

BIOINFORMATICS FOUNDATIONS AS

Purpose: The Bioinformatics Foundations AS offers students a powerful Computer Science option with an emphasis in Biology and Chemistry: the opportunity to complete an Associate of Science degree with course credits that are articulated with Winona State University Rochester's Computer Science – Bioinformatics bachelor's degree. The curriculum has been specifically designed so that students completing this degree and transferring to Winona State University Rochester will enter with junior-year status with courses applying to the Computer Science – Bioinformatics bachelor's degree program.

Award

Bioinformatics Foundations AS Degree.....60 credits total
Computer Science Curriculum 19 credits
MnTC Curriculum/General Education 41 credits

Program course sequence begins in the Fall.

General Education courses may be taken in any semester. Contact your Advisor.

RECOMMENDED FULL-TIME COURSE SEQUENCE			
<i>Not all courses are scheduled every semester. See course schedule: https://eservices.minnstate.edu/registration/search/basic.html?campusid=306.</i>			
Semester 1 COMP 1150 Computer Science Concepts 3 cr ENGL 1117 Reading and Writing Critically I 4 cr BIOL 1220 Concepts of Biology 4 cr MnTC Goal 5 3 cr Open Elective (PHED course recommended) 1 cr <div style="text-align: right;">Total Credits 15</div>		Semester 2 COMP 2243 Programming and Problem Solving 4 cr MATH 1119 Applied Calculus 3 cr Or MATH 1127 Calculus I 5 cr COMM 1114 Fundamentals of Public Speaking 3 cr ENGL 1118 Reading & Writing Critically II 4 cr <div style="text-align: right;">Total Credits 14 -16</div>	
Semester 3 COMP 2247 Algorithms and Data Structures 4 cr MATH 2218 Discrete Mathematics 4 cr BIOL 2300 Genetics 4 cr MnTC Goal 6 3 cr <div style="text-align: right;">Total Credits 15</div>		Semester 4 CHEM 1127 Chemical Principles I 4 cr MATH 2350 Introduction to Mathematical Statistics (Offered Spring Semester Only) 4 cr MnTC Goal 6 3 cr MnTC Goal 5 3 cr MnTC Electives (Approved MnTC course) 2 cr <div style="text-align: right;">Total Credits 16</div>	
RECOMMENDED PART-TIME COURSE SEQUENCE			
<i>Not all courses are scheduled every semester. See course schedule: https://eservices.minnstate.edu/reqistration/search/basic.html?campusid=306.</i>			
Semester 1 ENGL 1117 Reading and Writing Critically I 4 cr BIOL 1220 Concepts of Biology 4 cr <div style="text-align: right;">Total Credits 8</div>		Semester 2 COMP 1150 Computer Science Concepts 3 cr MnTC Goal 5 3 cr Open Elective (PHED course recommended) 1 cr <div style="text-align: right;">Total Credits 7</div>	
Semester 3 COMP 2243 Programming and Problem Solving 4 cr ENGL 1118 Reading & Writing Critically II 4 cr <div style="text-align: right;">Total Credits 8</div>		Semester 4 MATH 1119 Applied Calculus 3 cr Or MATH 1127 Calculus I 5 cr COMM 1114 Fundamentals of Public Speaking 3 cr <div style="text-align: right;">Total Credits 6 or 8</div>	
<i>Continued on reverse side of page...</i>			

Semester 5 COMP 2247 Algorithms and Data Structures MnTC Goal 6 <p style="text-align: right;">Total Credit</p>	4 cr 3 cr 7	Semester 6 MATH 2218 Discrete Mathematics BIOL 2300 Genetics <p style="text-align: right;">Total Credits</p>	4 cr 4 cr 8
Semester 7 CHEM 1127 Chemical Principles I MATH 2350 Introduction to Mathematical Statistics (Offered Spring Semester Only) <p style="text-align: right;">Total Credits</p>	4 cr 4 cr 8	Semester 8 MnTC Goal 6 MnTC Goal 5 MnTC Electives (Approved MnTC course) <p style="text-align: right;">Total Credits</p>	3 cr 3 cr 2 cr 8