FIU Mechanical Engineering Undergraduate Program
Flowchart of BSME Curriculum

Terminology:
- Term: 1-8
- Crds.: Credits
- Sem.: Semester
- Total Creds: 128

Pathways:
- If Materials, Mechanisms & Manufacturing area take 1st course listed for each box.
- If Fluids/Thermal Science & Energy Systems area take 2nd course listed.

Prerequisites:
- Admission Requirements: Calculus I ready.
- Pre-req: MAC 1105 + (MAC 1114+MAC 1140) or MAC 1147

Other requirements:
- FLENT/FLEX
- GRW1
- GRW2
- Summer (9crds)
- GL Found.
- Civics Literacy

Admission Requirements:

FIU Mechanical Engineering Undergraduate Program Flowchart of BSME Curriculum

Other requirements:
- Admission Requirements: Calculus I ready.
- Pre-req: MAC 1105 + (MAC 1114+MAC 1140) or MAC 1147
A student must complete all courses from the “Advanced Core Electives” from Group 1 or from Group 2. The student must also complete two Technical Electives courses and one Design Elective course.

### Materials, Mechanical Systems and Manufacturing

**Group 1 - Advanced Core Electives**
- EMA 3702L Mechanics and Materials Science Lab. Prereq: EMA 3702 and EML 3301L. Coreq: EMA 3702
- EML 4501 Mechanical Design II. Prereq: EML 3500
- EML 4503 Production Machine Modeling and Design. Prereq: EML 3500
- EML 4505 Intro to Mechatronics. Prereq: EEL 3110C or (EEL 3110 and EEL 3110L).
- EML 4506 Modeling and Control of Robots. Prereq: EGN 3321 and EGM 3311

**Technical Elective Courses**
- EAS 4200 Intro to Design and Analysis of Aerospace Structures. Prereq: EML 3036, MAP 2302 or EGM 3311, EMA 3702.
- EGM 4370 Intro. Meshfree and Alternative Methods in ME. Prereq: EML 3036, (MAP 2302 or EGM 3311), or instructor permission.
- EGM 5315 Intermediate Analysis of Mechanical Systems
- EMA 3086 Polymer Science and Engineering. Prereq: EGN 3365.
- EMA 4223 Mechanical Metallurgy. Prereq: EGN 3365 and EMA 3702.
- EMA 5295 Principles of Composite Materials. Prereq: EGM 5615 or instructor permission.
- EMA 5935 Advanced Topics in Materials Engineering. Prereq: EGN 3343 and EGN 3365.
- EML 4220 Mechanical Vibrations. Prereq: EGN 3321, EMA 3702, and EML 2032.
- EML 4561 Intro to Computational Thermo Fluids. Prereq: EGM 3311. Coereq.: EML 4140.
- EML 4721 Intro to Computational Thermo Fluids. Prereq: EGM 3311. Coreq.: EML 4140.

### Fluids/Thermal Sciences and Energy Systems

**Group 2 - Advanced Core Electives**
- EML 3126L Transport Phenomena Laboratory. Prereq: EML 3126 and EML 3301L.
- EML 4721 Intro to Computational Thermo Fluids. Prereq: EGM 3311. Coreq.: EML 4140.

**Technical Elective Courses**
- EGM 4350 Finite Element Analysis in Mechanical Design. Prereq.: EGM 3311 and EMA 3702. Coereq.: EML 4140.
- EGM 4370 Intro. Meshfree and Alternative Methods in ME. Prereq: EML 3036, (MAP 2302 or EGM 3311), or instructor permission.
- EML 4501 Mechanical Design II. Prereq: EML 3500
- EML 4601 Principles of Refrigeration and Air Conditioning. Prereq: EML 3101 or instructor permission.
- EML 4603 Air Conditioning Design. Prereq: EML 4140 or instructor permission.
- EML 4608C Mechanical Systems in Environmental Control. Prereq: EGN 3343.
- EML 4702 Fluid Dynamics. Prereq: EML 3126.
- EML 4711 Gas Dynamics. Prereq: EML 3126 and EGN 3343.

**Design Electives**
- EAS 4200 Intro to Design & Analysis of Aerospace Structures
- EGM 4350 Finite Element Analysis in Mechanical Engineering
- EML 4503 Production Machine Modeling and Design
- EML 4535 Mechanical Computer Aided Design
- EML 4561 Introduction to Electronic Packaging
- EML 4603 Air Conditioning Design
- EML 4840 Robot Design
- EML 4857 Design Optimization
- EML 4501 Mechanical Design II (only if the student selects Group 2 - Advanced Core Electives)
- EML 4706 Design of Thermal/Fluid Sys (only if the student selects Group 1 - Advanced Core Electives)

### Important Information for the MECHANICAL ENGINEERING Curriculum

- Grade "D" or better required for all ME courses, see advisor for clarification.
- EGS 1006 Intro to Engineering is required if transferring with less than 30 credit hours; otherwise, students may take an approved Technical/Engineering Elective instead.
- Humanities, Social Science, Art courses mentioned are recommended. For other University Core Curriculum (UCC) Courses, go to: http://undergrad.fiu.edu/advising/pdfs/ucc-new.pdf
- **Gordon Rule with Writing (GRW) requirement**: To fulfill this requirement, students can select any two GRW designated courses (six credit hours) chosen from the University Core Curriculum (UCC) courses list.
- **Global Learning (GL) Requirement**:
  - Transfer students who do not meet UCC requirements or have less than 60 credit hours prior to entering FIU must take one Global Learning (GL) Foundation course and one Global Learning Discipline-Specific course.
  - Transfer students who have more than 60 credit hours with or without an “AA” prior to entering FIU must take the Global Learning (GL) requirement by completing two Global Learning Discipline-Specific courses which are Senior Design Project courses (EML 4551 and EML 4905).