MECHANICAL ENGINEERING (IIEP) - CLASS OF 2021

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	Intro Calculus with Analytical Geometry (A1, B3)	4	
	General Education Outcome(s)	3	
ITL XXX		3	
		15	

Freshman Year Spring Semester

Course Code	Description	Cr	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142	Intermed Calc with Analytic Geom (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
	General Education Outcome(s)	3	
ITL XXX		3	
		16	

Sophomore Year Fall Semester

Course Code	Description	Cr	
ISE 240/241 ***or*** ISE 220 and MCE 201	Mfg Processes and Systems (3), Mfg Processes and Systems Lab (1) Introduction to Systems Engineering (1), Engineering Graphics (3)	4	
MCE 262	Statics	3	
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3	
PHY 204	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics Lab II (A1)	1	
ITL XXX		3	
		17	

Sophomore Year Spring Semester

Course Code	Description	Cr	
CVE 220	Mechanics of Materials	3	
ISE 240/241 ***or*** ISE 220 and MCE 201	Mfg Processes and Systems (3), Mfg Processes and Systems Lab (1) Introduction to Systems Engineering (1), Engineering Graphics (3)	4	
MCE 263	Dynamics	3	
MTH 244	Differential Equations	3	
	Science Elective**	3	
ITL XXX		3	
		19	

Junior Year Fall Semester

Course Code	Description	Cr	
CHE 333	Engineering Materials	3	
MCE 301	Applications of Mechanics in Design	3	
MCE 341	Fundamentals of Thermodynamics	3	
MCE 354	Fluid Mechanics	3	
MCE 372	Engineering Analysis	3	
ITL XXX		3	
		18	

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	
ITL XXX		3	
		18	

Semester Abroad

Course Code	Description	Cr	
	Engineering Professional Elective	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
ITL 3XX/4XX		3	
		15	

International Internship Semester

Course Code	Description	Cr	
ITL 316-317	Language Study Abroad	3-6	
		3-6	

Senior Year Fall Semester

Course Code	Description	Cr	
MCE 401	Mechanical Engineering Capstone Design I	3	
MCE 414	Mechanical Engineering Experimentation	3	
	Approved Professional Elective***	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
ITL 4XX		3	
		18	

Senior Year Spring Semester

Course Code	Description	Cr	
MCE 402	Mechanical Engineering Capstone Design II	3	
	Approved Professional Elective***	3	
	Approved Professional Elective***	3	
	General Education Outcome(s)*	3	
ITL 4XX		3	
		15	

Specified Math, Science, and Engineering Courses

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

Mathematics					
	MTH 141 (A1 & B3)	4			
	MTH 142 (B3)	4			
	MTH 243	3			
	MTH 244	3			
		14			

Natural Sciences					
	CHM 101 (A1)	3			
	CHM 102	1			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
		12			

**Professional Elective					
		3			
		3			
		3			
		3			
		12			

Engineering Science and Design (Major)					
Sem	Course	Cr	Grade	QP	Note
	CHE 333	3			
	CVE 220	3			
	ELE 220	3			
	ISE 220****	1			
	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]	3			
	MCE 414	3			
		56			

**Science Elective					
		3			
		3			

*__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 by used to meet requirements of your major(s) or minor(s) when appropriate.

**__Science Elective:__ choose from CHM 112, CHM 124, PHY 205/275

__Professional Electives:__ Must be satisfied by ***twelve (12) credits of professional electives, with a minimum of **three (3) three (3)- credit MCE courses** (no more than two (2) courses from the MCE 47*/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 STA; or a 400- or 500-level MTH course. Professional elective courses taken outside URI are subject to URI transfer credit rules and require prior written approval.

Italian Language Requirements				
Sem	**Course**	**Cr**	**Gr**	**QP**
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL ___	3		
	ITL 4___	3		
	ITL 4___	3		

ITL 100, 101, and 102 will not count toward the major. Up to three (3) credits chosen from ITL 390 or 395 may be used toward major requirements.

General Education Outcome Audit		
	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences		
A3. Humanities	ITL 1XX/2XX (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
Competences		
B1. Write Effectively		
B2. Communicate Effectively		
computational stategies	MTH (see above)	11
B4. Information literacy		
Responsibilities		
C1. Civic knowledge & responsibilities		
C2. Global responsibilities	ITL 1XX/2XX (suggested)	3
C3. Diversity and Inclusion		
Inegrate & Apply		
D1. Ability to synthesize	*MCE 402*	3
Grand Challenge		
G. Check that at least one course of your 40 credits is an approved "G" course		
Total General Education Outcome Credits		40