IOWA | Chemical and Biochemical Engineering

PRE-MEDICINE FOCUS AREA

Summary

The pre-medicine focus area allows chemical engineering students to align their technical training with the prerequisites and foundational science needed for medical school. Students complete the standard chemical engineering core while integrating additional coursework in advanced chemistry, biology, and related life-science areas, as required for the pre-med pathway. This combination prepares future physicians with a strong quantitative and problem-solving background, enabling them to approach medical challenges with an engineer's perspective in fields such as clinical research, medical technology, pharmaceuticals, and healthcare innovation.

Focus Area Requirements

In addition to the core chemical engineering requirements, you must choose a focus area and complete 12 s.h. toward that focus area. Below are the lists of possible focus area electives that can fulfill this requirement for the pre-med focus area. Your typical schedule may need to be rearranged to prepare you for the MCAT. If you feel another course would fit within this requirement, you must get approval from the department undergraduate director to have it count

Focus Area 12 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
F/S	BIOL:1411 Foundations of Biology	4
F/S	BME:2400 Cell and Tissue Engineering Fundamentals	3
F/S	PHYS:1612 Intro to Physics II	4

Other Electives that Align with this Focus Area

In addition to the focus area electives listed above, you will be required to complete the following electives to complete your degree: the Advanced Chemistry Elective (3 s.h.), the Advanced Chemistry Lab Elective, the Advanced Science Elective (3 s.h.), the Engineering Be Creative General Education Elective (3 s.h.), and the Cultural Perspectives, Values, & Society General Education Elective (3 s.h.). ***These do not count toward your focus area electives.*** Below are lists of possible courses to fulfill these requirements that align with this focus area.

Statistics Requirement 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
S	CBE:3020 Applied Statistics for Chemical and Natural Resources Engineering (recommended)	3
ALL	STAT:2020 Probability and Statistics for Engineers	3
ALL	STAT:3510 Biostatistics	3

Free Elective 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
ALL	HHP:2400 Human Physiology	3

Advanced Chemistry Elective 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
F/S	BMB:3110 Biochemistry	3

Advanced Chemistry Lab Elective 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
ALL	CHEM:2220 Organic Chemistry Lab	3
ALL	CHEM:2240 Organic Chemistry for Majors Lab	3

Advanced Science Elective 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
F/S	MICR:2157 General Microbiology	3
ALL	See Advanced Science List	3

Cultural Perspectives, Values & Society Gen Education Elective 3 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
F/S	WRIT:2100 Writing and Community Outreach	3
F	GHS:2100 Foundation of Health Humanities	3
F/S	PHIL:1401 Matters of Life and Death	3
F/S	DST:1101 Intro to Disability Studies	

General Education Elective 9 s.h. (possible courses that align with this focus area)

Offered	Course	s.h.
F/S	PSY:1001 Elementary Psychology (recommended)	3
S	PSY:2130 Advanced Psychology for Pre-Medical Track	3
ALL	SOC:1010 Introduction to Sociology	3