

Program Core Requirements	22
Additional Career Requirements	8
General Education/MnTC	<u>30</u>
Total Credits	60

BIOLOGICAL SCIENCES

Associate in Science Degree

2008-2009

Program Information: The Associate in Science Biological Sciences degree program prepares students for entry in the career fields of Biological Sciences and for transfer to four year baccalaureate programs majoring in the Biosciences and related academic tracks such as pre-med and pre-vet. Coursework will transfer in its entirety to Minnesota State University-Mankato and may transfer in part or entirely to the University of Minnesota, St. Cloud State University, Bemidji State University, Minnesota State University-Moorhead and other postsecondary institutions. Students should meet with a representative of the transfer institution when planning class schedules. For additional information about the biological sciences degree, visit the biology department web site at <http://webs.anokaramsey.edu/biology/>.

Program Goals: By completing this program, students will achieve the following learning goals: 1) Demonstrate comprehension of biological systems at all levels of biological organization, 2) apply the scientific method within course investigations, 3) communicate biological data, analyses, and interpretations orally and/or in writing, 4) demonstrate application of critical thinking in classroom, field, and laboratory studies.

Program Admission: To apply for admission to the Biological Sciences degree program, identify Biological Sciences as your major on your application form.

Developmental Courses: Some students may need preparatory courses in the areas of English or Mathematics. Courses numbered below 1000 will not apply toward the AS degree.

		General Education/MnTC Requirements	30 credits
Program Core Requirements	22 credits	Complete at least 30 credits in courses from the Minnesota Transfer Curriculum, <u>including all courses listed</u> . You must complete at least one course in six of the ten goal areas. You may select courses that meet more than one goal area.	
BIOL 1106* Principles of Biology I	4	1. Communication	
BIOL 1107 Principles of Biology II	4	ENGL 1121* College Writing and Critical Reading (also meets goal area 2)	4
BIOL 2202 Genetics	4	SPCH 2220 Interpersonal Communications (also meets goal area 7)	3
CHEM 2061 Organic Chemistry I	5	2. Critical Thinking (met by ENGL 1121)	
CHEM 2062 Organic Chemistry II	5	3. Natural Science	
		CHEM 1061 Principles of Chemistry I	4
Additional Career Requirements		CHEM 1062 Principles of Chemistry II	4
		PHYS 1317* General Physics I	5
<i>Electives: Select a minimum of 8 credits from the following:</i>	8 credits	PHYS 1318* General Physics II	5
BIOL 2206 Animal Biology	4	4. Mathematical/Logical Reasoning	
BIOL 2207 Plant Biology	4	MATH 1201* College Algebra II and Trigonometry	4
BIOL 2209 General Ecology	4	7. Human Diversity (met by SPCH 2220)	
BIOL 2208 Cell Biology	4	Choose 1 course from the following goal areas:	1
BIOL 2114* Anatomy and Physiology II	4	5. History/Social/Behavioral Sciences	
		6. Humanities/Fine Arts	
		8. Global Perspective	
		9. Ethical/Civic Responsibility	
		10. People and the Environment	
* Course has a prerequisite. Prerequisites listed on back.		Notes: (1) A minimum cumulative grade point average (GPA) of 2.0 in courses numbered 1000 or above at ARCC is required to complete this degree. Some transfer agreements require a GPA of 2.5. (2) A minimum grade of C must be earned in all Program Core and all Additional Career Requirements. (3) A minimum of 60 semester credits numbered 1000 or above with a minimum of 20 semester credits taken at ARCC (reduced to 12 if 8 credits are transferred from another MnSCU institution or the U of M) is required for graduation. (4) One credit must be taken in General Ed/MnTC Requirements in one of the following goal areas: 5, 6, 8, 9, 10.	
+ Students transferring to the University of Minnesota or St. Cloud State University should enroll in BIOL 2206 and BIOL 2207.			
+ Students transferring to Minnesota State University-Mankato should enroll in BIOL 2209 and BIOL 2208 OR BIOL 2209 and BIOL 2114*.			

Program Sequence: The sequence that follows is suggested for full-time students. Students enrolling in this program should be advised to enroll in CHEM 1061 during the summer session prior to beginning the program. Part-time students will need more time to complete this program; many courses are offered in the evening.

<u>First Year</u>				<u>Second Year</u>			
Fall Semester		Spring Semester		Fall Semester		Spring Semester	
BIOL 1106	4	BIOL 1107	4	BIOL 2202	4	BIOL 2XXX	4
MATH 1201	4	CHEM 1062	4	BIOL 2XXX	4	CHEM 2062	5
PHYS 1317	5	PHYS 1318	5	CHEM 2061	5	General Ed/MnTC	<u>5-7</u>
General Ed/MnTC	<u>2-4</u>	General Ed/MnTC	<u>1-3</u>	General Ed/MnTC	<u>1-3</u>	Total	14-16
Total	14-16	Total	14-16	Total	14-16		

You are encouraged to contact a counselor or an advisor or *Ask Us* on the website (www.anokaramsey.edu), for course planning assistance and information about transfer credit evaluation.

NOTE: The requirements of this program are subject to change without notice. Students should refer to the current catalog to determine the limits to earn a degree.

◆ Prerequisite courses for the A.S. in Biological Sciences Degree Program courses are as follows:

Program Course:	Prerequisite for Program Course:
ENGL 1121	Grade of C or better in ENGL 0950 or achievement of recommended score on English placement test.
MATH 1201	Grade of C or better in MATH 1200 (College Algebra) or a required score on Math placement test.
BIOL 1106	Grade of C or better in CHEM 1061 (Principles of Chemistry I) CHEM 1061 is the prerequisite for BIOL 1106 for this program; it is highly recommended that students take this course during the summer PRIOR to commencing the first year of this program.
BIOL 2114	Grade of C or better in BIOL 2113 (Human Anatomy and Physiology I) BIOL 2113 is the prerequisite for BIOL 2114 (for those students choosing to complete this program degree with this course); it is highly recommended that students take this course during the summer PRIOR to commencing the second year of the program.
PHYS 1317	Grade of C or better in MATH 1200 (College Algebra I) MATH 1200 is the prerequisite for PHYS 1317 or requires concurrent enrollment.
PHYS 1318	Grade of C or better in MATH 1201 (College Algebra II and Trigonometry) & PHYS 1317 (General Physics I) MATH 1201 (& PHYS 1317) are the prerequisites for PHYS 1318 or require concurrent enrollment.

It is highly recommended that students carefully consider the timeline of the Program Sequence as not all Program Core and/or Additional Career Requirement Courses are offered every semester. Please note the semesters when the following courses are regularly offered:

Biology Courses	Fall	Spring	Summer	Chemistry Courses	Fall	Spring	Summer	Physics Courses	Fall	Spring	Summer
1106	X	X	X	1061	X	X	X	1317	X		
1107	X	X		1062	X	X	X	1318		X	
2202	X			2061	X						
2206		X*		2062		X					
2207		X*									
2208		X									
2209	X										
2113	X	X	X								
2114	X	X	X								

*BIOL 2206 and BIOL 2207 are offered in alternating Spring semesters