

BIOLOGY, LIBERAL ARTS (AS)

Degree: Associate of Science
Major: Liberal Arts
Emphasis: Biology
Program Code: 2411

About This Major . . .

The Associate of Science (A.S.) degree is designed for students who intend to continue their education and obtain a baccalaureate degree.

The A.S. is the appropriate choice for students who will take upper division coursework in mathematics, biological sciences, and physical sciences. The Essential Learning requirements of this degree program meet the Colorado Statewide General Education Core and the lower division general education requirements at most public institutions in Colorado.

In the Biology Program students choose courses from four areas: cell, molecular, and developmental biology; anatomical and physiological biology; organismal biology; or ecology, evolution, and systematics. Graduates of our program with an A.S. degree may then seek to continue their education to pursue careers in teaching, plant pathology, wildlife biology, cell biology or biotechnology, among just a few of the career options, or may use their A.S. to support careers in other disciplines.

For more information on what you can do with this major, visit Career Services' [What to Do with a Major?](#) resource.

All CMU/CMU Tech associate graduates are expected to demonstrate proficiency in specialized knowledge/applied learning, quantitative fluency, communication fluency, critical thinking, personal and social responsibility, and information literacy. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

- Demonstrate a basic knowledge of the main areas of biology (including plant and animal biology, evolution, ecology, cell biology and genetics) and the ability to apply this knowledge to address new questions. (Specialized Knowledge)
- Gather, organize and analyze scientific data and draw logical conclusions. (Critical Thinking)
- Demonstrate effective communication skills, both in writing and orally in Biology. (Communication Fluency)

Requirements

Each section below contains details about the requirements for this program. Select a header to expand the information/requirements for that particular section of the program's requirements.

To print or save an overview of this program's information, including the program description, learning outcomes, requirements, suggested course sequencing (if applicable), and advising and graduation information, scroll to the bottom of the left-hand navigation menu and select "Print Options." This will give you the options to either "Send Page to Printer" or "Download PDF of This Page." The "Download PDF of This Page" option prepares a much more concise presentation of all program information. The PDF is also printable and may be preferable due to its brevity.

Institutional Degree Requirements

The following institutional degree requirements apply to all CMU or CMU Tech Associate of Science (AS) degrees. Specific programs may

have different requirements that must be met in addition to institutional requirements.

- 60 semester hours total.
- Students must complete a minimum of 15 of the final 30 semester hours of credit at CMU/CMU Tech.
- 2.00 cumulative GPA or higher in all CMU/CMU Tech coursework.
- A grade of "C" or higher must be earned in all Essential Learning courses in order to be accepted for transfer under the Colorado Core Transfer Consortium General Education curriculum or gtPathways, Colorado's guaranteed transfer program.
- A course may only be used to fulfill one requirement for each degree/certificate.
- No more than six semester hours of independent study courses can be used toward the degree.
- Non-traditional credit, such as advanced placement, credit by examination, credit for prior learning, cooperative education and internships, cannot exceed 15 semester credit hours for an associate of science degree. A maximum of 6 of the 15 credits may be for cooperative education, internships, and practica.
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- Capstone exit assessment/projects (e.g., Major Field Achievement Test) requirements are identified under Program-Specific Degree Requirements.
- The Catalog Year determines which program sheet and degree requirements a student must fulfill in order to graduate. Visit with your advisor or academic department to determine which catalog year and program requirements you should follow.
- See "Requirements for Undergraduate Degrees and Certificates" in the catalog for a complete list of graduation requirements.

Essential Learning Requirements

(31 semester hours)

See the current catalog for a list of courses that fulfill the requirements below. If a course is an Essential Learning option and a requirement for your major, you must use it to fulfill the major requirement and make a different selection for the Essential Learning requirement.

Code	Title	Semester Credit Hours
English ¹		
ENGL 111	English Composition I-GTCO1	3
ENGL 112	English Composition II-GTCO2	3
Mathematics ¹		
MATH 113	College Algebra-GTMA1 ²	3
History		
Select one History course		3
Humanities		
Select one Humanities course		3
Social and Behavioral Sciences		
Select one Social and Behavioral Sciences course		3
Select one Social and Behavioral Sciences course		3
Fine Arts		
Select one Fine Arts course		3

Natural Sciences³

Select one Natural Sciences course	3
Select one Natural Sciences course with a lab	4
Total Semester Credit Hours	31

¹ Must receive a grade of "C" or better and must be complete by the time the student has 60 semester hours.

² 3 credits apply to the Essential Learning requirements and 1 credit applies to elective credit.

