

# MECHANICAL ENGINEERING, PHD

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

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

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	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	60 credits
Minimum Residence Credit Requirement	32 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%) Requirement Policy: <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> )
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> )

**Other Grade Requirements** Students must earn a C or above in all formal coursework. PhD candidates may not have any more than two Incompletes on their record at any one time.

**Assessments and Examinations** The PhD candidate will need to pass a qualifying exam, preliminary exam, and a final defense in order to obtain a degree.

**Language Requirements** No language requirements.

**Graduate School Breadth Requirement** All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Refer to the Graduate School: Breadth Requirement in Doctoral Training policy: <https://policy.wisc.edu/library/UW-1200> (<https://policy.wisc.edu/library/UW-1200/>).

### REQUIRED COURSES

Code	Title	Credits
<b>Seminar Requirement<sup>1</sup></b>		
Two terms of seminar, successfully completed, are required. These should be completed in the first two terms of enrollment. <sup>1</sup>		0
M E 903	Graduate Seminar	
<b>Research Credits Requirement</b>		
Students complete at least 24 credits of research. Course options include: <sup>2</sup>		24
M E 790	Master's Research and Thesis	
M E 890	PhD Research and Thesis	
M E 990	Dissertator Research and Thesis	
<b>Formal Credits Requirement<sup>3</sup></b>		
Complete the following requirements (requirements may overlap) <sup>4</sup>		36
Minimum 9 credits (usually 3 courses) numbered 700 or above		
Minimum 3 credits (usually 1 course) numbered 700 or above in Mechanical Engineering (M E) and/or Engineering Mechanics (E M A) taken at UW-Madison		
Minimum 3 credits (1 course) math course from Math Requirement Course List (see below)		
Remaining credits to get to 36 minimum <sup>5</sup>		
<b>Total Credits</b>		<b>60</b>

<sup>1</sup> If a UW-Madison Mechanical Engineering MS degree was completed with two successful terms of M E 903, then an additional two terms are not required.

<sup>2</sup> An overall grade of S is required.

<sup>3</sup> Formal credits/courses are any course offering that is not a seminar course, thesis/research course, independent study, co-op/internship, etc.

<sup>4</sup> Students must complete a minimum of 36 credits of formal coursework inclusive of the requirements listed below.

<sup>5</sup> Acceptable courses for remainder of the required 36 formal credits (this total includes the courses taken in the PhD breadth requirement) are formal courses numbered 400 and above.

**Math Requirement Course List**

<b>Code</b>	<b>Title</b>	<b>Credits</b>
M E 737	Scientific Computing and Machine Learning for Engineering Applications	3
E M A/E P 476	Introduction to Scientific Computing for Engineering Physics	3
E M A/E P 547	Engineering Analysis I	3
E M A/E P 548	Engineering Analysis II	3
MATH 321	Applied Mathematical Analysis 1: Vector and Complex Calculus	3
MATH 322	Applied Mathematical Analysis 2: Partial Differential Equations	3

Courses numbered 400 and above in Math Department

Courses numbered 400 and above in Statistics Department

Graduate "transfer credits" equivalent to the above