BIOMECHANICS, MS

The MS in biomechanics is housed within the Department of Biomechanics at the University of Nebraska at Omaha. It is a degree program designed to enable students from Nebraska, nationally, and abroad to develop skills and competencies in the field of biomechanics. This program provides a new understanding of the dynamical aspects of human movement via multidisciplinary research using an evidence-based approach through clinical and translational research.

The goal of the program is to prepare students for the workforce or the pursuit of a doctoral degree. The coursework related to this degree program will provide the students with a strong and broad base which will enable students to enter the workforce at a professional level commensurate with a master's degree or to continue their training in numerous doctoral program areas. An additional strength of the coursework is its emphasis on quantitative sciences. This emphasis allows students to stand out among other candidates for fellowships, assistantships, and scholarships given to these students.

The program is enhanced by an evidence-based approach through interdisciplinary clinical and translational research. This program is designed to be an excellent choice for students planning to continue their education beyond the bachelor's degree in the fields of biomechanics, medicine, physical therapy, occupational therapy, and other science based programs. With the high number of applicants in health professions, the MS in biomechanics gives applicants additional training in movement and quantitative sciences to stand out among other applicants.

Program Related Information

Program Contact

402.554.5892
unobiomechanics@unomaha.edu

Program Website (https://www.unomaha.edu/college-of-education/biomechanics-core-facility/)

Fast Track Program

The Department of Biomechanics has developed a Fast Track program for highly qualified and motivated students providing the opportunity to complete a bachelor's degree and a master's degree in an accelerated time frame. With Fast Track, students may count up to 9 graduate hours toward the completion of their undergraduate program as well as the graduate degree program.

Program Specifics:

- This program is available for undergraduate students pursuing a BS in biomechanics desiring to pursue a MS in biomechanics.
- Students must have completed no less than 60 undergraduate hours.
- Students must have a minimum undergraduate GPA of 3.0.
- Students must complete the Fast Track Approval form and obtain all signatures and submit to the Office of Graduate Studies prior to first enrollment in a graduate course.
- Students will work with their undergraduate advisor to register for the graduate courses.
- A minimum cumulative GPA of 3.0 is required for graduate coursework to remain in good standing.
- Students remain undergraduates until they meet all the requirements for the undergraduate degree and are eligible for all rights and privileges granted undergraduate status including financial aid.
- Near the end of the undergraduate program, formal application to the graduate program is required. The application fee will be waived, the applicant will need to contact the Office of Graduate Studies for a fee waiver code.
  - Admission to Fast Track does NOT guarantee admission to the graduate program.
  - Applicants for this program are highly encouraged to pursue research opportunities in the Department of Biomechanics or comparable programs.
  - The admit term must be after the completion term of the undergraduate degree.

All 8000 level BMCH courses are eligible for students as part of the Fast Track program.

Admissions

General Application Requirements and Admission Criteria (http://catalog.unomaha.edu/graduate/admission/)

Application Deadlines

Spring 2026, Summer 2026, and Fall 2026: Applications for this program are accepted on a rolling basis. All materials must be submitted prior to the beginning of the semester in which the student has elected to begin coursework. Priority deadline of February 1 for consideration of department funded graduate assistantships.

Other Requirements

- GPA of 3.0 in undergraduate program
- **Undergraduate Deficiency Courses:**
  - MATH 1950 Calculus I
  - BMCH 2400 Human Physiology & Anatomy I (or equivalent)
  - BMCH 4630 Biomechanics (or equivalent)
- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the U.S., **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (https://www.unomaha.edu/office-of-graduate-studies/admissions/entrance-exams.php), must meet the minimum language proficiency score requirement in order to be considered for admission.
  - Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 110, with no exceptions to this policy.
- **Statement of Purpose:** Written statement of goals and rationale for entering this graduate program. Also, identify the intended area of focus and the name of the faculty advisor with whom you wish to work (maximum one-page).
- **Resume or Curriculum Vitae (CV)**
- **Letters of Recommendation:** Two are required

Degree Requirements

Code	Title	Credits
Seminar Requirement (2 semesters)		
BMCH 8000	SEMINAR IN BIOMECHANICS	0
Statistics Requirement-Select 3 hours		**3**
BMCH 8030	BIOSTATISTICS IN BIOMECHANICS I	
KINS 8040	ADVANCED STATISTICS	
Biomechanics Requirement- Select 3 hours		**3**
BMCH 8450	ADVANCED BIOMECHANICS	
BMCH 8696	CARDIOVASCULAR BIOMECHANICS	
BMCH 8200	MATLAB FOR MOVEMENT SCIENCES	3
BMCH 8900	INDEPENDENT RESEARCH IN BIOMECHANICS	3
Select Thesis or Non-Thesis Option		**24**

Thesis Option		
BMCH 8990	THESIS IN BIOMECHANICS	
18 credit hours of electives-Graduate courses with KINS, BMCH or HEKI prefix and other advisor approved courses.		
Non-Thesis Option		
24 credit hours of electives-Graduate courses with KINS, BMCH or HEKI prefix and other advisor approved courses.		
All required courses require a grade of B or better.		
Total Credits		**36**

Exit Requirements

- Thesis Option- 6 hours BMCH 8990
- Non-Thesis Option - Comprehensive Examination

The student and faculty advisor will determine the Program of Study, including the elective courses and general area of research for the thesis.

Concentrations

Sports Biomechanics Concentration

Code	Title	Credits
BMCH 8646	ORTHOPEDIC BIOMECHANICS	3
BMCH 8686	SPORTS BIOMECHANICS	3
KINS 8076	OPTIMIZING SPORTS PERFORMANCE	3
KINS 8970	TOPICS IN SPORTS MEDICINE	3
Total Credits		**12**