

UNIVERSITY OF NORTH DAKOTA—DEPARTMENT OF CHEMISTRY  
Curriculum for the B.S. with Major in Chemistry (non-ACS Degree)  
Physical Science Option

REQUIRED 125 hour, including:

I. General Education Requirements, see pages

II. The Following Curriculum:

Major Requirements - 36 hours including:

FRESHMAN YEAR	Fall	Spring	Fall	Spring
General Chemistry I & Lab ( <i>Chem 121, 122L</i> )	4			
General Chemistry II & Lab ( <i>Chem 122, 122L</i> )		4		
Composition ( <i>Engl 110</i> )	3			
<sup>1</sup> Technical & Business writing ( <i>Engl 125</i> )		3		
<sup>2</sup> Calculus I ( <i>Math 165</i> )	4			
Calculus II ( <i>Math 166</i> )		4		
<sup>3</sup> Humanities or Social Science Elective	5	4		
<b>Total Hours</b>	<b>16</b>	<b>15</b>		

SOPHOMORE YEAR	Fall	Spring	Fall	Spring
<sup>4</sup> Intro Env Clin Forensic Chemistry Analysis ( <i>Chem 333</i> )	4		<b>OR</b>	4
Organic Chemistry I & Lab ( <i>Chem 341, 341L</i> )	5		<sup>4</sup> Fundamentals of Chemistry: Analysis & Lab ( <i>Chem 222, 222L</i> )	5
Organic Chemistry II & Lab ( <i>Chem 342, 342L</i> )		5	( <i>Chem 341, 341L</i> )	
General Physics ( <i>Phys 251-252</i> )	4	4	( <i>Chem 342, 342L</i> )	5
Calculus III ( <i>Math 265</i> )	4		( <i>Phys 251-252</i> )	4
<sup>3</sup> Humanities or Social Science Elective		6	( <i>Math 265</i> )	4
			<sup>3</sup> Electives	3
<b>Total Hours</b>	<b>17</b>	<b>15</b>		<b>16</b>

JUNIOR YEAR	Fall	Spring
Physical Chemistry I ( <i>Chem 464</i> )		3
Physical Chemistry II ( <i>Chem 465</i> )	3	
Instrumental Analysis ( <i>Chem 461</i> )		5
Level II Language	4	4
<sup>5</sup> Electives	9	4
<b>Total Hours</b>	<b>16</b>	<b>16</b>

SENIOR YEAR	Fall	Spring
Physical Chem Laboratory ( <i>Chem 462</i> )	3	
<sup>5,6</sup> Electives	12	15
<b>Total Hours</b>	<b>15</b>	<b>15</b>

\* FOR FURTHER INFORMATION PLEASE SEE A CHEMISTRY ADVISOR.

## NOTES

- 1 With permission of the advisor, a student may substitute English 120 in English 125 is not available.
- 2 If a student not ready for Math 165, the math sequence may be moved back one semester and Math 107 (also Math 103, if needed) should be taken in the first semester.
- 3 To fulfill the University Graduation Requirements a minimum of 6 credit hours of Arts and Humanities (in addition to languages) and 9 credit hours of in Social Sciences must be taken ( see pp. 32-39 of the Undergraduate Catalog).
- 4 Either Chem 333 (Fall) or Chem 222/222L (Spring) should be taken, not both. Which one is taken affects the number of hours available for electives in a given semester. Chem 461 is offered only in alternate Spring semesters.
- 5 Suggested electives are courses in Physics, Mathematics, Biochemistry, Biology, Languages, Computer Science, Chemical Engineering, Business Management, and Speech.
- 6 Graduate level courses in Chemistry may be taken as electives.

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