

**BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING**  
**CO-OPERATIVE EDUCATION OPTION #3**

FALL SEMESTER YEAR 1	Credits	SPRING SEMESTER YEAR 1	Credits
CHEM 1035 General Chemistry <i>Pre: None</i>	3	CHEM 1036 General Chemistry <i>Pre: None</i>	3
CHEM 1045 General Chemistry Lab <i>Co: CHEM 1035</i>	1	CHEM 1046 General Chemistry Lab <i>Co: CHEM 1036</i>	1
ENGL 1105 First-Year Writing <i>Pre: None</i>	3	ENGL 1106 First-Year Writing <i>Pre: ENGL 1105</i>	3
MATH 1225 Calculus of a Single Variable <i>Pre: Math Ready</i>	4	MATH 1226 Calculus of a Single Variable <i>Pre: MATH 1225</i>	4
ENGE 1215 Foundations of Engineering <b>(C-)</b> <i>Co: MATH 1225</i>	2	PHYS 2305 Found of Physics I w/lab <i>Pre: MATH 1225; Co: MATH 1226</i>	4
Elective (Pathway 2,3, or 7)	3	ENGE 1216 Foundations of Engineering <b>(C-)</b> <i>Pre: ENGE 1215</i>	2
<b>TOTAL</b>	<b>16</b>	<b>TOTAL</b>	<b>17</b>

FALL SEMESTER YEAR 2	Credits	SPRING SEMESTER YEAR 2	Credits
CHEM 2535 Organic Chemistry <i>Pre: CHEM 1036 -OR- CHEM 2565 Principles of Organic Chem Pre: CHEM 1036</i>	3 <sup>[F,SI]</sup> or [F]	CHEM 2536 Organic Chemistry <i>Pre: CHEM 2535 or 2565 -OR- CHEM 2566 Principles of Organic Chem Pre: CHEM 2565</i>	3 <sup>[S,SI]</sup> or [S]
CHEM 2545 Organic Chemistry Lab <i>Pre: CHEM 1046; Co: CHEM 2535</i>	1 <sup>[F,SI]</sup>	CHEM 2546 Organic Chemistry Lab <i>Pre: CHEM 2545 Co: CHEM 2536</i>	1 <sup>[S,SI]</sup>
MATH 2204 Intro to Multivariable Calculus <i>Pre: MATH 1226</i>	3	CHEM 3615 Physical Chemistry <i>Pre: CHEM 1036, MATH 2204, PHYS 2306</i>	3 <sup>[F,SI]</sup>
CHE 2114 Mass & Energy Balances <b>(C-)</b> <i>Pre: MATH 1226, CHEM 1036</i>	3 <sup>[F,S]</sup>	MATH 2214 Intro to Differential Eqns <i>Pre: MATH 1226, MATH 1114</i>	3
PHYS 2306 Foundations of Physics I & Lab <i>Pre: PHYS 2305</i>	4	CHE 2164 CHE Thermodynamics <b>(C-)</b> <i>Pre: 2114. Co: CHEM 3615</i>	3 <sup>[F,S]</sup>
MATH 1114 Elementary Linear Algebra <i>Pre: MATH 1225 or 1226</i>	2	Elective (Pathway 2,3, or 7)	3
<b>TOTAL</b>	<b>16</b>	<b>TOTAL</b>	<b>16</b>

FALL SEMESTER YEAR 3	Credits
<b>Co-operative Education Term #1</b>	
<b>SPRING SEMESTER YEAR 3</b>	<b>Credits</b>
MATH 4564 Operational Methods <i>Pre: MATH 2214</i>	3
ENGL 3764 Technical Writing <i>Junior Standing, Pre: ENGL 1106</i>	3
CHE 3114 Fluid Transport <b>(C-)</b> <i>Pre: 2114, PHYS 2305, MATH 2204; Co: MATH 4564</i>	3 <sup>[F,S]</sup>
CHE 3134 Separation Processes <b>(C-)</b> <i>Pre: 2114; (2164 or CHEM 3615)</i>	3 <sup>[F,S]</sup>
CHE 3124 CHE Modeling <b>(C-)</b> <i>Pre: 2114, MATH 2214 Co: 3114 MATH 4564</i>	3 <sup>[F,S]</sup>
<b>TOTAL</b>	<b>15</b>

FALL SEMESTER YEAR 4	Credits
<b>Co-operative Education Term #2</b>	
<b>SPRING SEMESTER YEAR 4</b>	<b>Credits</b>
CHE 2004 CHE Sophomore Seminar	1 <sup>[S]</sup>
CHEM 3625 Physical Chemistry Lab <i>Pre: CHEM 3615</i>	1 <sup>[F,S,SI]</sup>
CHE 3015 Process Measure & Control <b>(C-)</b> <i>Pre: MATH 4564; Co: 3124, 3184, 3044</i>	3 <sup>[S]</sup>
CHE 3044 Heat Transfer <b>(C-)</b> <i>Pre: 2164, 3114, MATH 4564</i>	2 <sup>[S]</sup>
CHE 3144 Mass Transfer <b>(C-)</b> <i>Pre: 2164, 3114, MATH 4564</i>	3 <sup>[S]</sup>
CHE 3184 Chem Reactor Analysis & Des <b>(C-)</b> <i>Pre: 2164, MATH 2214; Co: 3144, 3044</i>	3 <sup>[S]</sup>
STAT 4604 Stats Methods for Engrs <i>Pre: MATH 1226</i>	- 3
<b>OR-</b>	
STAT 4705 Prob & Stat for Engrs <i>Pre: MATH 2204</i>	3
<b>TOTAL</b>	<b>16</b>

SUMMER TERM I OR II	Credits
CHE 4014 CHE LABORATORY <b>(C-)</b> <i>PRE: 3015, 3044, 3124, 3134, 3144, 3184, ENGL 3764</i>	5 <sup>[SI,SI]</sup>
<b>TOTAL</b>	<b>5</b>

<b>FALL SEMESTER YEAR 5</b>		<b>Credits</b>	<b>SPRING SEMESTER YEAR 5</b>		<b>Credits</b>
CHE 4185 Process & Plant Design <b>(C-)</b> <i>Pre: 4014</i>		4 <sup>[F]</sup>	CHE 4186 Process & Plant Design <b>(C-)</b> <i>Pre: 4185</i>		4 <sup>[S]</sup>
CHE 4104 Process Materials <b>(C-)</b> <i>Pre: 2164, (CHEM 2535 or CHEM 2565)</i>		3 <sup>[F]</sup>	Elective (Pathway 2,3, or 7)		3
Elective (Pathway 2,3, or 7)		3	Elective (Pathway 6)		3
Technical Elective		6	Free Electives		3
	<b>TOTAL</b>	<b>16</b>		<b>TOTAL</b>	<b>13</b>