

**EXECUTIVE COMMITTEE
BOURNS COLLEGE OF ENGINEERING
REPORT TO THE RIVERSIDE DIVISION
MAY 21, 2019**

PROPOSED CHANGES TO THE MECHANICAL ENGINEERING MAJOR REQUIREMENTS

PRESENT:

Major

The design and production of machines requires a broad-based education. The Mechanical Engineering degree program has been structured to provide the necessary background in chemistry, physics, and advanced math to achieve success in the advanced engineering subjects. In addition, students are taught the basics of Mechanical Engineering while learning about the latest developments and experimental techniques.

~~The Mechanical Engineering program objectives are to produce mechanical engineers who:~~

- ~~• have the knowledge and skills to adapt to the changing engineering environment in industry~~
- ~~• are able to pursue and succeed in graduate studies~~
- ~~• have the educational breadth and the intellectual discipline required to enter professional careers outside engineering, such as business and law~~
- ~~• have an ability to work in multi-disciplinary teams~~
- ~~• engage in a lifetime of learning~~

The Mechanical Engineering B.S. degree program at UCR is accredited by the Engineering Accreditation Commission of ABET, abet.org. For more details see me.ucr.edu.

All undergraduates in the College of Engineering must see an advisor at least annually. Visit student.engr.ucr.edu for details.

University Requirements

See Undergraduate Studies section.

PROPOSED:

Major

No change.

The Mechanical Engineering Program Educational Objectives are to prepare graduates to make a positive impact on society by being successful in:

- careers as mechanical engineers and as engineering leaders
- graduate studies and research
- professional careers besides mechanical engineering
- advocating for the engineering profession and inspiring others to develop a passion for engineering profession.

No change.

No change.

No change.

College Requirements

See The Marlan and Rosemary Bourns College of Engineering, Colleges and Programs section.

The Mechanical Engineering major uses the following major requirements to satisfy the college's Natural Sciences and Mathematics breadth requirement.

1. BIOL 005A, BIOL 05LA
2. MATH 008B or MATH 009A
3. PHYS 040A, PHYS 040B, PHYS 040C

Major Requirements

1. Lower-division requirements (73 units)
 - a) BIOL 005A, BIOL 05LA
 - b) CHEM 001A, CHEM 001B, CHEM 01LA, CHEM 01LB
 - c) EE 001A, EE 01LA
 - d) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046
 - e) ME 002, ME 009, ME 010, ME 018A, ME 018B
 - f) PHYS 040A, PHYS 040B, PHYS 040C
2. Upper-division requirements (77 units)
 - a) ME 100A, ME 103, ME 110, ME 113, ME114, ME 116A, ME 118, ME 120, ME 135, ME 170A, ME 170B, ME 174, ME 175A, ME 175B, ME 175C
 - b) STAT 100A

Choose one Focus Area:

(1) Materials and Structures

Sixteen (16) units of technical electives chosen from ME100B, ME116B, ME121, ME122, ME134, ME153, ME156, M180, ME197

(2) Energy and Environment

Sixteen (16) units of technical electives chosen from ME 100B, ME 116B, ME 117, ME 136, ME 137, ME 138, ME 197

(3) Design and Manufacturing

Sixteen (16) units of technical electives

College Requirements

No change.

Major Requirements

No change.

2. Upper-division requirements (77 units)

- a) ME 100A, ME 103, ME 110, ME 113, ME114, ME 116A, ME 118, ME 120, ME 135, ME 170A, ME 170B, ME 174, ME 175A, ME 175B, ME 175C
- b) STAT 100A

Choose one Focus Area:

(1) Materials and Structures

Sixteen (16) units of technical electives chosen from ME100B, ME116B, ME121, ME122, ME134/MSE134, ME153, ME156, M180, ME197

(2) Energy and Environment

Sixteen (16) units of technical electives chosen from ME 100B, ME 116B, ME 117, ME 136, ME 137, ME 138, ME 197

(3) Design and Manufacturing

Sixteen (16) units of technical electives

chosen from ME 121, ME 122, ME 130, ME 131, ME 133, ME 140, ME 144/EE 144, ME 145, ME 153, ME 156, ME 175D, ME 176, ME 180, ME 197

chosen from ME 121, ME 122, ME 130, ME 131, ME 133, ME 140, ME 144/EE144, ME 145, ME 153, ME 156, ME 175D, ME 176, ME 180, ME 197

(4) General Mechanical Engineering

Sixteen (16) units of technical electives chosen from the following list, in consultation with an advisor: ME 100B, ME 116B, ME 117, ME 121, ME 122, ME 130, ME 131, ME 133, ME 136, ME 137, ME 138, ME 140, ME144/EE 144, ME145, ME 153, ME 156, ME175D, ME 176, ME 180, ME 197

Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.

(4) General Mechanical Engineering

Sixteen (16) units of technical electives chosen from the following list, in consultation with an advisor: ME 100B, ME 116B, ME 117, ME 121, ME 122, ME 130, ME 131, ME 133, ME 134/MSE 134, ME 136, ME 137, ME 138, ME 140, ME144/EE144, ME145, ME 153, ME 156, ME175D, ME 176, ME 180, ME 197

Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.

Justification:

The Program Educational Objectives (PEOs) have been revised in consultation with our Board of Advisors.

The cross listing of ME134 with MSE 134 has been added to the “Materials and Structures” focus area and to the “General Mechanical Engineering”

Approvals:

Approved by the faculty of the Department of Mechanical Engineering:

Approved by the Executive Committee of the College of Engineering:

Approved by the Committee on Educational Policy:

October 2, 2017 & November 6, 2017

December 12, 2017

April 17, 2019