

MATHEMATICS

ASSOCIATE IN SCIENCE (AS) DEGREE MATHEMATICS CONCENTRATION

For students considering a major in MATHEMATICS upon transferring to a four-year institution, the Associate of Science degree with a MATHEMATICS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in MATHEMATICS can lead to diverse career opportunities, including finance, technology, research, education, engineering, data analysis, actuarial science, software development, statistics, and operations research.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in MATHEMATICS, students will:

1. **Demonstrate** a strong understanding of mathematical concepts, including algebra, calculus, statistics, and discrete mathematics.
2. **Apply** problem-solving and analytical skills to mathematical principles in real-world situations and related fields of study.
3. **Communicate** mathematical ideas effectively and be prepared for further academic study or careers in mathematics, engineering, finance, and related disciplines.

It is strongly recommended that students consult with an ACC Academic Advisor in MATHEMATICS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

MTH 131	ANALYTIC GEOMETRY & CALCULUS I (5/5)
MTH 132	ANALYTIC GEOMETRY & CALCULUS II (5/5)
MTH 231	ANALYTIC GEOMETRY & CALCULUS III (5/5)
MTH 232	DIFFERENTIAL EQUATIONS (4/4)

GENERAL EDUCATION

DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding

studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in MATHEMATICS with prefixes **MTH**, **PHY**, **CEM**, and **EGR** when available in consultation with an ACC Academic Advisor in MATHEMATICS.

RECOMMENDED COURSES - SEQUENCE

GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements

60 CREDITS – 62 CONTACT HOURS

YEAR 1 FALL	15 CREDITS
G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2 PR	MTH 131 ANALYTIC GEOMETRY & CALCULUS I (5/5)
G2	SCI LABORATORY SCIENCE (4/5)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)

YEAR 1 SPRING	15 CREDITS
G1	ENG 112 ENGLISH COMPOSITION II (3/3)
G2 PR	MTH 132 ANAL GEOMETRY & CALCULUS II (5/5)
G2	SCI NATURAL SCIENCE (4/5)
G3	SS SOCIAL SCIENCE (3/3)

YEAR 2 FALL	15 CREDITS
G2 PR	MTH 231 ANAL GEOMETRY & CALCULUS III (5/5)
G2	MTH/SCI MATH/SCIENCE (4/4)
G3	PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)
EC	ELECTIVE GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	15 CREDITS
G2 PR	MTH 232 DIFFERENTIAL EQUATIONS (4/4)
G2	MTH/SCI MATH/SCIENCE (4/4)
G3	HUM/FA HUMANITIES/FINE ARTS (4/4)
EC	ELECTIVE GENERAL ELECTIVE (3/3)