

MECHANICAL ENGINEERING

2022 – 2023 Curriculum

*Fall Only **Spring Only

Student: _____

Date: _____

CUID: _____

Advisor: _____

FRESHMAN YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	4	CH 1010 & 1011 General Chemistry		3	ENGR 1410 & 1411 Programming and Problem Solving ⁴
	3	ENGL 1030 & 1031 Composition and Rhetoric		2	ENGR 2080 & 2081 Engr. Graphics and Machine Design
	3	ENGR 1020 & 1021 Engineering Disciplines and Skills ¹		4	MATH 1080 Calculus of One Variable II
	4	MATH 1060 Calculus of One Variable I ²		3	PHYS 1220 Physics with Calculus I
	3	Arts & Humanities <i>OR</i> Social Science Req ³		1	PHYS 1240 Physics Lab I
				3	Arts & Humanities <i>OR</i> Social Science Req ³
	17			16	
SOPHOMORE YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	1	ME 2000 Sophomore Seminar		3	ME 2030 Foundations of Thermal & Fluid Systems
	3	ME 2050 Statics for Mechanical Engineers		3	ME 2040 Mechanics of Materials
	3	ME 2070 Design of Mechanical Systems		3	ME 2060 Dynamics
	2/3	ME 2220 Mechanical Engineering Lab I ⁵ <i>OR</i> MSE 2100 Introduction to Materials Science ⁵		2/3	ME 2220 Mechanical Engineering Lab I ⁵ <i>OR</i> MSE 2100 Introduction to Materials Science ⁵
	4	MATH 2060 Calculus of Several Variables		4	MATH 2080 Int. to Ordinary Differential Eqn.
	3	PHYS 2210 Physics with Calculus II			
	16/17			15/16	
JUNIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	ECE 2070 & 2080 Basic Electrical Engr. & Lab		3	ENGL 3140 Technical Writing ⁶
	3	ME 3030 Thermodynamics		3	ME 3040 Heat Transfer
	3	ME 3060 Fundamentals of Machine Design		3	ME 3050 Modeling and Analysis of Dynamic Systems
	3	ME 3080 Fluid Mechanics		3	ME 3120 Manufacturing Processes and Their Applications
	2/3	ME 3330 Mechanical Engineering Lab II ⁵ <i>OR</i> Statistics Requirement ^{5,7}		2/3	ME 3330 Mechanical Engineering Lab II ⁵ <i>OR</i> Statistics Requirement ^{5,7}
	3	MATH 3650 Numerical Methods for Engineers			
	17/18			14/15	
SENIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	ME 4010 Mechanical Engineering Design		1	ME 4000 Senior Seminar
	3	ME 4030 Control and Integration of MDS		3	ME 4020 & 4021 Internship in Engineering Design
	2/3	ME 4440 Mechanical Engineering Lab III ⁵ <i>OR</i> Technical Requirement ^{5,8}		2/3	ME 4440 Mechanical Engineering Lab III ⁵ <i>OR</i> Technical Requirement ^{5,8}
	3	Mechanical Engineering Professional Req ⁹		3	Arts & Humanities <i>OR</i> Social Science Requirement ³
	3	Mechanical Engineering Technical Req ¹⁰		3	Arts & Humanities <i>OR</i> Social Science Requirement ³
				3	Mechanical Engineering Technical Req ¹⁰
	14/15			15/16	
127 Total Semester Hours					
GENERAL EDUCATION REQUIREMENTS					
Literature	Non-Literature	Social Science (SC REACH Act, if required)	Social Science (from a different department)	Global Challenges (ENGR 1020 at Clemson or another course)	Global Challenges -3000 or 4000 level <i>Or if already met with Tech Requirement, then need Dept Arts & Humanities/Social Sci Req</i>

CHANGE OF MAJOR REQUIREMENTS: C grade or higher in each class and a 2.6 Clemson cumulative GPA					
CH 1010	ENGL 1030	ENGR 1020	ENGR 1410	MATH 1060	PHYS 1220

Students should always refer to the Academic Catalog for course descriptions and for course pre-requisites, corequisites, and concurrent enrollment requirements. Academic Catalog can be found here: <https://www.clemson.edu/registrar/academic-catalogs/>. Advisors will assist students in scheduling courses to fulfill the requirements of the degree program; nevertheless, it is the responsibility of the student to fulfill the relevant requirements of the degree.

Footnotes

¹ The combination of ENGR 1050 and ENGR 1060 or the combination of ENGR 1510 and ENGR 1520 may be substituted for ENGR 1020.

