

## Chemistry B.S. Degree Check Sheet Program Year 2017-2018

### FIRST YEAR SEMINAR (1 cr)<sup>1</sup>

PSU 016: First Year Seminar Science	1		
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### MATHEMATICS/STATISTICS (13 cr)

MATH 140: Calculus 1 <sup>3,2</sup>	4		
MATH 141: Calculus 2 <sup>3,2</sup>	4		
MATH 231: Multivariable Calculus	2		
MATH 251: Ordinary Diff. Equations or STAT 401 Experimental Methods	3		

a) A grade of C or better is required for graduation.

### PHYSICS (12 cr)

PHYS 211: Mechanics	4		
PHYS 212: Electricity and Magnetism	4		
PHYS 213 + 214: Thermal & Quantum	4		

### CHEMISTRY (36 cr)<sup>a</sup>

CHEM 110(H): Chemical Principles 1 <sup>2</sup>	3		
CHEM 111: Experimental Chemistry 1 <sup>2</sup>	1		
CHEM 112(H): Chemical Principles 2 <sup>2</sup>	3		
CHEM 113: Experimental Chemistry 2 <sup>2</sup>	1		
CHEM 210(H): Organic Chemistry 1 <sup>2</sup>	3		
CHEM 212(H): Organic Chemistry 2	3		
CHEM 213W(M): Organic Chemistry Lab	2		
CHEM 227 (or 221): Analytical Chemistry <sup>11</sup>	4		
CHEM 310: Intro. Inorganic Chemistry <sup>11</sup>	3		
CHEM 316: The Professional Chemistry <sup>12</sup>	1		
CHEM 450: Phys. Chem. - Thermodynamics	3		
CHEM 452: Physical Chemistry - Quantum	3		
CHEM 457: Experimental Phys. Chem.	2		
CHEM 423W, 425W, 431W or 459W <sup>13</sup>	4		

a) A grade of C or better is required in all courses in this category.

### 400- LEVEL CHEMISTRY ELECTIVES (16 cr)<sup>c, 3-5</sup>


c) Up to 6 co-op credits (2 each of SC 295, 395, 495) may be used in this category. CHEM 494 may be used, but the total of CHEM 494 credits plus co-op credits must not exceed 8. A grade of C or better is required in all courses in this category.

**Numbered superscripts refer to notes on pp. 3-5.**

**AREAS OF CONCENTRATION:** Although there are no formal options within the chemistry major, courses can be selected according to areas of greatest interest. Recommended academic plans for specialization in analytical, physical, synthetic, and biological chemistry, as well as recommendations for transfer students, are provided on pp. 6-9.

### HEALTH and PHYSICAL ACTIVITIES (3 cr)<sup>6,7</sup> (or FOOD SCIENCE 105)

GHA <sup>7</sup>			
GHA <sup>7</sup>			
GHA <sup>7</sup>			

### WRITING/SPEAKING (9 cr)<sup>6, 8, 9</sup>

ENGL 015 or 030: Rhetoric & Comp. <sup>8</sup>	3		
ENGL 202C: Technical Writing <sup>9</sup>	3		
CAS 100A: Effective Speech <sup>9</sup>	3		

### ARTS (6 cr)<sup>d, 6</sup>

(GA)	3		
(GA)	3		
(GA)	3		

### HUMANITIES (6 cr)<sup>d, 6</sup>

(GH)	3		
(GH)	3		
(GH)	3		

### SOCIAL AND BEHAVIORAL SCIENCES (6 cr)<sup>d, 6</sup>

(GS)	3		
(GS)	3		
(GS)	3		

d) Students may substitute 3 credits from one of the above knowledge domains for 3 credits in another domain, thereby substituting a 9-6-3 credit pattern for the default 6-6-6 pattern in these general education courses. Students may also substitute 3 credits in foreign/second language at the third or higher level for 3 credits in any one of these three categories, provided that this substitution will not lead to the complete elimination of any category. Contact the Undergraduate Office to adjust audit if either of these options is used.

### GENERAL ELECTIVES (17 cr)<sup>e, 10</sup>


e) Up to 3 co-op credits (1 each of SC 295, 395, and 495) may be used in this category. CHEM 294 (Chemical Research)<sup>5</sup> may be used in this category, but CHEM 494 or 496 may not. See notes 10 (p. 5) for a list of other courses that may not be used in this category. A total of at least 125 credits is required.

### UNITED STATES CULTURES AND INTERNATIONAL CULTURES

**REQUIREMENT<sup>6</sup>:** Students must complete 3 credits in US and 3 credits in IL. A course carrying both designations only satisfies 3 credits of this requirement.