

COMPUTER SCIENCE – GENERAL

ASSOCIATE IN SCIENCE (AS) DEGREE

COMPUTER SCIENCE – GENERAL CONCENTRATION

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

A concentration in COMPUTER SCIENCE - GENERAL can lead to diverse career opportunities, including software development, data analysis, and IT management, with roles such as software developers, systems analysts, database administrators, web developers, and IT consultants.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in COMPUTER SCIENCE - GENERAL, students will:

1. **Demonstrate** a solid understanding of computer science principles, including programming, algorithms, data structures, and software development.
2. **Create and maintain** applications and systems using practical skills in software design, coding, and debugging.
3. **Apply** problem-solving and analytical thinking to address technical challenges and communicate solutions effectively, preparing for further academic study or careers in technology and IT.

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

PROGRAM REQUIREMENTS (PR)

CIS 206	OBJECT-ORIENTED PROGRAMMING (3/4)
CIS 207	ADV OBJECT-ORIENTED PROGRAMMING (3/4)
CIS 241	INTRODUCTION TO WEB DESIGN MGT (3/4)
CIS 258	INTRODUCTION TO ENTERPRISE DATABASE (3/4)
MTH 131	ANALYTIC GEOMETRY & CALCULUS I (5/5)
MTH 132	ANALYTIC GEOMETRY & CALCULUS II (5/5)
MTH 223	STATISTICAL METHODS (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 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 COMPUTER SCIENCE - GENERAL with prefixes **BUS**, **CIS**, **CNS**, and **MTH** when available in consultation with an ACC Academic Advisor in COMPUTER SCIENCE - GENERAL.

SUGGESTED ELECTIVES

BUS 262	PROJECT MANAGEMENT (3/3)
CNS 150	NETWORK FUNDAMENTALS (3/4)
CNS 230	INFORMATION SECURITY (3/4)
MTH 221	C++ PROGRAMMING (4/5)

RECOMMENDED COURSES - SEQUENCE

GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC graduation distribution and MTA requirements
62 CREDITS - 70 CONTACT HOURS

YEAR 1 FALL

15 CREDITS

G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2	SCI NATURAL SCIENCE (4/5)

G2 PR PR

MTH 131	ANALYTIC GEOMETRY & CALCULUS I (5/5)
CIS 206	OBJECT-ORIENTED PROGRAMMING (3/4)

YEAR 1 SPRING

15 CREDITS

G1	ENG 112 ENGLISH COMPOSITION II (3/3)
G2	SCI LAB SCIENCE (4/5)

G2 PR PR

MTH 132	ANALYTICAL GEOMETRY & CALC II (5/5)
CIS 207	ADV OBJ-ORIENTATION PROG (3/4)

YEAR 2 FALL

16 CREDITS

G2 PR	MTH 223 STATISTICAL METHODS (4/4)
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G3	SOC SCI SOCIAL SCIENCE (3/3)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)
EC	BUS 262 PROJECT MANAGEMENT (3/3)
EC	CNS 230 INFORMATION SECURITY (3/4)

YEAR 2 SPRING

16 CREDITS

PR	CIS 241 INTRO TO WEB DESIGN MGT (3/4)
PR	CIS 258 INTRO TO ENTERPRISE DATABASE (3/4)
G3	PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)
EC	MTH 221 C++ PROGRAMMING (4/5)