Major Program: Engineering

Program Code: EBS, Academic Year 2022-2023

Total credits required for the degree: 125

**Engineering + OPTIONS:** Students must choose one of the following options for this degree: EngineeringPlus, Business, Systems, or Individualized. See pages 2 to 5 for option requirements.

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**Major Requirements: 34 to 36 credits**

- CH 1150 (3)
- CH 1151 (1)
- EC 3400 (3)
- EE 3010 (3)
- ENG 1101 (3) or
  - ENG 1001 (2) and ENG 1100 (2)
- ENG 1102 (3)
- MA 1121 (4) or MA 1160 (4) or MA 1161 (5)
- MA 2160 (4)
- MA 2320 (2) or MA 2321 (2)
- MA 3160 (4)
- PH 1100 (1)
- PH 2100 (3)

**Select one course for 3 credits**

- MEEM 4650 (3)
- MET 4510 (3)
- OSM 4650 (3)

**Multidisciplinary Senior Design Project: 3 credits**

- ENG 4905 (3)

**Free Electives: 0 credits**

Free elective credits may be required depending on the number of credits completed in major requirements. Any coursework is allowable, excluding co-curricular and coursework below the 1000- level.

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**General Education Core, Humanities, Fine Arts, and Social Science (HASS) Requirements: 24 cr.**

Courses used to complete Core and HASS requirements may not be used to complete other degree requirements. Students must complete 12 credits of Core coursework and 12 credits of Humanities, Fine Arts, and Social Science (HASS) coursework. Repeatable courses may not be repeated for general education credit. Core and HASS courses can be found on the [General Education page](#).

**Core: 12 credits**

- UN 1015 (3)
- UN 1025 or an upper level modern language (3)
- Critical and Creative Thinking (3)
- Social Responsibility and Ethical Reasoning (3)

**HASS: 12 credits, six of the 12 credits must be at the 3000- or 4000- level**

- Communication/Composition (minimum 3 credits)
- Humanities and Fine Arts (minimum 3 credits)
- Social and Behavioral Sciences (minimum 3 credits)
- Any course from the General Education Core, HASS, or Restricted HASS course list (0 to 3 credits)

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**Co-curricular Activities: 3 credits**

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree. Only courses on the co-curricular course list are eligible. Half (0.5) credit courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the [General Education page](#).
EngineeringPlus is a broad engineering degree with the flexibility to tailor the degree with a minor using credits in the directed, technical, math/science electives, and general education. The degree allows for engineering specialization using credit in the technical electives.

**EngineeringPlus Core Modifications: 10 credits**
- CEE 3332 (3)
- ENG 3830 (1)
- MA 3710 (3)
- MSE 2100 (3)

**Select: Minimum 4 credits**
- ENG 2120 (4) or
  - MEEM 2110 (3) and MEEM 2150 (3)

**EngineeringPlus Directed Electives: 15 credits**
Select 15 credits in a coherent plan of study such as partial fulfillment of a university approved minor, or a self-defined program with approval from the BSE Academic Advisor. See advisor for preapproved options.

**EngineeringPlus Mathematics and/or Science Electives: 4 credits**
See academic advisor for a list of eligible courses.

**EngineeringPlus General Courses: 12 credits**
- CEE 3501 (3) or CEE 3503 (3)
- CEE 4506 (3) or ENG 4515 (3)
- ENG 4300 (3)
- MET 4300 (3)

**Technical Emphasis: 12 credits**
Select 12 engineering credits at the 3000+ level in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering. 6 credits must be 4000+ level.

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**Advisor Use Only**

Total credits required: 125
Total credits completed:
Total credits needed:

**Additional Information: check all that apply**
Currently enrolled in:
- ___ Undergraduate Certificate
- ___ Double Major
- ___ Minor
- ___ Additional Degree
Bachelor of Science in Engineering - Business Emphasis: 61 credits

Core Modifications: 18 credits

Core Modifications: Complete 12 credits
- ENG 2120 (4)
- ENG 3200 (4)
- ENG 3830 (1)
- MA 3710 (3)

Core Modifications: Select one course for 3 credits
- CEE 3101 (3)
- CS 1121 (3)
- ENG 2505 (3)
- GE 2300 (3)
- MSE 2100 (3)

Design Implementation: Select one course for 3 cr.
- CEE 3332 (3)
- CS 3141 (3)
- ENG 4505 (3)
- GE 3880 (3)
- MEEM 3600 (3)

Technical Emphasis: 20 to 21 credits
- ENG 4300 (3)

And, select 17 to 18 engineering credits at the 3000+ level in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering. 9 credits must be 4000+ level.

