

# MECHANICAL ENGINEERING MAJOR

## Program Tracking Sheet

Effective for students entering AY 2019-2020

Name:	Class Year:
Advisor:	2 <sup>nd</sup> Major:

**NOTES:** Minimum total academic credit = 15 units

Residency Req.: Min. of 8 units must be completed at WPI

### **HUMANITIES AND ARTS (2 units)**

All 5 HUA courses must be completed before beginning the Inquiry Seminar or Practicum.

<b>Depth Component</b>				
Students must complete at least three thematically-related courses prior to the culminating Inquiry Seminar or Practicum in the same thematic area. At least one of the three courses should be at the 2000-level or above.				
	Course	Term	Grade	Units
1				1/3
2				1/3
3				1/3
4	HU 3900 or HU 3910			1/3
<b>Breadth Component</b>				
Students must take at least one course outside the grouping in which they complete their depth component. To identify breadth, courses are grouped in the following manner.				
i. art/art history, drama/theatre, and music (AR, EN/TH, MU);				
ii. foreign languages (AB, CN, EN, GN, SP);				
iii. literature and writing rhetoric (EN, WR, RH);				
iv. history and international studies (HI, HU, INTL);				
v. philosophy and religion (PY, RE).				
Exception: May take all six courses in a foreign language				
5				1/3
<b>Humanities Elective</b>				
6				1/3

### **PHYSICAL EDUCATION (4 PE classes = 1/3 unit)**

7				1/12
				1/12
				1/12
				1/12

### **SOCIAL SCIENCE (2/3 unit) ECON, ENV, GOV, PSY, SD, SOC, SS, STS and ID2050**

8				1/3
9				1/3

### **THE INTERACTIVE QUALIFYING PROJECT (1 unit)**

10				1/3
11				1/3
12				1/3

### **FREE ELECTIVES (1 unit)**

13				1/3
14				1/3
15				1/3

### **MATHEMATICS AND BASIC SCIENCE (4 units)**

#### **MATHEMATICS (5/3 units)**

Must include Differential & Integral Calculus and Ordinary Differential Equations

16	MA 1021 Calculus I			1/3
17	MA 1022 Calculus II			1/3
18	MA 1023 Calculus III			1/3
19	MA 1024 Calculus IV			1/3
20	MA 2051 Ordinary Differential Equations			1/3

### **SCIENCE (3/3 unit)**

One Chemistry and two Physics, OR one Physics and two Chemistry

21				1/3
22				1/3
23				1/3

### **STUDENT SELECTED COURSES (4/3 unit)**

From the general category of Mathematics and/or Basic Science

24				1/3
25				1/3
26				1/3
27				1/3

### **ENGINEERING SCIENCE AND DESIGN (6 units)**

(Notes 1,2)

#### **MECHANICAL SYSTEMS (3/3 unit)**

28	ES 2501 Intro to Static Systems			1/3
29	ES 2502 Stress Analysis			1/3
30	ES 2503 Intro to Dynamic Systems			1/3

#### **THERMAL SYSTEMS (3/3 unit) (Note 3)**

31	ES 3001 Intro to Thermodynamics			1/3
32	ES 3004 Fluid Mechanics			1/3
33	ES 3003 Heat Transfer			1/3

#### **OTHER COURSES (3/3 unit) (Note 4)**

34	ES 2001 Intro to Material Science			1/3
35	ECE 2010 Intro to ECE			1/3
36	ME 3901 Engineering Experimentation			1/3

### **MAJOR QUALIFYING PROJECT (3/3 unit)**

37				1/3
38				1/3
39				1/3

### **ELECTIVES (6/3 unit)**

At least one unit must be chosen in ME courses at the 4000-level or higher, or FP 520, 521, 553.

40				1/3
41				1/3
42				1/3
43				1/3
44				1/3
45				1/3

### **OTHER ACTIVITIES**

Activity	Course Number	<b>Note 1:</b> All programs must include an activity in each listed category. (See "Other Activities" in the Mechanical Engineering Program Chart in Undergraduate Catalog for applicable courses.)
Linear Algebra		
Statistics		
Mechanical System Design		
Thermal System Design		
Realization		
Capstone Design		

**Note 1 cont.:** Courses used to satisfy these activities can be "multiple-

counted". They can be used to simultaneously satisfy the mechanical engineering, mathematics and basic science, and free elective requirements.

**Note 2:** Elective courses from other engineering disciplines can also be selected at the 2000, 3000 or 4000 levels.

**Note 3:** ES 3001 can be replaced by CH 3510 or PH 2101. If CH or PH is used to cover thermodynamics, this course counts as a science; another engineering elective is then required.

**Note 4:** ECE 2010 or any ECE course other than ECE 1799.