

**CLASS OF 2021 AND LATER**

**Bachelor of Science Program  
Rutgers Chemical & Biochemical Engineering Curriculum  
**Biochemical** Option**

<u>FALL</u>			<u>SPRING</u>		
<b><u>Freshman Year</u></b>					
01:160:159	Gen. Chemistry for Eng.I	3.0	01:160:160	Gen. Chemistry for Eng.II	3.0
01:355:101	Expository Writing	3.0	01:160:171	Intro. Experimentation	1.0
14:440:100	Intro. To Eng'g	1.0	14:440:127	Intro. Computers for Eng.	3.0
01:640:151	Calculus I	4.0	01:640:152	Calculus II	4.0
01:750:123	Analytical Physics I	2.0	01:750:124	Analytical Physics I	2.0
__ : __ : __	Hum./Soc. Science Elective	<u>3.0</u>	14:440:221	Eng. Mechanics Statics	3.0
		16.0	__ : __ : __	Hum./Soc. Science Elective	<u>3.0</u>
					19.0
<b><u>Sophomore Year</u></b>					
14:155:201	<b>Material &amp; Energy Bals.</b>	<b>M3.0</b>	14:155:208	<b>Thermodynamics I</b>	<b>M3.0</b>
14:155:298	<b>Professional Skills Develop. #</b>	<b>M1.0</b>	14:155:210	<b>Biological Found. Chem. Eng.</b>	<b>M3.0</b>
01:160:307	Organic Chemistry I*	4.0	01:160:308	Organic Chemistry II	4.0
01:640:251	Multivariable Calculus	4.0	01:640:244	Diff. Eqns. Engineering & Physics	4.0
01:750:227	Analytical Physics II	3.0	<b>14:540:343</b>	<b>Engineering Economics+</b>	<b>3.0</b>
01:750:229	Analytical Physics II Lab	<u>1.0</u>			17.0
	16.0				
<b><u>Junior Year</u></b>					
14:155:303	<b>Transport Phen. I</b>	<b>M3.0</b>	14:155:304	<b>Transport Phen. II</b>	<b>M3.0</b>
14:155:307	<b>Comp. Methods Chem. Eng.</b>	<b>M3.0</b>	14:155:324	<b>Separations Processes</b>	<b>M3.0</b>
14:155:309	<b>Thermodynamics II</b>	<b>M3.0</b>	14:155:341	<b>Kinetics</b>	<b>M3.0</b>
01:447:390	Gen. Microbiology>	4.0	01:694:301	Intro. Biochem & Molec. Biol.(.)	3.0
<b>__ : __ : __</b>	<b>Technical Elective~</b>	<b>3.0</b>	01:694:313	Intro Biochemistry Lab<	1.0
		16.0	__ : __ : __	Hum./Soc. Science Elective	<u>3.0</u>
					16.0
<b><u>Senior Year</u></b>					
14:155:411	<b>Biochemical Engineering</b>	<b>M3.0</b>	14:155:416	<b>Processing Engineering Lab II</b>	<b>M4.0</b>
14:155:415	<b>Process Engineering Lab I</b>	<b>M4.0</b>	14:155:428	<b>Design II</b>	<b>M4.0</b>
14:155:422	<b>Process Simul. &amp; Control</b>	<b>M3.0</b>	14:635:407	Mech. Prop. of Materials	3.0
<b>__ : __ : __</b>	<b>Technical Elective</b>	<b>3.0</b>	__ : __ : __	General Elective	<u>3.0</u>
__ : __ : __	Hum./Soc. Science Elective	<u>3.0</u>			14.0
		16.0			

**TOTAL: 130.0**

#Moved to fall semester.

\* 01:160:315, 316 are accepted in place of 01:160:307, 308.

+Class of 2021 takes 01:220:102. Class of 2022 and later takes 14:540:343.

~Class of 2021 takes required 01:640:421.

>May complete 01:447:390 or 11:680:390.

**Pre-req override for General Microbiology (01:447:390 & 11:680:390)**

The biology requirement for General Microbiology is waived for chemical engineering students who have completed Organic Chemistry I & II, and Biological Foundations (155:210). Deans and advisors at SoE Office of Academic Services grant pre-req override to CBE students taking General Microbiology. Please contact B-100 for pre-req override.

**For Biochem Option students:** 11:680:390 (SAS) is equivalent to 01:447:390 (SEBS), so either course counts toward the Biochem Option requirement.

()May complete 01:694:301 or 11:115:301.

<May complete 01:694:313 or 11:115:313.

Revised Feb. 2020