MECHANICAL ENGINEERING (SIEP TRACK A) - 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	
SPA 205	Spanish Language & Style I	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	
SPA 206	Spanish Language & Style II	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	
SPA 325	Introduction to Literary Genres	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	
SPA 3XX/4XX		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	
SPA 3XX/4XX		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	
SPA 321	Spanish for Business and Technology	3	
		18	

Semester Abroad

Course Code	Description	Cr	
SPA/EGR 412	Technical Spanish/Professional Elective***	3	
	Engineering Course	3	
	General Education Outcome(s)*	3	
	General Education Outcome(s)*	3	
SPA 3XX/4XX	(4XX if not covered before)	3	
		15	

International Internship Semester

Course Code	Description	Cr	
SPA 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	
SPA 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	
SPA 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			

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*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.

IEP/Spanish Language Requirements (min 30 credits)

Sem	Course	Cr	Gr	QP
	SPA 205	3		
	SPA 206	3		
	SPA 316	3		
	SPA 317	3		
	SPA 321	3		
	SPA 325	3		
	SPA 412	3		
	SPA 4___	3		
	SPA 4___	3		
	SPA 4___	3		

SPA 101, 102, 391, 392, and 393 cannot be counted towards the Spanish major and SPA 321 may only count toward the major for students in the IEP or IBP

SPA 412 and 421 will not fulfill any of the 9 credits required that are above the 400-level, but may count toward any of the remaining credits required for the major.

LIN 202 and 220 may be used towards major requirements

The IEP requires that students complete SPA 316, 317, and 321. IEP students must also complete SPA 412. IEP students that are beginning Spanish at the 200-level may use up to 6 credits of Portuguese toward the major, as long as all other requirements are met.

General Education Outcome Audit

	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences		3
A3. Humanities	SPA 205/206 (suggested)	3
A4. Arts & Design	EGR 105 & 106	3
Competences		
B1. Write Effectively		
B2. Communicate Effectively		
B3. Mathematical, statistical, or computational stategies	MTH (see above)	11
B4. Information literacy		
Responsibilities		
C1. Civic knowledge & responsibi		
C2. Global responsibilities	SPA 205/206 (suggested)	3
C3. Diversity and Inclusion		3
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