



Engineering-Bachelor of Science-Mechanical and Civil Concentrations

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| Courses required for the first year: Fall – ENGR-190, MATH-160 or MATH-140, according to placement** Spring - PHYS-211, MATH-160 if not taken in fall** |
| Courses recommended for the first year: Fall, J-Term, Spring - PHYS-200 Spring - MATH-220 (2 credits) |
| Contact: Dr. Joshua M. Dyer |

The Major in Engineering- Bachelor of Science

The engineering program strongly recommends that any student interested in engineering contact an engineering or physics faculty member as soon as possible. For many students, the ENGR-190 professor will be the easiest person to contact. Additional information about each concentration will be provided by the Physics, Engineering, and Astronomy department.

Required Courses

| Course Number | Course Name | Learning Perspective/ Suffix | Prerequisites | Usually offered: F, J, SP, SU* | Credits |
|---------------|----------------------------|------------------------------|---------------|--------------------------------|---------|
| ENGR-190 | Intro to Design | | | F | 4 |
| ENGR-290 | Experimentation and Design | | PHYS-200 | SP | 4 |
| ENGR-390 | Junior Design | | ENGR-290 | F or SP | 4 |
| ENGR-490 | Senior Inquiry | | ENGR-390 | F | 2 |
| ENGR-491 | Senior Inquiry | | ENGR-490 | SP | 2 |
| | Ethics Requirement | PH | | | |

Required Supporting Courses

| Course Number | Course Name | Learning Perspective/ Suffix | Prerequisites | Usually offered: F, J, SP, SU* | Credits |
|--|--|---------------------------------|---------------------------------------|-----------------------------------|---------|
| PHYS-200 | Modeling and Simulation | | MATH-140 | F/J/SP | 4 |
| PHYS-211 | Foundational Physics I | PN | MATH-160 (or co-requisite) | SP | 4 |
| PHYS-212 | Foundational Physics II | PN | PHYS-211 & MATH-260 (or co-requisite) | F | 4 |
| MATH-160 | Calculus | Q | | F/SP | 4 |
| MATH-220 | Integration Methods | | MATH-160 | F/SP | 2 |
| MATH-260 | Multivariable Calc | Q | MATH-220 | F | 4 |
| MATH-320 | Differential Equations & Linear Systems | | MATH-220 | SP | 4 |
| PHYS-201 or CHEM-131 or PHYS-213 | Materials Science or General Chemistry I or Foundational Physics III | PN | For PHYS-213: PHYS-211 & MATH-260 | F/SP or F/SP or SP | 4 |

Major Overview

- The BSE in general engineering is an ABET-accredited degree in general engineering, with possible concentrations in mechanical, environmental engineering, and civil.
- It is among the largest majors on the Augustana campus in terms of credit hours required (78 total), which means it is important that students complete the required courses during their first year. Failure to do this means that students *may* not be able to finish the degree in four years.
- A Study Abroad program of interest to engineers that travels to the Alps and carries PH and PA perspectives is offered in the spring term of odd years (2023, 2025, etc...)
- A minor in Engineering is not offered. However, there is a minor in Physics.
- Students may not double-major in Engineering Physics and Engineering (BSE).

**For students not eligible to enroll in MATH-140 Precalculus or higher in their first fall semester at Augustana, the BSE cannot be completed in four years. They are encouraged to consider other options like the BA in Engineering Physics or the BA in Physics.

*Fall, J term, Spring, Summer; see [Academic Calendar](#) for specific dates

Updated February 2025



Engineering-Bachelor of Science-Environmental & Sustainability Concentrations

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| Courses required for the first year: Fall – ENGR-190, MATH-160 or MATH-140, according to placement** Spring - PHYS-211, MATH-160 if not taken in fall** |
| Courses recommended for the first year: Fall, J-Term, Spring - PHYS-200 Spring - MATH-220 (2 credits) |
| Contact: Dr. Joshua M. Dyer |

The Major in Engineering- Bachelor of Science

A minor in Engineering is not offered. Students may not also major in Engineering Physics.

Required Courses

| Course Number | Course Name | Learning Perspective/ Suffix | Prerequisites | Usually offered: F, J, SP, SU | Credits |
|---------------|---|---------------------------------|---------------|----------------------------------|---------|
| ENGR-190 | Intro to Design | | | F | 4 |
| ENGR-290 | Experimentation and Design | | PHYS-200 | SP | 4 |
| ENGR-390 | Junior Design | | ENGR-290 | F or SP | 4 |
| ENGR-490 | Senior Inquiry | | ENGR-390 | F | 2 |
| ENGR-491 | Senior Inquiry | | ENGR-490 | SP | 2 |
| ENGR-340 | Principles of Environmental Engineering | | PHYS-211 | F | 4 |
| | Ethics Requirement | PH | | | |

Required Supporting Courses

| Course Number | Course Name | Learning Perspective/ Suffix | Prerequisites | Usually offered: F, J, SP, SU | Credits |
|--|--|---------------------------------|--------------------------------------|----------------------------------|---------|
| PHYS-200 | Modeling and Simulation | | | F/J/SP | 4 |
| PHYS-211 | Foundational Physics I | PN | MATH-160 (or co-requisite) | Foundational Physics I | 4 |
| MATH-160 | Calculus | Q | | F/SP | 4 |
| MATH-220 | Integration Methods | | MATH-160 | F/SP | 2 |
| MATH-260 | Multivariable Calc | Q | MATH-220 | F | 4 |
| ENVR-100 | Ecological Systems | | MATH-160 | F/J/SP | 4 |
| GEOL-101 | Physical Geology | | MATH-220 | F/J/SP/SU | 4 |
| PHYS-201 or CHEM-131 or PHYS-213 | Materials Science or General Chemistry I or Foundational Physics III | PN | For PHYS-213: PHYS-211 & MATH-260 | F/SP or F/SP or SP | 4 |

Major Overview

-A Study Abroad program of interest to engineers that travels to the Alps and carries PH and PA perspectives is offered in spring term of odd years.

-We recommend meeting with the engineering advisor ASAP to map out a course plan.

Note: Fall, J term, Spring, Summer; see [Academic Calendar](#) for specific dates

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