# ENGINEERING: SUSTAINABLE SYSTEMS ENGINEERING, MENG

## REQUIREMENTS

## MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (https://guide.wisc.edu/graduate/#requirementstext) and policies (https://guide.wisc.edu/graduate/#policiestext), in addition to the program requirements listed below.

## NAMED OPTION REQUIREMENTS

### MODE OF INSTRUCTION

| Face to Face | Evening/ Weekend | Online | Hybrid | Accelerated |
|---|---|---|---|---|
| No | No | Yes | No | No |

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

| Requirement | Detail |
|---|---|
| Minimum Credit Requirement | 30 credits |
| Minimum Residence Credit Requirement | 16 credits |
| Minimum Graduate Coursework Requirement | 15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/). |
| Overall Graduate GPA Requirement | 3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/). |
| Other Grade Requirements | Must retake any courses for which a grade below C is recorded. |
| Assessments and Examinations | No formal examination required. |
| Language Requirements | No language requirements. |

### REQUIRED COURSES

| Code | Title | Credits |
|---|---|---|
| **Capstone Course** | | |
| Required after completing 21 credits | | 3 |
| E P D 669 | Sustainable Systems Engineering Capstone | |
| **Science and Sustainability Courses** | | |
| Complete at least 9 credits from these courses | | 9 |
| BSE/ ENVIR ST 367 | Renewable Energy Systems (can count as Science and Sustainability OR Engineering and Design) | |
| CIV ENGR 723 | Energy Principles of Environmental Engineering | |
| CIV ENGR 729 | Environmental Sustainability Tools | |
| E P D 639 | Plastics Recycling and Sustainability | |
| E P D 648 | Plastics Manufacturing and Sustainability Seminar | |
| E P D 660 | Core Competencies of Sustainability (recommended for all SSE students) | |
| GEOSCI/ ENVIR ST 411 | Energy Resources | |
| **Engineering and Design Courses** | | |
| Complete at least 9 credits | | 9 |
| CIV ENGR/ G L E 535 | Wind Energy Balance-of-Plant Design | |
| E P D 699 | Independent Study | |
| E P D 600 | Special Topics in Engineering Professional Development (multiple course topics available - refer to advisor for approved courses) | |
| E P D 730 | Sustainable Facilities | |
| E P D 731 | Energy Efficiency in Buildings | |
| G L E 401 | Special Topics in Geological Engineering (specific course topics - refer to advisor for approved courses) | |
| **Elective Courses** | | |
| Complete at least 9 credits from the courses below or the two lists above | | 9 |
| CIV ENGR 525 | Case Studies Exploring Infrastructure Sustainability and Climate Change | |

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|---|---|
| CIV ENGR 629 | Special Topics in Environmental Engineering (specific course topics - refer to advisor for approved courses) |
| E P 418 | Sustainable Energy Challenges and Solutions |
| E P D 605 | Fundamentals of Technical Project Management |
| or E P D/ GEN BUS/ OTM 784 | Project Management Essentials |
| E P D 606 | Leading and Managing Technical Teams |
| or E P D/ GEN BUS/ M H R 783 | Leading Teams |
| E P D 611 | Engineering Economics and Management |
| E P D 612 | Technical Project Management |
| E P D 616 | Engineering Law |
| E P D 647 | Trends in Electrification Seminar |
| E P D 701 | Writing for Professionals |
| E P D 702 | Professional Presentations |
| E P D 704 | Organizational Communication and Problem Solving |
| E P D 706 | Change Management |
| E P D 707 | Engineering Research and Professional Projects |
| E P D 708 | Creating Breakthrough Innovations |
| E P D 711 | Strategic and Ethical Communication for Engineers * |
| E P D 712 | Ethics for Professionals |
| E P D/ACCT I S/ GEN BUS 781 | Financial and Business Acumen |
| E P D/GEN BUS/ MARKETNG 782 | Marketing for Non-Marketing Professionals |
| E P D/GEN BUS/ M H R 785 | Effective Negotiation Strategies |
| **Total Credits** | **30** |

* Students cannot apply both E P D 711 and E P D 712 to satisfy requirements.

## Other Policy

Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate or graduate degree programs.