³ 7 semester hours, one course must include a lab.

Other Lower Division Requirements

Code	Title	Semester Credit Hours
Wellness Requirement		
KINE 100	Health and Wellness	1
Select one Activity course		1
Total Semester Credit Hours		2

Program Specific Degree Requirements

(24 semester hours, a grade of "C" or better must be earned in each course.)

Code	Title	Semester Credit Hours
Core Courses		
BIOL 105	Attributes of Living Systems-GTSC1	3
BIOL 105L	Attributes of Living Systems Laboratory-GTSC1	1
BIOL 106	Principles of Animal Biology	3
BIOL 106L	Principles of Animal Biology Laboratory	1
BIOL 107	Principles of Plant Biology	3
BIOL 107L	Principles of Plant Biology Laboratory	1
BIOL 208	Fundamentals of Ecology and Evolution	3
BIOL 208L	Fundamentals of Ecology and Evolution Laboratory	1
Required Biology Specialization Courses		
Select eight semester hours ¹		8
Total Semester Credit Hours		24

¹ To be selected in consultation with student's advisor.

General Electives

Code	Title	Semester Credit Hours
MATH 113	College Algebra-GTMA1	1
Up to 2 Semester Hours General Electives		0-2
Total Semester Credit Hours		1-3

¹ All college level courses, not listed above, that will bring your total semester hours to 60 hours. Up to three hours may be needed.

Suggested Course Plan

First Year		Semester Credit Hours
Fall Semester		
BIOL 105	Attributes of Living Systems-GTSC1	3
BIOL 105L	Attributes of Living Systems Laboratory-GTSC1	1
ENGL 111	English Composition I-GTCO1	3
MATH 113	College Algebra-GTMA1	4
Essential Learning - Fine Arts		3
KINE 100	Health and Wellness	1
Semester Credit Hours		15
Spring Semester		
BIOL 106	Principles of Animal Biology	3
BIOL 106L	Principles of Animal Biology Laboratory	1
ENGL 112	English Composition II-GTCO2	3
Essential Learning - Humanities		3
Essential Learning - Social and Behavioral Sciences		3
Essential Learning - History		3
Semester Credit Hours		16
Second Year		
Fall Semester		
BIOL 107	Principles of Plant Biology	3
BIOL 107L	Principles of Plant Biology Laboratory	1
BIOL 208	Fundamentals of Ecology and Evolution	3
BIOL 208L	Fundamentals of Ecology and Evolution Laboratory	1
Biology Specialization Selection		4
Essential Learning - Natural Science without a lab		3
Semester Credit Hours		15
Spring Semester		
Biology Specialization Selection		3
Essential Learning - Natural Science with lab		4
Essential Learning - Social and Behavioral Sciences		3
Wellness Requirement - Activities Course		1
Elective		3
Semester Credit Hours		14
Total Semester Credit Hours		60

Students that intend to continue with Colorado Mesa University should take ESSL 290 - Maverick Milestone and ESSL 200 - Essential Speech during the final semester of their Associate of Science work.

Advising and Graduation
Advising Process and DegreeWorks

Documentation on the pages related to this program is intended for informational purposes to help determine what courses and associated requirements are needed to earn a degree. The suggested course sequencing outlines how students could finish degree requirements. Some courses are critical to complete in specific semesters, while others may be moved around. Meeting with an academic advisor is essential in planning courses and altering the suggested course sequencing. It is ultimately the student's responsibility to understand and fulfill the requirements for their intended degree(s).

DegreeWorks is an online degree audit tool available in MAVzone. It is the official record used by the Registrar's Office to evaluate progress towards a degree and determine eligibility for graduation. Students are responsible for reviewing their DegreeWorks audit on a regular basis and should discuss questions or concerns with their advisor or academic

department head. Discrepancies in requirements should be reported to the Registrar's Office.

Graduation Process

Students must complete the following in the first two months of the semester prior to completing their degree requirements:

- Review their DegreeWorks audit and create a plan that outlines how unmet requirements will be met in the final semester.
- Meet with their advisor and modify their plan as needed. The advisor must approve the final plan.
- Submit the "Intent to Graduate" form to the Registrar's Office to officially declare the intended graduation date and commencement ceremony plans.
- Register for all needed courses and complete all requirements for each degree sought.

Submission deadlines and commencement details can be found on the [Graduation](#) web page.

If a student's petition for graduation is denied, it will be their responsibility to apply for graduation in a subsequent semester. A student's "Intent to Graduate" does not automatically move to a later graduation date.