



# BIOMECHANICS SPECIALIZATION

Enhance your degree by applying **Mechanical Engineering** principles to solve problems in **medicine and biology**.

Students interested in **biomechanics** can select a set of **biology** and **biomechanics** courses to fulfill their math/science electives and technical electives within the BSME degree program. There is also an option to simultaneously complete the **Biology in Engineering Certificate (BEC) program**, which is a formal certificate designed for engineering students interested in **problems in biology and medicine**.

## RECOMMENDED COURSES

### Math and Science Electives (3 Credits)

- Biology 101 - Animal Biology (3)
- Biology 102 - Animal Biology Lab (2)
- Biology 151 - Introductory Biology (5)

### Technical Electives (12 credits)

- ANAT&PHY 335 - Physiology (5)
- ME/BME 414 - Orthopedic Biomechanics (3)
- ME/BME 415 - Biomechanics of Human Movement (3)
- ME 455 - Microrobotics (3)
- ME/BME 505 - Biofluidics (3)
- ME/BME 516 - Finite Elements for Biological and Other Soft Materials (3)
- BME/MED PHYS 535 - Introduction to Energy-Tissue Interactions (3)
- ME 601 - Special Topics: Design for Rehabilitation (3)
- ME/BME 605 - Special Topics in Biomechanics (1-3)
- ME/BME 615 - Tissue Mechanics (3)



## SUGGESTED EXTRACURRICULARS

- Human Powered Vehicle Competition
- American Society of Mechanical Engineers (ASME)
- American Society of Biomechanics (ASB)
- Biomedical Engineering Society (BMES)
- Undergraduate Research



## CAREER POSSIBILITIES

- Medical Devices
- Sports Equipment
- Orthopedic Implants
- Biomanufacturing
- Prosthetics
- Graduate Programs in Biomechanics
- Healthcare (medical school, physical therapy, etc.)

*\*Specializations are not formal, but rather a list of recommended tech elective courses and/or experiences to specialize in a certain area. Specializations do not appear on transcripts.*



**Mechanical Engineering**  
UNIVERSITY OF WISCONSIN-MADISON