide range of animals, both domesticated and wild. In addition to an interest in animals, solid performance in science coursework is a requirement. See ExploreHealthCareers.org (<https://explorehealthcareers.org/field/veterinary-medicine/>) for more information on becoming a veterinarian.

Requirements for admission to veterinary school generally include coursework in biology, microbiology, chemistry & biochemistry, physics, mathematics, and English composition. Several majors at UWL (particularly biology, microbiology, and chemistry) provide an excellent basis for meeting course requirements while pursuing a bachelor's degree. Applicants are also required to take the Graduate Record Exam (GRE) and have documented animal work experience. Check the veterinary schools' websites for the most current information.

Consult the pre-veterinary medicine advising website (<https://www.uwlax.edu/academics/pre-professional/veterinary/>) as to specific coursework recommendations & admission requirements, or contact an advisor in the Pre-Health Student Resource Center (<https://www.uwlax.edu/pre-health/>) for more details.

A template to help students organize course requirements can be found on the Pre-Health Student Resource Center's website. (<https://www.uwlax.edu/pre-health/plan-your-academics/>)

## Joint institution programs

**International dual degree program in computer science:** The College of Science and Health administers a joint degree program with South Central University for Nationalities ([http://catalog.uwlax.edu/undergraduate/scienceandhealth/SCUN\\_Agreement\\_with\\_UWL\\_-\\_2011.pdf](http://catalog.uwlax.edu/undergraduate/scienceandhealth/SCUN_Agreement_with_UWL_-_2011.pdf)) (SCUN), China. Chinese students at SCUN may enroll in this 3+2 program to receive degrees from both institutions; students complete three years of undergraduate degree work at SCUN and two

years of graduate work at UWL. Successful completion of all program requirements results in the conferring of the Bachelor of Science in Computer Science degree by SCUN and the conferring of a Master of Software Engineering degree by UW-La Crosse.

**WTC:** Articulation agreements between Western Technical College (WTC) and UWL facilitate the transfer of credit between the two institutions. The following College of Science and Health programs are affected:

- **Computer Science-Computer Engineering Technology Concentration:** Computer Engineering Technology and Electrical Engineering Technology students may transfer into UWL's program with partial credit already completed.
- **Nuclear Medicine Technology:** Radiography students may transfer into UWL's program with partial credit already completed.
- **Radiation Therapy:** Radiography students may transfer into UWL's program with partial credit already completed.
- **Exercise and Sport Science:** Students may transfer into UWL's program with partial credit already completed. Students can transfer into either the fitness or pre-professional tracks.

**Other institutions:** The following College of Science and Health programs have joint programs with other Wisconsin Technical College System institutions:

- **Nuclear Medicine Technology:** Radiography students from Chippewa Valley Technical College, Milwaukee Area Technical College, and Northcentral Technical College may transfer into UWL's program with partial credit already completed.
- **Radiation Therapy:** Radiography students from Blackhawk Technical College, Chippewa Valley Technical College, Lakeshore Technical College, Madison College, Milwaukee Area Technical College, and Northcentral Technical College may transfer into UWL's program with partial credit already completed.

Contact the UWL Admissions Office (<https://www.uwlax.edu/admissions/>) for more specific information on these joint programs. Students who earned an associate degree from another Universities of Wisconsin institution are exempt from UWL's general education requirements, although students must still meet all other UWL degree, college, and major requirements.