

Effective
Summer B 2015
(Revised Sept. 2016)

FIU Mechanical Engineering Undergraduate Program Flowchart of BSME Curriculum

Prerequisite →
Co-requisite - - - →

Hum/ Social Sci/ Comm

Math & Sciences

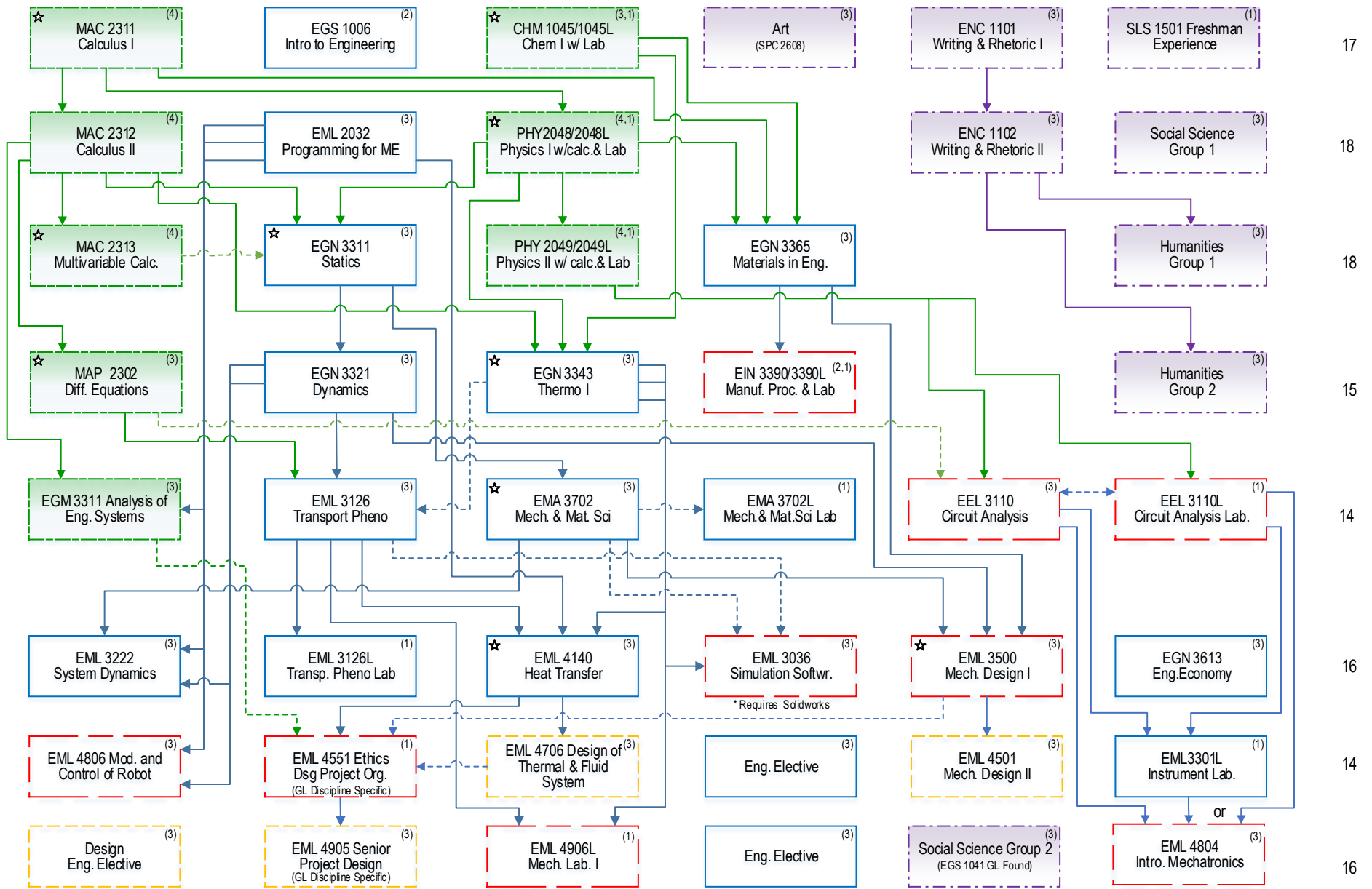
Eng. Sciences

Eng. Sciences & Design

Eng. Design

Term

Crds.



★ Indicates critical courses for progress

Other requirements: GPA>2.0: _____ GL Foundations _____ Flent/Flex _____
 EML 1533 Intro to 3D CAD for ME's (SolidWorks) (3crds) _____ GRW1/GRW2 _____ Summer (9crds) _____
 Admission Requirements: Calculus I ready, Pre-req: MAC 1105+ (MAC 1114+MAC 1140) or MAC 1147

Total 128
Crds.

