

# Chemical Engineering (BS): Honors Program (14CHEBS-14CHEHON)

Semester Display Effective Date: 1.2013

## FRESHMAN YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 101 Chemistry, A Molecular Science <sup>7</sup>	3		CH 201 Chem.- Quantitative Science	3
CH 102 General Chemistry Lab <sup>7</sup>	1		CH 202 Quantitative Chem. Lab	1
E 101 Introduction to Engr & Prob Solv <sup>1</sup>	1		MA 241 Calculus II <sup>7</sup>	4
E 115 Intro to Computing Envir	1		PY 205 Physics for Engineering & Scientists I <sup>7</sup>	4
ENG 101 Academic Writing and Research <sup>1</sup>	4		PY 206 Physics for Engineers & Scientists I Lab	3
MA 141 Calculus I <sup>7</sup>	4			1
HES_***Health & Exercise Studies Course*	1		EC 205 Economics (or EC 201 or ARE 201)*	
	<b>15</b>		HES_***Health & Exercise Studies Course*	<b>16</b>

## SOPHOMORE YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 221 Organic Chemistry I <sup>8</sup>	3		CH 223 Organic Chemistry II <sup>8</sup>	3
CH 222 Organic Chemistry I Lab <sup>8</sup>	1		CH 224 Organic Chemistry II Lab <sup>8</sup>	1
CHE 205 Chemical Process Prin	4		PY 208 Physics for Engineers & Scientists II	3
MA 242 Calculus III	4		PY 209 Physics for Engineers & Scientists II Lab	3
GEP Requirement*	3		CHE 225 Chemical Proc Systems	4
	<b>15</b>		MA 341 Applied Differential Eqns	3
			GEP Requirement*	<b>17</b>

## JUNIOR YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 315 Quantitative Analysis	4		CH *** Chemistry Elective <sup>3</sup>	4
CHE 311H Transport Processes I	3		CHE 312H Transport Processes II	3
CHE 315 Chem. Process Thermo	3		CHE 316 Thermo of Chem & Phase Eq	3
MA *** Mathematics Elective <sup>2</sup>	3		CHE 330 Chem Engr Lab I	<b>17</b>
GEP Requirement*	3		ENG 333 Comm for Science and Research	
CHE 395 Professional Dev Seminar	1			
	<b>17</b>			

## SENIOR YEAR

Fall Semester	Credit		Spring Semester	Credit
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CHE 497 Chem Engr Projects	3			3
CHE 446 Des & Analy Chem. React	3			3
CHE 450 CHE Design I	3		CHE 435 Proc Sys Analy & Control	3
CHE 7** CHE Elective <sup>4</sup>	3		CHE 451 CHE Design II	3
GEP Requirement*	3		CHE *** Honors Electives <sup>5</sup>	2-3
			GEP Requirement*	1
	<b>15</b>		GEP IP Requirement	
			CHE 495 Honors Thesis Prep <sup>6</sup>	<b>15-16</b>

Minimum Credit Hours Required for Graduation:

**127**

**Major/Program Requirements and footnotes:**

<sup>1</sup> Minimum grade of (C-) required.

<sup>2</sup> Math electives include: MA 401, 402, 405, 427, 501.

<sup>3</sup> Chemistry electives include: PCC 461: Chemistry of Polymeric Materials; CH 437: Physical Chemistry; CH/TC 461: Introduction to Fiber Forming Polymers; BCH 351 BCH 451: Biochemistry; FS 402: Food Science; CH 610: Special Topics in Chemistry; CH 615: Chemical Separations (note: an additional hour of CH 499 would also be required to total 4 hours).

<sup>4</sup> CHE 7xx includes CHE 711, 713, 715, 717.

<sup>5</sup> Honors electives include CHE 460 and above, CHE 5xx, CHE 7xx.

<sup>6</sup> An honors thesis is required for completion of the Honors Program.

<sup>7</sup> Grade of C (2.0) or higher required.

<sup>8</sup> CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.

**\*General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

**Health & Exercise Studies** - 2 hours to be selected from the approved GEP Health & Exercise Studies list.

a. One fitness and wellness course (any Health & Exercise Studies 100-level course).

b. One additional credit hour of Health & Exercise Studies activity courses.

**HUMANITIES** - 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list.

**SOCIAL SCIENCES** - 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 (or EC 201 or ARE 201) taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

**ADDITIONAL BREADTH** - 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

**INTERDISCIPLINARY PERSPECTIVES** - 5 credits to be selected from the approved GEP Interdisciplinary Perspectives list.

**Co-requisites:**

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.

Foreign Language proficiency at the FL\_102 level will be required for graduation.