

# Mechanical Engineering B.S.M.E.

120 credits, 2024/2025 Catalog

## First Year

Fall Semester	Spring Semester
3 ENC 1101 Composition I	3 ENC 1102 Composition II
4 <b>MAC 2281 or MAC 2311 Calculus I</b>	4 <b>MAC 2282 or MAC 2312 Calculus II</b>
3 <b>CHS 2440 or CHM 2045 Chemistry I</b>	3 <b>PHY 2048 General Physics I</b>
1 <b>CHS 2440L or CHM 2045L Chemistry Lab</b>	1 <b>PHY 2048L General Physics I Lab</b>
R EGN 3000 Foundations of Engineering	3 St Gen Ed Core Humanities Elective
3 EGN 3000L Foundations of Engineering Lab (TGEC)	
14 <i>Total Credits</i>	14 <i>Total Credits</i>

## Second Year

Fall Semester	Spring Semester	Summer
4 <b>MAC 2283 or MAC 2313 Calculus III</b>	3 * <b>EGN 3343 Thermodynamics</b>	3 EML 3035 Prog. Concepts
3 <b>PHY 2049 General Physics II</b>	3 * <b>EML 3500 Mechanics of Solids</b>	3 EGN 3365 Materials
1 <b>PHY 2049L General Physics II Lab</b>	3 * <b>EGN 3321 Dynamics</b>	Engineering I
3 * <b>EGN 3311 Statics</b>	3 EGN 3433 Mod Anlys Eng Sys	3 EML 3022 CAD
3 EGN 3615 Engr Econ Social/Global Impltn (TGED)	or MAP 2302 Differential Equations	
! <a href="#">Apply for Progression to Upper Division</a>	3 ** St Gen Ed Social Science Elective	
14 <i>Total Credits</i>	15 <i>Total Credits</i>	9 <i>Total Credits</i>

## Third Year

Fall Semester	Spring Semester	Summer
3 EML 3041 Computational Methods	3 EGN 3373 Electrical Systems I	<b>Recommended</b>
3 EML 3701 Fluid Systems	3 EML 3303 Mechanical Engineering Lab I	<b>Internship/Co-op</b>
3 EML 4325 Mechanical Manufacturing Processes	3 EML 4501 Machine Design	List
3 EML 3262 Kinematics & Dynamics of Machinery	3 EML 4106C Thermal Systems	Company/employer
3 EGN 3443 Probability & Statistics for Engineers (TGEI)	3 EML 4123 Heat Transfer	name and position
15 <i>Total Credits</i>	15 <i>Total Credits</i>	

## Fourth Year

Fall Semester	Spring Semester
3 EML 4550 Capstone I – Ethics (TGEE)	3 EML 4551 Capstone Design (TGEH)
3 EML 4302 Mechanical Engineering Lab II	3 Approved Technical/Design/Science Elective
3 EML 4220 Vibrations	3 Approved Technical/Design/Science Elective
3 EML 4312 Mechanical Controls	3 Approved Technical/Design/Science Elective
! <a href="#">Apply for Graduation</a>	0 EGN 4930 Advising for Graduating Seniors
12 <i>Total Credits</i>	12 <i>Total Credits</i>

**Note:** Courses in bold must be completed with an overall grade point average of 3.00, see overleaf.

R – Required course.

\* – High priority courses. Statics & Dynamics have min C+ grade. Thermo & Mech Solids are min C grade.

\*\* Students must meet the Civic Literacy requirement with credit for AMH 2010 (fall 2024 or later), AMH 2020, or POS 2041 and passing the Florida Civics Literacy Exam.

TGEC = Gen Ed Creative Thinking, TGEI = Gen Ed Information & Data Literacy, TGED = Gen Ed Human & Cultural Diversity,

TGEE = Gen Ed Ethical Reasoning & Civic Engagement, TGEH = Gen Ed High Impact Practice Capstone

This semester plan is provided as a guide; the catalog is the definitive source of requirements.

7/31/2024

# Mechanical Engineering Requirements for Progression to Upper Division

- Completion of the following courses with a minimum grade of C (not a "C-") and a cumulative **3.00 GPA** based on best attempt (max two attempts) for the following courses:

- \_\_\_\_\_ Calculus I or Engineering Calculus I (MAC2311 or MAC2281)
- \_\_\_\_\_ Calculus II or Engineering Calculus II (MAC2312 or MAC2282)
- \_\_\_\_\_ Calculus III or Engineering Calculus III (MAC2313 or MAC 2283)
- \_\_\_\_\_ Physics I with lab (PHY2048 and PHY2048L)
- \_\_\_\_\_ Physics II with lab (PHY2049 or 2061 and PHY2049L)
- \_\_\_\_\_ General Chemistry I or Chemistry for Engineers (CHM2045 & 2045L or CHS 2440 & 2440L)

- Need a USF GPA and an Overall GPA of **2.50** or better

## Continuation and Graduation Requirements

Reference Catalog: [https://catalog.usf.edu/preview\\_program.php?catoid=21&poid=10335](https://catalog.usf.edu/preview_program.php?catoid=21&poid=10335)

- Completion of EGN 3311 Statics and EGN 3321 Dynamics with a minimum grade of "C+" in each course (grade of C is insufficient).
- Completion of EML 3500 Mechanics of Solids and EGN 3343 Thermodynamics I with a minimum grade of C in each course (C- is insufficient).
- The minimum acceptable grade in all BSME required math and science courses is a C or higher (C- is insufficient). Unless otherwise stated, the minimum acceptable grade in engineering and specialization courses is a C-.
- Students must have and maintain a minimum 2.0 Semester GPA, 2.0 Math and Science GPA, 2.0 Engineering GPA, 2.0 Specialization GPA, 2.0 USF GPA, and 2.0 Overall GPA.
- All math, science and engineering courses must be successfully completed in no more than **two** registered attempts. Grades of W, IF, U, and R are considered attempts.

## Course Equivalencies

Courses at USF	Courses at a Florida State Institution
MAC 2281 Engineering Calculus I or MAC 2311 Calculus I	MAC X311 <b>or</b> MAC X281
MAC 2282 Engineering Calculus II or MAC 2312 Calculus II	MAC X312 <b>or</b> MAC X282
MAC 2283 Engineering Calculus III or MAC 2313 Calculus III	MAC X313 <b>or</b> MAC X283
MAP 2302 Differential Equations or EGN 3433 Modeling Analysis of Eng Systems	MAP X302 <b>or</b> MAP X305
CHM 2045/CHM 2045L General Chemistry I with Lab Or CHS 2440/2440L General Chemistry for Engineers with lab	CHM X045/X045L or CHM X045C or CHM X041/X045L or CHS X440/X440L
PHY 2048/2048L General Physics I with PHY 2048L	PHY X048/X048L or PHY X048C or PHY X043/X048L
PHY 2049/2049L General Physics II or PHY 2061 Enriched Physics II with PHY 2049L	PHY X049/X049L or PHY X049C or PHY X044/X049L