² Depending on a student's Clemson Mathematics Placement Test score, MATH 1040 and MATH 1070 may be substituted for MATH 1060; or the student may be required to take MATH 1050 before enrolling in MATH 1060.

³ See General Education Requirements. Three General Education credits must also satisfy the South Carolina REACH Act R-requirement. See the South Carolina REACH Act Requirement in the Academic Regulations section.

⁴ ENGR 1640 or the combination of ENGR 1070, ENGR 1080, and ENGR 1090 may be substituted for ENGR 1410.

⁵ Both are required but may be taken in either semester.

⁶ ROTC students only may substitute AS 4100 or ML 4020.

⁷ Select MATH 3020 or STAT 4110.

⁸ Select from BE 4240, BE 4400, BIOE 4350, CH 3310, CH 3600, CH 4040, CH 4250, ECE 4700, ECE 4710, EES 4010, EES 4100, EES 4300, IE 4400, IE 4570, IE 4620, IE 4880, MATH 4000, MATH 4100, MATH 4120, MATH 4190, MATH 4340, MATH 4350, MATH 4400, MATH 4530, MATH 4600, MATH 4630, MSE 4160, MSE 4530, MSE 4580, PHYS 3110, PHYS 3210, PHYS 3550, PHYS 4170, PHYS 4200, PHYS 4320, PHYS 4410, PHYS 4520

⁹ Select any course that meets the technical requirement (any course listed in footnote 8 or 10); or any 3000- or 4000-level modern language course; or a minor requirement.

¹⁰ Select from ME 4150*, ME 4170, ME 4180, ME 4200, ME 4210, ME 4220, ME 4230, ME 4250, ME 4260, ME 4280, ME 4290, ME 4300, ME 4310, ME 4320, ME 4400, ME 4540, ME 4550, ME 4570, ME 4600, ME 4710 or ME 4930. *ME 4150 may only be taken once for technical elective credit.

NOTES:

1. Enrollment Policy (see website for Complete Statement of Department Policy): A student is allowed to enroll in any ME course only when all prerequisites, as defined by current official listings for that course, have been passed with a grade of C or higher.
2. No student may exceed three attempts to complete successfully ME 2010, ME 2030, ME 2040, ME 2050, or ME 2060. Registration for a third attempt to complete one of these ME courses requires the approval of the undergraduate coordinator in the Department of Mechanical Engineering. A grade of *W* counts as an unsuccessful attempt at completing the course.
3. Upon beginning a degree program at Clemson University, a student is not permitted to count for credit any of the following courses completed at another institution: ME 2010, ME 2030, ME 2040, ME 2050, or ME 2060.
4. For students repeating an ME course, registration preference will be given to students in a degree-granting engineering major whose curriculum requires the course in question.
5. To change majors into the Mechanical Engineering degree program, students must have a minimum cumulative grade point average of 2.60 or higher at Clemson and earned a C or better in each course in the General Engineering Core Curriculum.
6. The following courses must be passed with a grade of C or higher to satisfy major and graduation requirements: CH 1010, ECE 2070, ECE 2080, ENGL 1030, ENGL 3140, ENGR 1020 (or ENGR 1050 and ENGR 1060 or ENGR 1510 and ENGR 1520 if substituted for ENGR 1020), ENGR 1410 (or ENGR 1070, ENGR 1080, and ENGR 1090 if substituted for ENGR 1410), ENGR 2080, MATH 1060, MATH 1080, MATH 2060, MATH 2080, MATH 3020, MATH 3650, ME 2010, ME 2030, ME 2040, ME 2050, ME 2060, ME 2070, ME 2220, ME 3030, ME 3040, ME 3050, ME 3060, ME 3070, ME 3080, ME 3120, ME 3330, ME 4010, MSE 2100, PHYS 1220, PHYS 1240, PHYS 2210, and STAT 4110.
7. Depending on a student's math placement, they may be invited to take part in the General Engineering Learning Community where they complete the following courses: ENGR 1000, ENGR 1010, ENGR 1100, ENGR 1110, ENGR 1510, ENGR 1520, and ENGR 1640. The combination of ENGR 1510 and ENGR 1520 may be substituted for ENGR 1020. ENGR 1640 may be substituted for ENGR 1410.
8. A transfer course may not be used to satisfy the General Education Global Challenges Requirement. While a transfer course may fulfill other degree requirements, students must enroll in a Clemson course(s) on the Global Challenges list to fulfill the Global Challenges Requirement.