# MECHANICAL ENGINEERING MAJOR
## Program Tracking Sheet
Effective for students entering AY 2019-2020

| Name: | Class Year: |
|---|---|
| Advisor: | 2nd 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.

**Depth Component**
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 |

**Breadth Component**
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 |

**Humanities Elective**

| | | | | |
|---|---|---|---|---|
| 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, DEV, 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 |
|---|---|
| Linear Algebra | |
| Statistics | |
| Mechanical System Design | |
| Thermal System Design | |
| Realization | |
| Capstone Design | |

**Note 1:** 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.)

**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.