BIOMECHANICS, M.S.

Biomechanics is the study of forces and their effects on living systems. Biomechanics provides advanced knowledge in biomechanics particularly related to performance enhancement and injury prevention. Students focus their academic course work on developing the ability to understand and apply the principles of biomechanics when serving as a movement analyst in competitive and recreational sport situations, as well as in the workplace.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission (http://www.marshall.edu/graduate/admissions/how-to-apply-for-admission/).

In addition (submit all materials directly to Graduate Admissions office):

For Full Admission

- an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work;
- an appropriate undergraduate/graduate background that includes anatomy, physiology, kinesiology, physics, algebra/trigonometry;
- Graduate Record Exam scores (no older than five (5) years) with at least a 295 combined score on verbal and quantitative reasoning on the GRE and an analytical writing GRE score of at least 3.0;
- a personal statement describing the applicant's interest in the program at Marshall and how the experience will benefit them professionally and personally;
- three (3) letters of recommendation from individuals familiar with the applicant's relevant academic/professional performance as it relates to the successful completion of the program.To continue in the M.S. in Biomechanics program, students are required to maintain a 3.0 GPA in all coursework.

For Provisional Admission

(a limited number of students may be admitted as provisional candidates)

- an undergraduate Grade Point Average (GPA) of 2.75 or higher on a 4.0 scale for all previously completed undergraduate university work;
- an appropriate undergraduate/graduate background that includes anatomy, physiology, kinesiology, physics, algebra/trigonometry;
- Graduate Record Exam scores (no older than five (5) years) with at least a 285 combined score on verbal and quantitative reasoning on the GRE and an analytical writing GRE score of at least 3.0;
- a personal statement describing the applicant's interest in the program at Marshall and how the experience will benefit them professionally and personally;
- three (3) letters of recommendation from individuals familiar with the applicant's relevant academic/professional performance as it relates to the successful completion of the program.

Acceptance into the M.S. Biomechanics program is competitive and not guaranteed. To continue in the M.S. in Biomechanics program, students are required to maintain a 3.0 GPA in all coursework.

Program Requirements

The M.S. in Biomechanics will consist of at least 36 post-baccalaureate credit hours that will be taken in a prescribed sequence to be developed by the student's graduate committee advisor. Students without a background in biomechanics will be advised to take additional foundation biomechanical courses.

Thesis or Comprehensive Examination

The thesis project is a collaborative academic effort between the student and the faculty of the School of Kinesiology. The student can receive up to 6 credit hours toward his or her 36 credit hour degree requirement. The thesis project and oral defense of the student's thesis project must occur prior to the completion of the student's final semester in the program. The thesis project needs to reflect an effort that is at least equivalent to the 6 credit hours and is to be completed over 2 or more semesters.

As an alternative to a thesis project, a student can choose to take a written/oral comprehensive examination. The comprehensive examination will consist of responses to written and verbal questions that are prepared by select faculty members of the School of Kinesiology.

Plan of Study

The Master of Science program consists of the following coursework:

Code	Title	Credit Hours
Required Courses		
EDF 676	Statistical Methods	3
ESS 670	Research Meth in Kinesiology	3
HS 535	Biomech Instrument MatLab	3
HS 610	Adv Biomechanics	3
HS 615	Kinematic Analysis App Biomech	3
HS 635	Kinetics in Biomech	3
HS 650	Human Gait	3
HS 681	Thesis	3
or HS 660	Internship	
Electives		
These are only suggested courses. Some courses may require permission from the instructor prior to enrollment. All prerequisites must be met.		
Select 9 credit hours of the following:		9
HS 578	Biomech Research Pract	
HS 595	Trends in Biomechanics 2	
ESS 578	Exercise Metabolism	
ESS 601	Adv Exercise Testing	
ESS 621	Adv Exercise Physiology I	
ESS 636	Structural Kinesiology	
ESS 642	Devise Train & Cond Prog	
ESS 651	Mech Analysis Motor Skill	
ESS 670	Research Meth in Kinesiology	
HP 605	The Role of EHR and PHR	
ESS 644	Cardio Exer Physiol	
ESS 645	Respir Exer Physiol	
ACB 620	Gross Anatomy/Embroyology	

BMR 628	Neuroscience I	
BMR 629	Neuroscience II	
DTS 670	Adv Med Nutrition Therapy I	
EDF 616	Adv Studies Human Develop	
EDF 617	Multiple Regression	
MPNA 724	Evidence Based Rscrch Mthds I	
MPNA 725	Evidence Based Rsrch Mthds II	
MPNA 726	Statistical Methods for Resear	
SFT 610	Intro to Prof Safety & Health	
SFT 630	Current Lit & Res in Safety	
SFT 645	Saf Engineering Equip Design	
SFT 660	Appl Ergon and Hum Factors Eng	
STA 518	Biostatistics	
Total Credit Hours		33