

# CHEMICAL ENGINEERING - PHARMACEUTICAL TRACK - Class of 2015

Total Credits = **126**

## 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
BIO 101	Principles of Biology I [GE-N]	4
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

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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
	General Education Elective*	3

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## Sophomore Year *Spring* Semester

Course Code	Description	Cr
BCH 311	Intro Biochemistry	3
CHE 272	Intro to Chemical Engineering Calculations	3
CHE 313	Chemical Engineering Thermodynamics I	3
CHE 332	Physical Metallurgy	3
MTH 244 <i>or</i> MTH 362	Differential Equations <i>or</i> Advanced Engineering Mathematics I	3

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## Junior Year *Fall* Semester

Course Code	Description	Cr
BIO 341	Cell Biology	3
BPS 301	Dosage Forms I	2
BPS 303	Dosage Forms II	2
BPS 305	Dosage Forms III	2
CHE 314	Chemical Engineering Thermodynamics II	3
CHE 347	Transfer Operations I	3

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## Junior Year *Spring* Semester

Course Code	Description	Cr
BPS 425	Current Good Manufacturing Processes	3
CHE 348	Transfer Operations II	3
CHE 464	Industrial Reaction Kinetics	3
MIC 211	Intro Microbiology	4
PHY 204	Elementary Physics II	3
PHY 274	Elementary Physics II Lab	1

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## Senior Year *Fall* Semester

Course Code	Description	Cr
CHE 328	Industrial Plants	1
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 574	Biochemical Engineering	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
CHE 548**	Separations for Biotechnology	3
	Approved Professional Elective	3
	General Education Elective*	3
	General Education Elective*	3

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

-Refer to *specific* Chemical Engineering-Pharmaceutical Track General Education *course requirements* (see 2015 CHE-PHARM Track Check Sheet).

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.

\*\* Or approved Professional Elective.

