

ENGINEERING: ENGINE SYSTEMS, M.ENG.

This is a named option within the Engineering M.Eng (<http://guide.wisc.edu/graduate/engineering-college-wide/engineering-meng/>).

The named option Engine Systems (<https://interpro.wisc.edu/online-degrees/master-of-engineering-engine-systems/>) is the only online engineering master's degree focused on internal combustion engine development. This interactive, web-based program provides internal combustion engine engineers with a broad base of skills in:

- Combustion
- Controls and vibrations
- Engine design and performance
- Thermodynamics, fluid mechanics, and heat transfer

The program is tailored for working engineers, offering:

- An online platform accessible to you from anywhere in the world
- Courses and projects that apply immediately to real-world work

More information about this graduate degree can be found here (<https://epd.wisc.edu/online-degrees/master-of-engineering-engine-systems/>).

ADMISSIONS

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet** the minimum requirements (<https://grad.wisc.edu/apply/requirements/>) **of the Graduate School as well as the program(s)**. Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/apply/>).

Requirements	Detail
Fall Deadline	August 15*
Spring Deadline	December 15*
Summer Deadline	May 15*
GRE (Graduate Record Examinations)	Not required but may be considered if available.**
English Proficiency Test	Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (https://grad.wisc.edu/apply/requirements/#english-proficiency).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	1

* **Applications are accepted after this date on a rolling admission basis for fall, spring, and summer terms.**

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Applicants are recommended to submit GRE scores if they have already taken the exam.

This 30-credit program can be completed in as little as 2.5 years.

Admission requirements for engineers interested in applying are:

- A B.S. degree in mechanical engineering or similar degree from an ABET-accredited program. Please contact Program Director to discuss your specific background.
- Students without the required mechanical engineering background may still be eligible for the program upon the successful completion of courses offered during the summer semester (starts early June).
- A minimum undergraduate grade point average (GPA) of 3.00 on the equivalent of the last 60 semester hours (approximately two years of work). Special cases may be considered, please discuss with Program Director. Students may still be eligible for the program upon the successful completion of courses offered during the summer semester (starts early June).

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding/>) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Students enrolled in this program are not eligible to receive tuition remission from graduate assistantship appointments at this institution.

FEDERAL LOANS

Students who are U.S. citizens or permanent residents are eligible to receive some level of funding through the federal direct loan program. These loans are available to qualified graduate students who are taking at least four credits during the Fall and Spring semesters, and two credits during Summer. Private loans are also available. Learn more about financial aid at financialaid.wisc.edu (<https://financialaid.wisc.edu/>).

EMPLOYER SUPPORT

Many students receive some financial support from their employers. Often, students find it beneficial to sit down with their employer and discuss how this program applies to their current and future responsibilities. Other key points to discuss include how participation will not interrupt your work schedule.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), 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	30 credits must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244).
Overall Graduate GPA Requirement	3.00 GPA required. This program follows the Graduate School's GPA Requirement policy (https://policy.wisc.edu/library/UW-1203).
Other Grade Requirements	Must retake any courses for which a grade below BC is recorded.
Assessments and Examinations	No formal examination required.

Language Requirements: No language requirements.

REQUIRED COURSES

Code	Title	Credits
Required courses:		22
E P D 622	Engine Design I	3
E P D 623	Engine Design II	3
E P D 624	Engine Performance and Combustion	3
E P D 625	Engine Gas Dynamics	3
E P D 627	Perspectives on Engine Modeling Seminar	1
E P D 628	Analysis of Trends in Engines	1
E P D 629	Powertrain Systems and Controls	3
E P D 633	Engine Boosting	2
E P D 642	Thermodynamics of Engine Systems	3
Electives:		8
E P D 620	Electrified Powertrain Systems	
E P D 621	Batteries for xElectrified Vehicles	
E P D 630	Engine Design III	
E P D 635	Exhaust Aftertreatment Systems	
E P D 645	Electric Machines for Traction Applications	
E P D 646	Electric Drives for Traction Applications	
E P D 612	Technical Project Management	
E P D 647	Trends in Electrification Seminar	
E P D 699	Independent Study	
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 783	Leading Teams	
E P D/GEN BUS/ M H R 785	Effective Negotiation Strategies	
E P D/GEN BUS/ OTM 784	Project Management Essentials	
E P D 631	Electrified Vehicle-Level Modeling	
E P D 720	Engine Noise and Vibration	
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 708	Creating Breakthrough Innovations	
E P D 712	Ethics for Professionals	
Other courses with program director approval.		

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, graduate or certificate programs.

