

# Biology

- A.S. Degree—64 credits

## What You Will Learn

The Biology associate in science degree is specifically designed to prepare you for transfer into the junior or third year of a biology major at a four-year college or university.

Students are accepted into this major both fall and spring semesters.

Courses in this major require achievement of the following academic skill levels:

- **Reading:** Students must successfully complete READ 0200 or ESOL 0052, OR be declared ready to enroll in READ 1300 on the basis of their reading assessment scores.
- **Writing:** Students must have successfully completed ENGL 0900 or ESOL 0051, OR be declared ready to enroll in ENGL 1110 on the basis of their writing assessment test scores.
- **Math:**
  - For Option 1:** Students must have successfully completed MATH 1110 or been placed into MATH 1120 or above on the basis of their mathematics assessment scores.
  - For Option 2:** Students must have successfully completed MATH 1110 and MATH 1120 or MATH 1125 or been placed into MATH 1180 on the basis of their mathematics assessment scores.

MCTC has an articulation agreement with St. Cloud State University, which provides for transfer of the A.S. in Biology to all of the B.S. degrees in the Department of Biology. MCTC is working on additional transfer agreements.

## Biology A.S. Degree

Credits 64

### Required Courses

| Course #  | Course Name                        | Credits |
|-----------|------------------------------------|---------|
| BIOL 1100 | Introduction to Biology . . . . .  | 4.00    |
| BIOL 2200 | Principles of Biology. . . . .     | 4.00    |
| CHEM 1151 | Principles of Chemistry 1. . . . . | 5.00    |
| CHEM 1152 | Principles of Chemistry 2. . . . . | 5.00    |
| CHEM 2204 | Organic Chemistry 1 . . . . .      | 4.00    |
| CHEM 2224 | Organic Chemistry 1 Lab. . . . .   | 2.00    |
| CHEM 2205 | Organic Chemistry 2 . . . . .      | 4.00    |
| CHEM 2225 | Organic Chemistry 2 Lab. . . . .   | 2.00    |
| ENGL 1110 | College English 1 . . . . .        | 3.00    |

**AND**

### Option 1

| Course #  | Course Name                    | Credits |
|-----------|--------------------------------|---------|
| MATH 1150 | Statistical Analysis . . . . . | 4.00    |
| PHYS 1131 | College Physics 1. . . . .     | 5.00    |
| PHYS 1132 | College Physics 2. . . . .     | 5.00    |

**AND**

Choose **two** of the following course options:

|           |                        |      |
|-----------|------------------------|------|
| BIOL 2230 | Microbiology . . . . . | 2.00 |
|-----------|------------------------|------|

**AND**

|           |                            |      |
|-----------|----------------------------|------|
| BIOL 2231 | Microbiology Lab . . . . . | 2.00 |
|-----------|----------------------------|------|

**OR**

|           |                         |      |
|-----------|-------------------------|------|
| BIOL 2250 | Plant Biology . . . . . | 4.00 |
|-----------|-------------------------|------|

**OR**

|           |                         |      |
|-----------|-------------------------|------|
| BIOL 2260 | Animal Biology. . . . . | 4.00 |
|-----------|-------------------------|------|

**OR**

|           |                   |      |
|-----------|-------------------|------|
| BIOL 2205 | Genetics. . . . . | 4.00 |
|-----------|-------------------|------|

**OR**

### Option 2

| Course #  | Course Name . . . . .                           | Credits |
|-----------|---|---------|
| MATH 1180 | Calculus 1. . . . .                             | 5.00    |
| PHYS 1211 | Physics for Science and Engineering 1 . . . . . | 6.00    |
| MATH 1190 | Calculus 2. . . . .                             | 5.00    |
| PHYS 1221 | Physics for Science and Engineering 2 . . . . . | 6.00    |

**AND**

### General Education Electives (9 credits)

The total for the required courses plus either Option 1 or Option 2 is 55 credits. Add 9 credits of general education electives (see following paragraphs) for a total of 64 credits to complete the associate in science in Biology degree.

To complete the A.S. degree in Biology, students are required to successfully complete coursework from six of the 10 goal areas of the MnTC. A minimum of 3 credits must be completed from Goal Area 1, and 3 credits from Goal Areas 7, 8, 9 or 10.

Students who choose **Option 1** must select courses from a least two different MnTC goal areas than are represented among the required credits in order to meet the requirement for coursework completed in six of the 10 MnTC goal areas.

Students who choose **Option 2** must select courses from at least three different MnTC goal areas than are represented among the required credits in order to meet the requirement for coursework completed in six of the 10 MnTC goal areas. It is recommended that students choose BIOL 1136, Environmental Science (MnTC 3 and 10) as one of their electives.

Students intending to transfer to St. Cloud State University are advised to:

- Select Option 1
- Take BIOL 2205: Genetics
- Not take BIOL 2230 and BIOL 2231: Microbiology + Lab