Marlan and Rosemary Bourns College of Engineering

Suggested Course Plan for a UC Riverside Major in

MECHANICAL ENGINEERING

Catalog Year: 2020

Fall Quarter	Units	Winter Quarter	Units	Spring Quarter	Units
FIRST YEAR					
ENGL 001A	4	ENGL 001B	4	ENGL 001C or Alternate*	4
Beginning Composition		*Intermediate Composition*		*Applied Intermediate Composition*	
MATH 009A	4	MATH 009B	4	MATH 009C	4
First Year Calculus		*First Year Calculus*		*First Year Calculus*	
ME 009	4	ME 018A	2	ME 002	4
Engineering Graphics & Design		*Intro to Mechanical Engineering*		*Intro to Engineering Computation*	
		PHYS 040A	5	PHYS 040B	5
		Physics (Mechanics)		*Physics (Heat/Waves/Sound)*	
SECOND YEAR					
CHEM 001A & CHEM 01LA	5	CHEM 001B & CHEM 01LB	5	EE 001A & EE 01LA	4
General Chemistry & Lab		*General Chemistry & Lab*		*Engineering Circuit Analysis I & Lab*	
MATH 010A	4	MATH 046	4	MATH 010B	4
Multivariable Calculus		*Differential Equations*		*Multivariable Calculus*	
PHYS 040C	5	ME 018B	4	STAT 100A	5
Physics (Electricity/Magnetism)		*Intro Engr. Comp. Modeling*		*Introduction to Statistics*	
Breadth _____	4	ME 010	4	BIOL 005A & BIOL 05LA	5
Humanities/Social Sciences		*Statics*		*Cell & Molecular Bio and Lab*	
THIRD YEAR					
ME 100A	4	ME 103	4	ME 116A	4
Thermodynamics		*Dynamics*		*Heat Transfer*	
ME 110	4	ME 113	4	ME 170A	4
Mechanics of Materials		*Fluid Mechanics*		*Experimental Techniques*	
ME 114	4	ME 118	4	ME 174	4
Intro to Materials Science & Engr.		*Mechancial Engr. Modeling & Analysis*		*Machine Design*	
Breadth _____	4	ME 120	4	Breadth _____	4
Humanities/Social Sciences		*Linear Systems and Control*		*Humanities/Social Sciences*	
FOURTH YEAR					
ME 135 or ME175B[2]	4	ME 175B or 175C	3	ME 175C or ME135[2]	3
Transport Phenomena		*Mechanical Engineering Design*		*Mechanical Engineering Design*	
ME 170B	4	Technical Elective**	4	Technical Elective**	4
Experimental Techniques		_____		_____	
ME 175A[3]	2	Technical Elective**	4	Technical Elective**	4
Professional Topics		_____		_____	
Breadth _____	4	Breadth _____	4	Breadth _____	4
Humanities/Social Sciences		*Humanities/Social Sciences*		*Humanities/Social Sciences*	

[2] You must take ME175B if not enrolled in ME135 and/or ME170B

[3] May be taken concurrently with ME175B

Total Units: 189

Maximum units: 223

To earn a B.S., you must complete all College and University requirements. For a full list of requirements, refer to www.catalog.ucr.edu.

ENGLISH COMPOSITION*

A C or better is required in all English Composition courses to satisfy the graduation requirement. Please consult with your Academic Advisor for ENGL 1C alternatives.

BREADTH REQUIREMENTS

For an approved list of Breadth courses, go to http://student.engr.ucr.edu/policies/requirements/breadth.html.

Humanities: (3 courses)

A. World History: _____

B. Fine Arts, Lit., PHIL or RLST: _____

C. Human Persp. on Science: _____

Social Sciences: (3 courses)

A. ECON or POSC: _____

B. ANTH, PSYC, or SOC: _____

C. General Social Science: _____

Ethnicity: (1 course)

1. _____

Upper Division: (2 courses)

1. _____

2. _____

TECHNICAL ELECTIVES **

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.

Mechanical Engineering Technical Electives and Focus Areas

You must complete 4 courses (at least 16 units) of Technical Elective coursework from one Focus Area.

General Mechanical Engineering

ME 100B:	Thermodynamics (4)
ME 116B:	Heat Transfer (4)
ME 117:	Combustion & Energy Systems (4)
ME 121:	Feedback Control (4)
ME 122:	Vibrations (4)
ME 130:	Kinematic and Dynamic Analysis of Mechanisms (4)
ME 131:	Design of Mechanisms (4)
ME 133:	Introduction to Mechatronics (4)
ME 134:	Microstructural Transformations in Materials (4)
ME 136:	Envir. Impacts of Energy Prod. & Conversion (4)
ME 137:	Environmental Fluid Mechanics (4)
ME 138:	Transport Phenomena in Living Systems (4)
ME 140:	Ship Theory (4)
ME 144:	Introduction to Robotics (4)
ME 145:	Robotics Planning and Kinematics (4)
ME 153:	Finite Element Methods (4)
ME 156:	Mechanical Behavior of Materials (4)
ME 157:	Failure Analysis and Prevention (4)
ME 158:	Advanced Solidification Processing (4)
ME 175D:	Technological Entrepreneurship (4)
ME 176	Sustainable Product Design (4)
ME 180:	Optics and Lasers in Engineering (4)
*ME 197:	Research for Undergraduates

Energy and Environment

ME 100B:	Thermodynamics (4)
ME 116B:	Heat Transfer (4)
ME 117:	Combustion & Energy Systems (4)
ME 136:	Envir. Impacts of Energy Prod. & Conversion (4)
ME 137:	Environmental Fluid Mechanics (4)
ME 138:	Transport Phenomena in Living Systems (4)
*ME 197:	Research for Undergraduates

Materials and Structures

ME 100B:	Thermodynamics (4)
ME 116B	Heat Transfer (4)
ME 121:	Feedback Control (4)
ME 122	Vibrations (4)
ME 134:	Microstructural Transformations in Materials (4)
ME 153:	Finite Element Methods (4)
ME 156:	Mechanical Behavior of Materials (4)
ME 157:	Failure Analysis and Prevention (4)
ME 158:	Advanced Solidification Processing (4)
ME 180:	Optics and Lasers in Engineering (4)
*ME 197:	Research for Undergraduates

Design and Manufacturing

ME 121:	Feedback Control (4)
ME 122:	Vibrations (4)
ME 130:	Kinematic and Dynamic Analysis of Mechanisms (4)
ME 131:	Design of Mechanisms (4)
ME 133:	Introduction to Mechatronics (4)
ME 140:	Ship Theory (4)
ME 144:	Introduction to Robotics (4)
ME 145:	Robotics Planning and Kinematics (4)
ME 153:	Finite Element Methods (4)
ME 156:	Mechanical Behavior of Materials (4)
ME 175D:	Technological Entrepreneurship (4)
ME 176	Sustainable Product Design(4)
ME 180:	Optics and Lasers in Engineering (4)
*ME 197:	Research for Undergraduates

*To enroll in and earn Technical Elective credit for ME 197, students must complete a project abstract using a standard template. The abstract must be signed by the project faculty advisor and submitted to the Undergraduate Program Committee chair at least one week prior to the start of the quarter of enrollment. A final project report is required. For format details, please go to: http://www.me.ucr.edu/undergrad/opportunities.html.