

## Mechanical Engineering

### First Year

#### Fall Semester

- 3 ENC 1101 Composition I
- 4 **MAC 2281 Engineering Calculus I**
- 3 **CHS 2440 Chemistry for Engineers**
- 1 **CHS 2440L Chemistry for Engineers Lab**
- R EGN 3000 Foundations of Engineering
- 1 EGN 3000 LAB Foundations of Engineering
- 3 FKL Humanities Elective
- 15 *Total Credits*

#### Spring Semester

- 3 ENC 1102 Composition II
- 4 **MAC 2282 Engineering Calculus II**
- 3 **PHY 2048 General Physics I**
- 1 **PHY 2048L General Physics I Lab**
- 3 FKL Fine Arts Elective
- 14 *Total Credits*

### Second Year

#### Fall Semester

- 4 **MAC 2283 Engineering Calculus III**
- 3 **PHY 2049 General Physics II**
- 1 **PHY 2049L General Physics II Lab**
- 3 **\*EGN 3311 Statics**
- 3 FKL Social & Behavioral Science Elective

14 *Total Credits*

#### Spring Semester

- 3 EGN 3321 Dynamics
- 3 EGN 3365 Materials Engineering I
- 3 EGN 3373 Electrical Systems I
- 1 EML 3035 Programming Concepts
- 3 MAP 2302 Differential Equations
- 3 FKL Social & Behavioral Science Elective

16 *Total Credits*

#### Summer School

- 3 EGN 3343 Thermo I
- 3 EGN 3443 Probability & Statistics for Engineers
- 3 EML 3500 Mechanics of Solids
- 3 FKL Human/Diversity & Global Elective

12 *Total Credits*

### Third Year

#### Fall Semester

- 3 EML 3041 Computational Methods
- 3 EML 3701 Fluid Systems
- 3 EML 3022 Computer Aided Design (CAD)
- 3 EML 4325 Mechanical Manufacturing Processes
- 3 ENC 3246 Communication for Engineers (6A WI)

15 *Total Credits*

#### Spring Semester

- 3 EML 4501 Machine Design
- 3 EML 3303 Mechanical Engineering Lab I
- 3 EML 4123 Heat Transfer
- 3 Approved Technical/Design/Science Elective
- 3 EML 3262 Kinematics & Dynamics of Machinery

15 *Total Credits*

#### Internship/Co-op

List Company/employer name and position

### Fourth Year

#### Fall Semester

- 3 EML 4106C Thermal Systems
- 3 EML 4302 Mechanical Engineering Lab II
- 3 EML 4220 Vibrations
- 3 Approved Technical/Design/Science Elective
- 3 FKL Humanities Elective

15 *Total Credits*

#### Spring Semester

- 3 EML 4312 Mechanical Controls
- 3 EML 4551 Capstone Design (CD)
- 3 Approved Technical/Design/Science Elective
- 3 Approved Technical/Design/Science Elective

12 *Total Credits*

#### Note:

Courses in bold must be completed with an overall grade point average of 2.50.

\* - Critical course that begins a 5 semester sequence.

R – Required course.

## Entrance Requirements into the Department Mechanical Engineering

- Completion of the following courses with a minimum grade of C and an overall grade point average of 2.50 (based on all attempts unless grade forgiveness is used) for the following courses:
  - \_\_\_ **Calculus I or Engineering Calculus I (MAC2311 or MAC2281)**
  - \_\_\_ **General Chemistry I (CHM2045&2045L)**
  - \_\_\_ **Calculus II or Engineering Calculus II (MAC2312 or MAC2282)**
  - \_\_\_ **Physics I (PHY2048, 2048L)**
  - \_\_\_ **Calculus III or Engineering Calculus III (MAC2313 or MAC 2283)**
  - \_\_\_ **Physics II (PHY2049, PHY2049L)**
- Need a USF GPA and an Overall GPA of 2.00 or better

### ***Continuation Requirements:***

- “C-“ is the minimum acceptable grade in an engineering course that is a prerequisite for a subsequent course and in FKL courses. A minimum GPA of 2.00 in the following categories must be maintained at all times: Overall, USF, Math/Science, Engineering Courses and Specialization Courses.
- All math, science and engineering courses must be successfully completed in no more than three registered attempts. Grades of W, I, IF, U, R, and M are considered attempts. Registration that is canceled for non-payment is also considered an attempt.

**Gordon Rule (6A)** is fully met through the mathematics courses above, ENC 1101, ENC 1102, ENC 3246 and by selecting one technical or general education elective that is an approved 6A communication course. Gordon Rule communication requirement is met for any student entering USF with 60 or more hours.

**Exit Requirements:** Exit requirements must be taken at USF. The Capstone Design (CD) and Writing Intensive (WI) exit requirements are met through ENC 3246 and EML 4551.

**Course sequence:** Courses in red should be taken in sequence as early as possible in preparation for your major. Foundation of Knowledge & Learning (FKL) courses may be taken in any order.