CHEMICAL ENGINEERING (SIEP TRACK B) - 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
PHY 203	Elementary Physics I (A1)	3
PHY 273	Elementary Physics Lab I (A1)	1
SPA 103	Intermediate Spanish I	3
		16

Freshman Year Spring Semester

Course Code	Description	Cr
CHM 112	General Chemistry II Lec	3
CHM 114	General Chemistry II Lab	1
EGR 106	Foundations of Engineering II (A4)	2
MTH 142	Intermed Calc with Analytic Geom (B3)	4
PHY 204	Elementary Physics II (A1)	3
PHY 274	Elementary Physics Lab II (A1)	1
SPA 104	Intermediate Spanish II	3
		17

Sophomore Year Fall Semester

Course Code	Description	Cr
CHE 212	Chemical Process Calculations	3
CHM227	Organic Chemistry Lec I	3
ECN 201	Principles of Microeconomics (A2)	3
MTH 243	Calculus for Funcs. of Sev. Vars. (A1, B3)	3
	General Education Outcome(s)*	3
SPA 205	Spanish Language & Style I	3
		18

Sophomore Year Spring Semester

Course Code	Description	Cr
CHE 232	Materials Science and Engineering	3
CHE 272	Intro to Chemical Engineering Calculations	3
CHE 313	Chemical Engineering Themodynamics I	3
CHM 228 *or* CMB 311	Organic Chemistry Lec II *or* Introductory Biochemistry	3
MTH 244	Differential Equations	3
SPA 206	Spanish Language & Style II	3
		18

Junior Year Fall Semester

Course Code	Description	Cr
CHE 314	Chemical Engineering Thermodynamics II	3
CHE 347	Transfer Operations I	3
CHM 335	Physical Chemistry Lab	2
CHM 431	Physical Chemistry I	3
	Approved Mathematics Elective**	3
SPA 325	Introduction to Literary Genres	3
		17

Junior Year Spring Semester

Course Code	Description	Cr
CHE 348	Transfer Operations II	3
CHE 364	Chemical Kinetics and Reactor Design	3
CHM 432	Physical Chemistry II***	3
	General Education Outcome(s)*	3
	General Education Outcome(s)*	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 4XX		3
SPA 3XX		3
		18

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
CHE 345	Chemical Engineering Lab I	2
CHE 425	Process Dynamics and Control	3
CHE 428	Professional Experience	1
CHE 449	Transfer Operations III	3
CHE 451	Plant Design and Economics I	3
	Approved Professional Elective****	3
SPA 4XX		3
		18

Senior Year Spring Semester

Course Code	Description	Cr
CHE 346	Chemical Engineering Lab II	2
CHE 452	Plant Design and Economics II (D1, C2)	3
	Approved Professional Elective****	3
	Approved Professional Elective****	3
	General Education Outcome(s)	3
SPA 4XX		3
		17

Specified Math, 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 (B3)	4			
	MTH 243 (A1 & B3)	3			
	MTH 244	3			
		14			

Natural Sciences

Sem	Course	Cr	Grade	QP	Note
	CHM 101 (A1)	3			
	CHM 102	1			
	CHM 112	3			
	CHM 114	1			
	CHM 227	3			
	CHM 228 or CMB 311	3			
	CHM 335	2			
	CHM 431	3			
	CHM 432***	3			
	PHY 203 (A1)	3			
	PHY 273 (A1)	1			
	PHY 204 (A1)	3			
	PHY 274 (A1)	1			
		30			

Engineering Science and Design (Major)

Sem	Course	Cr	Grade	QP	Note
	CHE 212	3			
	CHE 232 (332)	3			
	CHE 272	3			
	CHE 313	3			
	CHE 314	3			
	CHE 345 [capstone]	2			
	CHE 346 [capstone]	2			
	CHE 347	3			
	CHE 348	3			
	CHE 364 (464)	3			
	CHE 425	3			
	CHE 428 (328)	1			
	CHE 449 (349)	3			
	CHE 451 (351) [capstone]	3			
	CHE 452 (352) [capstone]	3			
		41			

****Professional Elective

		Cr			
		3			
		3			
		3			
		3			
		12			

**Mathematics Elective

		Cr			
		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.
Mathematics Elective: MTH 215 or any 300-, 400-, or 500- level MTH course except 381
Or approved **Professional Elective (see * below)**
****Professional elective:** Half of the Professional Electives are to be 400- level or higher CHE courses taken at URI. In addition EGR 325 and EGR 326 are permissible approved professional electives. The

IEP/Spanish Language Requirements (min. 30 credits)

Sem	Course	Cr	Gr	QP
	SPA 103/104	6		
	SPA 205/206	6		
	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.

Students may opt to take summer or Jterm classes to advance in their Spanish skills at a faster pace.

General Education Outcome Audit

	Course	Credit
Knowledge		
A1. STEM	CHM & PHY (see above)	11
A2. Social & Behavioral Sciences	ECN 201	3
A3. Humanities	SPA 205/206 (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	SPA 205/206 (suggested)	3
C3. Diversity and Inclusion		
Inegrate & Apply		
D1. Ability to synthesize	CHE 452	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