MECHANICAL ENGINEERING - Catalog Year 2022

Total Credits = 120

Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141 +	Calculus I (A1, B3)	4	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		15	

Freshman Year *Spring* Semester

Course Code	Description	Cr	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142 +	Calculus II (A1, B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		16	

Sophomore Year *Fall* Semester

Course Code	Description	Cr	
ISE 240 and 241 *or* MCE 201	Mfg Processes and Systems (3), Mfg Processes and Systems Lab (1) / Engineering Graphics (3)	3-4	
MCE 262	Statics	3	
MTH 243 +	Calculus for Functions of Several Vars (A1, B3)	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
		13-14	

Sophomore Year *Spring* Semester

Course Code	Description	Cr	
CVE 220	Mechanics of Materials	3	
ISE 240 and 241 *or* MCE 201	Mfg Processes and Systems (3), Mfg Processes and Systems Lab (1) / Engineering Graphics (3)	3-4	
MCE 263+	Dynamics	3	
MTH 362	Advanced Engineering Mathematics	3	
	Science Elective**	3	
		15-16	

Admission to the COE required for enrollment in "300" level and higher COE courses. Admission requires at least a 2.0 cumulative GPA and a C- or higher in each of the following; EGR 105 & 106, CHM 101/102, MTH 141 & 142, PHY 203/273, and either PHY 204/274 *or* CHM 112/114

Junior Year *Fall* Semester

Course Code	Description	Cr	
CHE 333	Engineering Materials	3	
MCE 301 +	Application of Mechanics in Design	3	
MCE 341	Fundamentals of Thermodynamics	3	
MCE 354	Fluid Mechanics	3	
MCE 372	Engineering Analysis I	3	
		15	

Junior Year *Spring* Semester

Course Code	Description	Cr	
ELE 220	Passive and Active Circuits	3	
MCE 302	Design of Machinery	3	
MCE 313	Intro to MCE Experimentation	3	
MCE 348	Heat and Mass Transfer	3	
MCE 366	System Dynamics	3	
		15	

Senior Year *Fall* Semester

Course Code	Description	Cr	
EGR 316G	Engineering Ethics (A3, C1, G)	3	
MCE 401	Mechanical Egr Capstone Design I	3	
MCE 414	Mechanical Engineering Experimentation	3	
	Professional Elective***	3	
	Professional Elective***	3	
		15	

Senior Year *Spring* Semester

Course Code	Description	Cr	
MCE 402	Mechanical Egr Capstone Design II (D1)	3	
	Professional Elective***	3	
	Professional Elective***	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
		15	

* **General Education Outcomes:** if all Outcomes are satisfied in fewer spaces than provided, you must complete additional coursework of your choice (Free Elective) to ensure you have earned at least 120 credits as required to earn a BS degree. See the "General Education Outcomes" section at the bottom of page two for more information on satisfying these requirements.

** **Science Elective:** choose ***one (1)*** from CHM 112, CHM 124, or PHY 205 & PHY 275

*** **Professional Electives:** Must be satisfied by **twelve (12) credits**, with a minimum of ***three (3) three (3)-credit*** MCE courses *(no more than two (2) courses from the MCE47*/CHE47* series),* ***two (2)*** of which must be taken at URI. The ***fourth*** course may be a 300-, 400-, or 500-level course offered by the College of Engineering, CHM, CSC, PHY; or a 400 or 500-level MTH or STA course****. Professional elective courses taken outside URI are subject to URI transfer credit rules and require prior written approval.

****Except for the following courses: CSC320, ELE313, MTH420, and PHY322. STA409 not counted for students with credit in MCE411/ISE311.

\+ Course prerequisites include grade requirements in previous coursework, see catalog or eCampus course description for details

Name _____ **ID #** _____

MECHANICAL ENGINEERING - Catalog Year 2022 **Total Credits = 120**

SPECIFIED MATHEMATICS, SCIENCE, AND ENGINEERING COURSES

INTRODUCTORY ENGINEERING

Sem	Course	Cr	Grade	QP	Note
	EGR 105 (A4)	1			
	EGR 106 (A4)	2			
		3			

MATHEMATICS

Sem	Course	Cr	Grade	QP	Note
	MTH 141 (A1 & B3)	4			
	MTH 142 (A1 & B3)	4			
	MTH 243 (A1 & B3)	3			
	MTH 362	3			
		14			

NATURAL SCIENCES

Sem	Course	Cr	Grade	QP	Note
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
		12			

**SCIENCE ELECTIVE

Sem	Course	Cr	Grade	QP	Note
		3			

ENGINEERING SCIENCE AND DESIGN

Sem	Course	Cr	Grade	QP	Note
	CHE 333	3			
	CVE 220	3			
	EGR 316G (A3, C1, G)	3			
	ELE 220	3			
	ISE 240	3			
	ISE 241	1			
	MCE 201	3			
	MCE 262	3			
	MCE 263	3			
	MCE 301	3			
	MCE 302	3			
	MCE 313	3			
	MCE 341	3			
	MCE 348	3			
	MCE 354	3			
	MCE 366	3			
	MCE 372	3			
	MCE 401 [capstone]	3			
	MCE 402 [capstone] (D1)	3			
	MCE 414	3			
		58			

***PROFESSIONAL ELECTIVES

		3			
		3			
		3			
		3			
		12			

*GENERAL EDUCATION OUTCOMES

Sem	Course	Cr	Grade	QP	Note
Science, Technology, Engineering, and Math (STEM) (A1)					
---	CHM & PHY (see above)	11	---	---	---
Social and Behaviorial Sciences (A2)					
Humanities (A3)					
---	EGR 316G (see above)	3	---	---	---
Arts & Design (A4)					
---	EGR 105 & 106 (see above)	3	---	---	---
Write Effectively (B1)					
Communicate Effectively (B2)					
Mathematical, Statistical, or Computational Strategies (B3)					
---	MTH (see above)	11	---	---	---
Information Literacy (B4)					

Sem	Course	Cr	Grade	QP	Note
Civic Knowledge & Responsibilities (C1)					
---	EGR 316G (see above)	---	---	---	---
Global Responsibilities (C2)					
Diversity & Inclusion (C3)					
Ability to Synthesize (D1)					
---	MCE 402 (see above)	3	---	---	---
Grand Challenge (at least one course must be coded with a "G")					
---	EGR 316G (see above)	---	---	---	---
Free Elective					
If you fulfill all Outcomes in fewer spaces than indicated on page one, you can use those					
additional spaces to take a course(s) of your choice to ensure you reach at least 120 earned credits					

* **General Education Outcomes:** at least 40 credits must be completed. (A1-D1) must be met by at least three credits. A single course may satisfy one or two outcomes, and at least one course must be a "Grand Challenge". No more than twelve credits can be from the same course code except HPR. General education courses may also be used to meet requirements of your major(s) or minor(s) when appropriate.

** **Science Elective:** choose ***one (1)*** from CHM 112, CHM 124, or PHY 205 & PHY 275

*** **Professional Electives**: Must be satisfied by **twelve (12) credits**, with a minimum of **three (3) three (3)-credit MCE courses** (no more than two (2) courses from the MCE47*/CHE47* series), two (2) of which must be taken at URI. The fourth course may be a 300-, 400-, or 500-level course offered by the College of Engineering, CHM, CSC, PHY; or a 400 or 500-level MTH or STA course****. Professional elective courses taken outside URI are subject to URI transfer credit rules and require prior written approval.

****Except for the following courses: CSC320, ELE313, MTH420, and PHY322. STA409 not counted for students with credit in MCE411/ISE311.