Undergraduate Studies Committee meeting report

The UGSC/ABET committee met on October 13th to decide on changes to the Bioengineering specialization.

October 13th , 2025 meeting attended by Professors Aderangi, Chmieleswski, Cinar and Perez-Luna.

Current state and recommended changes to the Bioengineering specialization:

Our current Bioengineering specialization offers two options, Bioengineering and Biomedical Engineering as described below.

Bioengineering

Program advisers: S. Parulekar and V. Pérez-Luna

Bioengineering has two career specializations:

Biomedical Engineering

Course List

Code	Title	Credit Hours
BIOL 107	General Biology Lectures	3
BIOL 115	Human Biology	3
Select one elective from the following:		
BIOL 214	Genetics	3
or BIOL 414	Genetics for Engineering Scientists	3
BIOL 401	Introductory Biochemistry	3
BIOL 430	Human Physiology	3
BIOL 445	Cell Biology	3

Biotechnology

Course List

Code	Title	Credit Hours
Select three electives from the following:		
BIOL 107	General Biology Lectures	3
BIOL 214	Genetics	3
or BIOL 414	Genetics for Engineering Scientists	3
BIOL 401	Introductory Biochemistry	3
BIOL 445	Cell Biology	3
CHE 577	Bioprocess Engineering	3

Proposed changes and Justification

Consolidate the specialization into one Bioengineering specialization and eliminate the Biomedical Engineering option (this specialization was created before the BME department was created at Illinois Tech).

- Students interested in the Bioengineering specialization should take Biochemistry Lectures, BIOL 403 as a core course.

Select three electives from the following:

Course	Course Title	Credits
BIOL 115	Human Biology	3
BIOL 210	Microbiology	3
BIOL 414	Genetics for Engineering Scientists	3
BIOL 430	Human Physiology	3
BIOL 445	Cell Biology	3
BIOL 475	Health and Disease in Modern Society	3
CHE 416	Technologies for Treatment of Diabetes	3
CHE 424	Quantitative Aspects of Cell and Tissue Engineering	3
CHE 426*	Statistical Tools for Engineers	3
BME 433*	Biomedical Applications of Statistics	3
XXX 491/XXX 591	Undergraduate/Graduate Research	1-6
CHE 577	Bioprocess Engineering	3
BME 310	Biomaterials	3
CHE 583	Pharmaceutical Engineering	3
CHE 585	Drug Delivery	3
CHE 514	Process Analytical Technology	3

- A student can only take one of CHE 426 or BME 433 as elective
- CHE 491 must be research work on a Bio related area