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy/>) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

NAMED OPTION-SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Work from Other Institutions

This program follows the Graduate School's policy for Satisfying Requirements with Prior Graduate Coursework from Other Institutions. (<https://policy.wisc.edu/library/UW-1216/>)

UW–Madison Undergraduate

This program follows the Graduate School's policy for Satisfying Requirements with Coursework from Undergraduate Career at UW–Madison. (<https://policy.wisc.edu/library/UW-1216/>)

UW–Madison University Special

With program approval, students are allowed to count up to 9 credits of coursework numbered 300 or above taken as a UW–Madison Special student toward the minimum graduate residence credit requirement, and the minimum graduate degree credit requirement, and up to 15 credits of courses numbered 700 or above taken as a UW–Madison Special student toward the minimum graduate coursework (50%) requirement. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

PROBATION

This program follows the Graduate School's Probation policy. (<https://policy.wisc.edu/library/UW-1217/>)

ADVISOR / COMMITTEE

All students have both a plan advisor and academic advisor; programs without a fixed curriculum are required to meet with their advisor to outline an approved plan of study by the end of their first academic term.

CREDITS PER TERM ALLOWED

15 credits

TIME LIMITS

This program follows the Graduate School's Time Limits policy. (<https://policy.wisc.edu/library/UW-1221/>)

GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (<https://doso.students.wisc.edu/bias-or-hate-reporting/>)
- Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/#grievance-procedure>)
- Hostile and Intimidating Behavior Policies and Procedures (<https://hr.wisc.edu/hib/>)

- Office of the Provost for Faculty and Staff Affairs (<https://facstaff.provost.wisc.edu/>)
- Dean of Students Office (<https://doso.students.wisc.edu/>) (for all students to seek grievance assistance and support)
- Employee Assistance (<http://www.eao.wisc.edu/>) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (<https://employee disabilities.wisc.edu/>) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (<https://grad.wisc.edu/>) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (<https://compliance.wisc.edu/>) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office of Student Conduct and Community Standards (<https://conduct.students.wisc.edu/>) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (<http://www.ombuds.wisc.edu/>) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (<https://compliance.wisc.edu/titleix/>) (for concerns about discrimination)

Grievance Procedures

Students who feel that they have been treated unfairly have the right to a prompt hearing of their grievance. Such complaints may involve course grades, classroom treatment, advising, various forms of harassment, or other issues. Any student or potential student may use these procedures.

Procedures for proper accounting of student grievances:

1. The student should speak first with the person toward whom the grievance is directed. In most cases, grievances can be resolved at this level.
2. If that does not resolve the grievance, the student should contact the program's director.
3. Should a satisfactory resolution not be achieved, the student should contact one of the Interpro's Grievance Advisors to discuss the practice. The Interpro Grievance Advisors are:

Susan Ottman

Graduate Program Director
608-262-3516
sottmann@wisc.edu

Ed Borbely

Associate Dean
608-263-0982
borbely@wisc.edu

If the student prefers to talk with someone outside of Interpro, contact:

David Noyce

Executive Associate Dean
College of Engineering
danoyce@wisc.edu
608-265-1882

The Grievance Advisor is responsible for facilitating any complaints or issues of students. The Grievance Advisor first attempts to

help students informally address the grievance prior to any formal complaint. Students are also encouraged to talk with their advisors regarding concerns or difficulties if necessary.

University resources for sexual harassment concerns can be found on the UW Office of Equity and Diversity website and are included in the next section.

4. If the issue is not resolved to the student's satisfaction the student can submit the grievance to the Grievance Advisor in writing, within 60 calendar days of the alleged unfair treatment.

5. On receipt of a written complaint, a committee will be convened by the Grievance Advisor to manage the grievance. The program committee will obtain a written response from the person toward whom the complaint is directed. This response will be shared with the person filing the grievance.

6. The committee will determine a decision regarding the grievance. The Grievance Advisor will report on the action taken by the committee in writing to both the student and the party toward whom the complaint was directed within 15 working days from the date the complaint was received.

7. At this point, if either party (the student or the person toward whom the grievance is directed) is unsatisfied with the decision of the committee, the party may file a written appeal. Either party has 10 working days to file a written appeal to the College of Engineering.

8. Documentation of the grievance will be stored for at least 7 years. Significant grievances that set a precedent will be stored indefinitely. The Graduate School has established policies governing student conduct, academic dishonesty, and sexual and racial harassment. The Graduate School also has procedures for students wishing to appeal a grievance decision made at the College of Engineering level.

The Graduate School has procedures for students wishing to appeal a grievance decision made at the school/college level. These policies are described in the Graduate School's Academic Policies and Procedures: <https://grad.wisc.edu/documents/grievances-and-appeals/>

OTHER

Students are strongly discouraged to pursue positions as Project Assistants, Teaching Assistants or Research Assistants during their time in this program. Students in this program will not receive the tuition remission that is typically part of the compensation package for a graduate assistantship.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.