Mathematics: Academic Subject Certificate

The Mathematics Academic Subject Certificate is designed for students interested in studying additional math, beyond what is required for their current degree program. Students in this program may opt for a broad study of math, taking a variety of 100-level courses such as Survey of Mathematics, Math for Elementary Teachers, or Statistics and College Algebra. This pathway offers students an opportunity to explore multiple areas of mathematics that will help them develop critical reasoning and quantitative skills to better understand the world around them. Other students in this program may wish to pursue a path that will prepare them for further study in STEM fields, such as, but not limited to, Engineering, Computer Science, or Biology. These students may choose to take courses including College Algebra, Precalculus, as well as Calculus I, II, III, IV, or Accelerated Calculus III. Taking these courses prior to transfer will allow students to fulfill STEM program prerequisite requirements as well as provide students an opportunity to learn higher level math in an environment with low class size and the support of dedicated teaching faculty.

Program Student Learning Outcomes (PSLOs) approved 11/11/2017:

1. Apply abstract and quantitative reasoning skills to solve mathematical problems.
2. Communicate mathematical concepts coherently, clearly, and precisely in various ways such as symbolically, graphically, numerically or verbally.

Required Options (3-4 credits)

- MATH 103
- MATH 140X
- MATH 241
- MATH 242
- MATH 243
- MATH 244
- MATH 245

Elective Options (9-12 credits)

- MATH 100
- MATH 103
- MATH 111
- MATH 112
- MATH 115
- MATH 140X
- MATH 241
- MATH 242
- MATH 243
- MATH 244
- MATH 245

The required 3-4 credits and 9-12 elective credits can be met in any sequence allowed under the current prerequisite rules. Students can pursue the Calculus pathway in depth, add an exploration of non-STEM math to their STEM sequence for breadth, or explore broadly in the non-STEM realm and round out their skills with a solid foundation in algebra/functions. Some possible paths are listed below.

Length of program (for any of the paths listed): 4 semesters

STEM COLLEGE-READY SEQUENCE

Course	Course Title/Category	Credits
MATH 103	College Algebra	3
MATH 140X	PreCalculus	4
MATH 241	Calculus I	4
MATH 242	Calculus II	4

CALCULUS-READY SEQUENCE (OPTION 1)

Course	Course Title/Category	Credits
MATH 241	Calculus I	4
MATH 242	Calculus II	4
MATH 243	Calculus III	3
MATH 244	Calculus IV	3

CALCULUS-READY SEQUENCE (OPTION 2)

Course	Course Title/Category	Credits
MATH 241	Calculus I	4
MATH 242	Calculus II	4
MATH 245	Multivariable Calculus	4
	Electives - Mathematics A.S.C.	3-4

NON-STEM EXPLORATION SEQUENCE

Course	Course Title/Category	Credits
MATH 100	Survey of Mathematics	3
MATH 103	College Algebra	3
MATH 115	Introduction to Statistics and Probability	3
MATH 140X	PreCalculus	4

ELEMENTARY EDUCATOR SPECIALIZATION SEQUENCE

Course	Course Title/Category	Credits
MATH 103	College Algebra	3
MATH 111	Math for Elementary Teachers I	3
MATH 112	Math for Elementary Teachers II	3
	MATH 100 or MATH 115	3
	Total Credits	**12-16**

Category Descriptions

Electives - Mathematics A.S.C.

Choose from the following:

MATH 100 (3), MATH 103 (3), MATH 111 (3), MATH 112 (3), MATH 115 (3), MATH 140X (4), MATH 241 (4), MATH 242 (4), MATH 243 (3), MATH 244 (3), MATH 245 (4)