

CHEMICAL ENGINEERING - Class of 2018

Total Credits = **120**

Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry I Lec [GE-N]	3	
CHM 102	General Chemistry I Lab	1	
EGR 105	Foundations of Engineering I	1	
MTH 141	Intro Calculus w/Analytic Geom [GE-MQ]	4	
PHY 203	Elementary Physics I Lec [GE-N]	3	
PHY 273	Elementary Physics I Lab [GE-N]	1	

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Freshman Year *Spring* Semester

Course Code	Description	Cr	
CHM 112	General Chemistry II Lec [GE-N]	3	
CHM 114	General Chemistry II Lab	1	
ECN 201	Principles of Microeconomics [GE-S]	3	
EGR 106	Foundations of Engineering II	2	
MTH 142	Intermed Calc with Analytic Geom [GE-MQ]	4	
PHY 204	Elementary Physics II [GE-N]	3	
PHY 274	Elementary Physics II Lab [GE-N]	1	

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Sophomore Year *Fall* Semester

Course Code	Description	Cr	
CHE 212	Chemical Process Calculations	3	
CHM 227	Organic Chemistry Lec I	3	
MTH 243	Calculus for Functions of Several Vars	3	
	General Education Elective*	3	

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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 Thermodynamics I	3	
CHM 228 <i>or</i> BCH 311	Organic Chemistry Lec II <i>or</i> Introductory Biochemistry	3	
MTH 244	Differential Equations	3	

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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	
	General Education Elective*	3	

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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 Elective*	3	
	General Education Elective*	3	

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Senior Year *Fall* Semester

Course Code	Description	Cr	
CHE 345	Chemical Engineering Lab I	2	
CHE 349	Transfer Operations III	2	
CHE 351	Plant Design and Economics I	3	
CHE 425	Process Dynamics and Control	3	
CHE 428	Professional Experience	1	
	Approved Professional Elective****	3	
	General Education Elective*	3	

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Senior Year *Spring* Semester

Course Code	Description	Cr	
CHE 346	Chemical Engineering Lab II	2	
CHE 352	Plant Design and Economics II	3	
	Approved Professional Elective****	3	
	Approved Professional Elective****	3	
	Approved Professional Elective****	3	

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* **Note:** Refer to *specific* Chemical Engineering General Education *course requirements* (see 2018 CHE Check Sheet).

** **Mathematics Elective:** MTH 215 or any 300-, 400-, or 500-level MTH course *except* MTH 381.

*** Or approved **Professional Elective** (see **** below).

**** **Professional Electives:** Half of the Professional Electives are to be 400-level or higher CHE courses taken at URI. The remaining courses are to be 300-level or higher in natural sciences, or 400-level or higher in engineering (BME, CHE, CPE, CVE, ELE, ISE, MCE, OCE), or 400-level or higher in MTH. *All professional electives require prior approval by CHE advisor.*

SPECIFIED MATH, SCIENCE, AND ENGINEERING COURSES											
INTRODUCTORY ENGINEERING						ENGINEERING SCIENCE AND DESIGN					
Sem	Course	Cr	Grade	QP	Note	Sem	Course	Cr	Grade	QP	Note
	EGR 105	1					CHE 212	3			
	EGR 106	2					CHE 232 (332)	3			
		3					CHE 272	3			
MATHEMATICS							CHE 313	3			
	MTH 141 [GE-MQ]	4					CHE 314	3			
	MTH 142 [GE-MQ]	4					CHE 345 [capstone]	2			
	MTH 243	3					CHE 346 [capstone]	2			
	MTH 244	3					CHE 347	3			
		14					CHE 348	3			
NATURAL SCIENCES							CHE 349	2			
	CHM 101 [GE-N]	3					CHE 351 [capstone]	3			
	CHM 102	1					CHE 352 [capstone]	3			
	CHM 112 [GE-N]	3					CHE 364 (464)	3			
	CHM 114	1					CHE 425	3			
	CHM 227	3					CHE 428 (328)	1			
	CHM 228 <i>or</i> BCH 311	3						40			
	CHM 335	2				**PROFESSIONAL ELECTIVES					
	CHM 431	3						3			
	CHM 432*	3						3			
	PHY 203 [GE-N]	3						3			
	PHY 273 [GE-N]	1						3			
	PHY 204 [GE-N]	3						12			
	PHY 274 [GE-N]	1				***MATHEMATICS ELECTIVE					
		30						3			
GENERAL EDUCATION [GE] COURSES											
BREADTH At least one course in <i>each</i> of the Gen Ed Areas						DEPTH At least one additional course in <i>3 different</i> Gen Ed Areas Remainder are taken in <i>any</i> Gen Ed Area/Area					
Sem	Course	Cr	Grade	QP	Note	Sem	Course	Cr	Grade	QP	Note
***English Communication-Writing [GE-ECw]						Natural Sciences [GE-N]					
	WRT	3				---	<i>Satisfied by Required Courses</i>	14	---	---	---
Mathematical and Quantitative Reasoning [GE-MQ]						Mathematical and Quantitative Reasoning [GE-MQ]					
	<i>Satisfied by</i> MTH 141	4	---	---	---		<i>Satisfied by</i> MTH 142	4	---	---	---
Fine Arts & Literature [GE-A]						***One additional course from: EC/ECw, A, FC, L, S					
		3					[GE-EC/ECw; A; FC; L; S]	3			
Foreign Language/Culture [GE-FC]						Free Elective					
		3				---	<i>Not Required</i>	---	---	---	---
Letters [GE-L]						Other Courses (<i>not for degree credit</i>)					
		3									
Natural Sciences [GE-N]											
	<i>Satisfied by</i> CHM 101	3	---	---	---						
Social Sciences [GE-S]											
	ECN 201	3									

* Or approved Professional Elective (see ** below).

** Professional Electives: Half of the Professional Electives are to be 400-level or higher CHE courses taken at URI. The remaining courses are to be 300-level or higher courses in natural sciences, or 400-level or higher in engineering (BME, CHE, CPE, CVE, ELE, ISE, MCE, OCE), or 400-level or higher in MTH. *All professional electives require prior approval by CHE advisor.*

*** Mathematics Elective: MTH 215 or any 300-, 400-, or 500-level MTH course *except* MTH 381.

**** Note the following *specific* requirements and restrictions for General Education [GE] electives:

-[GE-ECw] *Must* take at least *one (1)* General Education course in *writing* [GE-ECw].

-[GE-ECw] Can only take *one (1)* of the following **100-level** writing courses for General Education credit [GE-ECw]: WRT 104, WRT 105, WRT 106.