

# Mathematics

## Type

Associate in Science

Mathematics, Associate in Science

This degree is designed for students who wish to major in mathematics and plan to transfer to four-year institutions. It is appropriate for students interested in engineering, physics or other physical sciences. Electives should be selected based on the student's interest and the requirements of the transfer institution or technician-level vocation opportunities.

For information, contact area coordinator, Michele Leacott, at (609)343-5044 or [mleacott@atlanticcape.edu](mailto:mleacott@atlanticcape.edu).

## Upon completion of this program students will be able to:

- Differentiate and integrate algebraic and transcendental functions. (This includes partial differentiation and double/triple integrals.);
- Solve first order differential equation and second order differential equations;
- Apply the concept of a limit to appropriate mathematical constructs;
- Analyze and solve mathematical problems objectively;
- Use inductive and deductive reasoning skills needed for theoretical and applied mathematics.

(MATM-Fall 2023)

# General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

## Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL102	Composition II	3
COMM120	Public Speaking	3

## Mathematics-Science-Technology

Course #	Title	Credits
MATH155	Calculus I	4
MATH156	Calculus II	4
PHYS225	General Physics I	4

## Social Science

Course #	Title	Credits
	General Education Social Science Course (3 credits)	3

## Humanities

Course #	Title	Credits
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3
	General Education Humanities Course (3 credits)	3

## Program Requirements

Course #	Title	Credits
MATH152	Linear Algebra	4
MATH153	Discrete Mathematics	4
MATH255	Calculus III	4
MATH256	Differential Equations	4
PHYS226	General Physics II	4
	Choose: CISM135-Computer Programming C++ or CISM154-Computer Programming-Java (4 credits)	4

## Program Electives

Course #	Title	Credits
	Choose a minimum of 6 credits from the following: CHEM110, CHEM111, CISM159, ECON110, ECON210, or Liberal Arts Elective	6

## Technological Competency: 0-4 Credits

(Is fulfilled with CISM125, CISM132, testing or reviewed departmental portfolio.)

<b>Total Credits</b>	<b>60</b>
----------------------	-----------

### Recommended Sequence of Courses

## First Semester

Course #	Title	Credits
ENGL101	Composition I	3
MATH153	Discrete Mathematics	4
MATH155	Calculus I	4
	Choose: CISM135-Computer Programming C++ or CISM154-Computer Programming-Java (4 credits)	4

## Second Semester

Course #	Title	Credits
ENGL102	Composition II	3
MATH152	Linear Algebra	4
MATH156	Calculus II	4
COMM120	Public Speaking	3
	General Education Social Science Course (3 credits)	3

## Third Semester

Course #	Title	Credits
MATH255	Calculus III	4
PHYS225	General Physics I	4
	General Education Humanities Course (3 credits)	3
	Program Elective Course (3 credits)	3

## Fourth Semester

Course #	Title	Credits
MATH256	Differential Equations	4
PHYS226	General Physics II	4
	Choose: ARTS103, ARTS108, ARTS109, ARTS115, DANC170, MUSC100 or THEA110 (3 credits)	3
	Program Elective Course (3 credits)	3