ELECTIVES

Students are required to complete nine credit hours of technical electives, three of which must be approved Design Electives.

Fluids/Thermal Sciences and Energy Systems

EAS 4712 Aerodynamic Shape Design
EGM 4350 Finite Element Analysis in Mechanical Design
EGM 4370 Intro. to Meshfree and Alternative Methods in ME
EML 3450 Energy Systems
EML 4419 Propulsion Systems
EML 4421 Internal Combustion Engines
EML 4601 Principles of Refrigerating and Air Conditioning
EML 4601L Refrigeration and A/C Lab
EML 4603 Air Conditioning Design
EML 4608C Mechanical Systems in Environmental Control
EML 4702 Fluid Dynamics
EML 4711 Gas Dynamics
EML 4721 Intro to Computational Thermo Fluids

Mechanics, Materials and Design

EAS 4200 Intro to Design and Analysis of Aerospace Structures
EGM 4610 Introduction to Continuum Mechanics
EGM 4350 Finite Element Analysis in Mechanical Design
EGM 4370 Intro. to Meshfree and Alternative Methods in ME
EGM 5315 Intermediate Analysis of Mechanical Systems
EGM 5615 Synthesis of Engineering Mechanics
EGN 5367 Industrial Materials and Engineering Design
EMA 3066 Polymer Science and Engineering
EMA 4121 Physical Metallurgy
EMA 4121L Materials Laboratory
EMA 4223 Mechanical Metallurgy
EMA 5295 Principles of Composite Materials
EMA 5507C Analytical Techniques of Material Sciences
EMA 5935 Advanced Topics in Materials Engineering
EML 3301C Instrumentation
EML 4220 Mechanical Vibrations
EML 4260 Dynamics of Machinery
EML 4535 Mechanical Computer-Aided Design
EML 4561 Introduction to Electronic Packaging

Design, Robotics and Manufacturing

EAS 4200 Intro to Design and Analysis of Aerospace Structures
EML 4220 Mechanical Vibrations
EML 4535 Mechanical Computer -Aided Design
EML 4561 Introduction to Electronic Packaging
EML 4840 Robot Design
EML 4823 Introduction to Sensors and Signal Processing

Design Electives

EAS 4200 Intro to Design and Analysis of Aerospace Structures
EGM 4350 Finite Element Analysis in Mechanical Design
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

PROFESSIONAL CERTIFICATE PROGRAMS

The Professional Certificate Programs provide traditional degree-seeking students, non-degree seeking students and practicing professionals with learning experiences that enhance their design capabilities in four concentration areas. Some of these courses may require additional prerequisites or permission of the program coordinator.

Professional Certificate in Heating, Ventilating and A/C Design (HVAC)

EGN 3343 Thermodynamics I
EGN 3613 Engineering Economy
EML 4601 Princ. of Refrigerating and A/C
EML 4603 Air Conditioning Design
EML 4608C Mechanical Systems in Environmental Control

Professional Certificate in Materials Engineering

EGN 3365 Materials Engineering
EGM 4521C Materials Science I
EGM 4522C Materials Science II
EMA 5015 Intro.to Nanomaterials Eng.
EML 4911 Undergraduate Research Experience

Professional Certificate in Robotics Engineering

EML 4804 Intro. to Mechatronics
EML 4806 Modeling and Control of Robots
EML 4840 Robot Design
EML 4823 Intro. to Sensors and Signal Processing
EML 4911 Undergraduate Research Experience

Professional Certificate in Aerospace Engineering

EAS 4105 Introduction to Flight Mechanics
EAS 4200 Intro. to Dsgn and Analysis of Aerospace Structures
EMA 3702L Mechanics and Materials Science Lab
EML 4419 Propulsion Systems
EML 4711 Gas Dynamics
and any of the three courses below:
EGM 4350 Finite Elements in Mechanical Engineering
EML 4721 Intro. to Computational Thermo Fluids
EAS 4712 Aerodynamic Shape Design

Important Information for MECHANICAL ENGINEERING Curriculum

- EML 1533 Intro to 3D CAD for ME's (SolidWorks), or equivalent is required unless previously taken in High School.
- Grade "C" 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, SLS 1501 and EGS 1006 must be substituted by 3 credit hours of an approved Technical/Engineering Elective.
- 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 will satisfy the Global Learning (GL) requirement by completing two Global Learning Discipline-Specific courses.
ME students will have the GL satisfied by completing the Senior Design Project courses (EML 4551 and EML 4905)