



Russ College of Engineering and Technology Chemical Engineering – Biological Track

The scheduling scenario below is intended to present an example pattern by which this major can be completed in three years. Those interested in pursuing this option need to work with an academic advisor to develop a specific plan to earn the credit hours required for graduation.

BS7263: Chemical Engineering – Biological Track

Post-Secondary Coursework or Transfer/AP/IB Credit			
Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHEM 1510 - Fundamentals of Chemistry I	4		C-
CHEM 1520 - Fundamentals of Chemistry II	4		C-
MATH 2301 - Calculus I	4		C
MATH 2302 - Calculus II	4		C
Tier II: Cross Cultural Perspectives	2-3		
Tier II: Humanities and Literature	2-3		
Tier II: Social Science	2-3		
Tier II: Fine Arts	2-3		
ENG 1510 – Freshman Composition	3		
Total hours	27-31		

Semester 1: Fall			
Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHE 1000 - Introduction to Chemical Engineering	1		
CHE 1800 - Approaches to Chemical Engineering Problem Solving	2		
MATH 3200 - Applied Linear Algebra	3	Yes	
CHEM 3050 - Organic Chemistry I	3	Yes	C-
PHYS 2051 - General Physics	5		
CHE 2000 - Mass and Energy Balances I	3		C-
Total hours for semester	17		

Semester 2: Spring

Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
MATH 3400 - Elementary Differential Equations	3	Yes	
CHEM 3060 - Organic Chemistry II	3	Yes	
CHE 2010 - Mass and Energy Balances II	3		C-
ET 3200 - Engineering Thermodynamics	3	Yes	
ET 1500 - Engineering and Technology: Career Orientation	0.5		
ET 2300 - Principles of Engineering Materials	3		
Total hours for semester	15.5		

Semester 3: Fall

Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHE 3210 - Chemical Engineering Phase Equilibria	3	Yes	
CHE 3400 - Chemical Engineering Fluid Mechanics	3	Yes	
CHE 3500 - Chemical Engineering Heat Transfer	3	Yes	
Bios 1700/1705 – Intro to Biology	4		
Technical Elective	3	Yes	
Total hours for semester	16		

Semester 4: Spring

Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHE 3800 - Chemical Engineering Modeling and Applied Calculations	3	Yes	
CHE 3600 - Chemical Engineering Mass Transfer and Separations	3	Yes	
CHE 3700 - Chemical Reaction Engineering	3	Yes	
ET 3132 - Basic Electrical Engineering I	2	Yes	
Biological Track Technical Elective	3	Yes	
Technical Elective	3	Yes	
Total hours for semester	17		

Semester 5: Fall

Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHE 4110 - Unit Operations Lab I	3	Yes	
CHE 4200 - Process Control and Simulation	3	Yes	
CHE 4300 - Chemical Engineering Process Design I	3	Yes	
CHE 4830 - Applied Cellular and Molecular Biology	3	Yes	
Biological Track Technical Elective	3	Yes	
Total hours for semester	15		

Semester 6: Spring

Course Subject and Title (Or General Tier/Major Requirement)	Credit Hours	Upper Division	Minimum Grade
CHE 4000 - Chemical Engineering Professional and Ethical Issues	1	Yes	
CHE 4120 - Unit Operations Lab II	3	Yes	
CHE 4310 - Chemical Engineering Process Design II	3	Yes	
CHE 4800 - Biochemical Engineering	3	Yes	
Biological Track Technical Elective	3	Yes	
Technical Elective	3	Yes	
Total hours for semester	16		