Watson Biomedical Engineering

Major Overview:

Recent advances in the fields of biology, mathematics and physics have resulted in the development of a new field of engineering, commonly referred to as biomedical engineering. It encompasses the areas of biological, physiological, medical and social systems, as well as other fields in which the design, development or modification of complex, knowledge-intensive systems is a requirement.

Biomedical engineering educates individuals in the art of product and process development for the improvement of human health and quality of life. It is a unique science-based engineering discipline that not only draws on the sciences, but engineering sciences and the liberal arts as well.

Research Areas:

Watson students learn from and work with an outstanding and experienced faculty working in leading research areas. Students who participate in undergraduate research have the opportunity to delve into a focused area of interest, while gaining meaningful hands-on experience applying technical skills and putting their analytical and critical-thinking abilities to practice.

Research conducted in the Department of Biomedical Engineering includes:

- Stem cell and 3D printing
- Biological soft matter mechanics
- Biomolecular and tissue engineering
- Drug delivery and molecular imaging
- In vitro and in silico models of organs and tissues
- Complex systems and artificial life
- Interactive evolutionary computation

Watson School students are encouraged to speak with their individual department when seeking out opportunities in research.

Explore more research opportunities in the Biomedical Engineering Department. [http://www.binghamton.edu/biomedical-engineering/[

For more information about research in the Watson School, please visit the link. [http://binghamton.edu/watson/research]

Post-Graduation:

Biomedical engineers gain a broad array of skills which encompass biological, physiological, medical and social systems to improve our quality of life. Biomedical engineers will also learn about biodevices, pharmaceuticals, biomechanics and bioinformatics while developing analytical and creative-thinking skills.

Biomedical engineers can choose to pursue advanced degrees in biomedical engineering, business, law and medicine. Others enter the workforce in fields like food, environmental and rehabilitation engineering or at research institutions. A popular career field among biomedical engineers is healthcare, as it includes fascinating careers that work with pharmaceuticals, medical devices, artificial organs, prosthetics, medical instrumentation and medical imaging.

Biomedical engineering helpful link [http://www.binghamton.edu/biomedical-engineering/]

Courses:

First-year courses to consider:

Calculus I & Calculus II
Chemistry 111 Chemical Principles
Physics 131 Calculus Based General Physics I
WTSN 103 Engineering Communications I
WTSN 111 Introduction to Engineering Design
WTSN 104 Engineering Communications II
WTSN 112 Introduction to Engineering Analysis

Click here to access the University Bulletin for an in- depth description of each course. [http://bulletin.binghamton.edu/]

Thank you.

For more information contact Watson School Advising:

wtsnadv@binghamton.edu

(607-777-6203)