Business Electives: 9 credits
Select 3 credits from the following list:
- FIN 3000 (3) or EC 3400 (3)
- MGT 3000 (3)
- MKT 3000 (3)
- OSM 3000 (3)

Business Electives, continued
Select 6 credits from the following list, or 3 credits approved by the BSE Academic Advisor
- EC 3100 (3)
- HU 3120 (3)
- PSY 3070 (3)
- SS 3610 (3)
- SS 3650 (3) or MGT 3650 (3)

Business Directed Electives: 9 credits
Select 9 credits in a coherent plan of study such as partial fulfillment of a university approved minor, or a self-defined program with approval from the BSE Academic Advisor

Business Mathematics and/or Science Electives: 4 to 5 credits
- BUS 2300 (3)
And, select remaining 1 to 2 credits with approval by BSE Academic Advisor.

Advisor Use Only

| Total credits required: | 125 |
| Total credits completed |
| Total credits needed |

Additional Information: check all that apply
Currently enrolled in:
- ____ Undergraduate Certificate
- ____ Double Major
- ____ Minor
- ____ Additional Degree
Bachelor of Science in Engineering - Systems Emphasis: 61 credits

Core Modifications: 17 credits
- ENG 2120 (4)
- ENG 2505 (3)
- ENG 3200 (4)
- ENG 4505 (3)
- MA 3710 (3) or CEE 3710 (3)

Systems Technical Electives: 20 credits
- CEE 3332 (3)
- CEE 3501 (3) or CEE 3503 (3)
- ENG 4525 (3)
- ENG 1505 (1)
- ENG 3505 (1)
- ENG 2800 (3)
- ENG 4515 (3)
- MSE 2100 (3)

Business Core: 9 credits
- ACC 2000 (3)
- OSM 3000 (3)
- MKT 3000 (3)

Systems Mathematics and/or Science Electives: 6 credits minimum
- BL 1100 (3)
- FW 4260 (3) or FW 3410 (3)

Systems Pre-Approved Directed Electives: 9 credits
Select one of the following options
Option 1 - Enterprise: complete 9 credits
- ENT 3950 (1)
- ENT 3960 (1)
- ENT 4950 (2)
- ENT 4960 (2)
- ENT 2961 (2)
- ENT 2962 (1)
- ENT 3984 (3) or
  - ENT 3959 (1) and ENT 3967 (1) and ENT 3982 (1)

Option 2: Minor
Select 9 credits in a coherent plan of study as partial fulfillment of a university minor, or a self-defined program with approval by the BSE Academic Advisor.

Advisor Use Only

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Additional Information: check all that apply
Currently enrolled in:
- [ ] Undergraduate Certificate
- [ ] Double Major
- [ ] Minor
- [ ] Additional Degree
A coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering.

**Required Core Course:** 4 credits
- ENG 3830 (1)
- MA 3710 (3)

**Core Modifications:** Select one course for 3 credits
- CEE 3101 (3)
- CS 1121 (3)
- ENG 2505 (3)
- GE 2300 (3)
- MSE 2100 (3)

**Select Minimum 4 credits**
- ENG 2120 (4) or
  - MEEM 2110 (3) and MEEM 2510 (3)

**Select Minimum 4 credits**
- ENG 3200 (4) or
  - MEEM 2201 (3) and
  - MEEM 3201 (4) or MEEM 3210 (4)

**Design Implementation:** Select one course for 3 credits
- CEE 3332 (3)
- ENG 4505 (3)
- GE 3880 (3)
- MEEM 3600 (3)

**Technical Emphasis:** 18 to 19 credits
Select 18 to 19 engineering credits at the 3000+ level in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering. 12 credits must be 4000+ level.

**Individualized Directed Electives:** 9 credits
Select 9 credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering.

**Individualized Mathematics and/or Science Electives:** 4 to 5 credits
See academic advisor for a list of eligible courses

**Individualized Electives:** 11 credits
Select 11 credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering.

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**Additional Information:** check all that apply
**Currently enrolled in:**
- ___ Undergraduate Certificate
- ___ Double Major
- ___ Minor
- ___ Additional Degree