Degree Pathway

A.S. in Computer Science – Catalog Year 2024-25

The A.S. degree in Computer Science is intended for students who plan to transfer to a 4-year college and university and pursue a bachelor's degree in computer science or a related field. This Degree Pathway is designed for students who place into **MA-441**. Additional Degree Pathways are available for students who place into other levels of mathematics. Please see the degree website or your advisor for more information.

Courses in **Bold Text** are prerequisites for later courses or only offered in the Fall or Spring semester and should be taken where indicated in the sequence.

Fall Semester #1

Courses	Credits	Prerequisites and Corequisites[1]
ENGL-101 English Composition I (Required Core 1A: English Composition)	3	Complete developmental requirements in English or co-enroll in ENGL-99 or placement
MA-441 Analytic Geometry and Calculus I[2] (Required Core 1B: Mathematics and Quantitative Reasoning)	4	Prerequisite: MA-440 (C or better)
CS-101 Algorithmic Problem Solving I[3] (Flexible Core 2E: Scientific World)	4	Corequisite: MA-441
One course from Flexible Core 2A, 2B 2C, or 2D[3]	3	Check individual courses for prerequisites and corequisites
Total credits for the term	14	

Spring Semester #1

Courses	Credits	Prerequisites and Corequisites[1]
ENGL-102 English Composition II (Required Core 1A: English Composition)	3	Prerequisite: ENGL-101 or placement
MA-442 Analytic Geometry and Calculus II[2,3] (Flexible Core 2E: Scientific World)	4	Prerequisite: MA-441 (C or better)
CS-201 Computer Organization and Assembly Language	4	Prerequisite: MA-441 and CS-101 (C or better)
One course from Flexible Core 2A, 2B 2C, or 2D[3]	3	Check individual courses for prerequisites and corequisites
Total credits for the term	14	

Fall Semester #2

Courses	Credits	Prerequisites and Corequisites[1]
MA-471 Introduction to Discrete Mathematics	3	Prerequisite: MA-440
CS-203 Algorithmic Problem Solving II in C++ OR CS-204 Algorithmic Problem Solving II in Java	4	Prerequisite: MA-441 and CS-101 (C or better)
Major Electives – see list below	6	Check individual courses for prerequisites and corequisites
One course from Flexible Core 2A, 2B 2C, or 2D[3]	3	Check individual courses for prerequisites and corequisites
Total credits for the term	**16**	

Spring Semester #2

Courses	Credits	Prerequisites and Corequisites[1]
Major Electives – see list below	9	Check individual courses for prerequisites and corequisites
One course from Required Core 1C: Life & Physical Sciences	3-4	Check individual courses for prerequisites and corequisites
Science Laboratory course[5]	0-1	Corequisite: 3-credit Science course in Required Core 1C
One course from Flexible Core 2A, 2B 2C, or 2D[3]	3	Check individual courses for prerequisites and corequisites
Total credits for the term	**16**	
Total credits required for the degree	**60**	

Notes:

1. Prerequisites for a course must be passed before taking the course. Corequisites must be passed before taking the course or taken in the same term as the course.
2. Students who place into mathematics at MA-441 will use that course to satisfy Required Core 1B, use MA-442 in the Flexible Core, and take an additional 4 credits of major elective courses to reach 60 credits.
3. Students must complete one course from each of Flexible Core 2A, 2B, 2C, and 2D. CS-101 will satisfy 2E. MA-442 will satisfy the additional Flexible Core course requirement.
4. Students are required to take specific courses in some areas of the Common Core that fulfill both general education and major requirements. If students do not take the required courses in the Common Core, they will have to take additional credits to complete their degree requirements.
5. Students who take a STEM variant for Required Core 1C have satisfied this requirement.

All students must complete two (2) WI designated classes to fulfill degree requirements

Major Elective Courses – Complete at least 15 credits of these courses

Major Elective Courses	Credits	Prerequisites and Corequisites
CS-100 Introduction to Computers and Programming	3	Complete developmental requirements in math and English
CS-102 Spreadsheet Programming with MS Excel	3	Prerequisite: MA-119 (C or better)
CS-103 Relational Databases	4	Prerequisite: MA-119 (C or better)
CS-203 Algorithmic Problem Solving II in C++	4	Prerequisites: MA-441 and CS-101 (C or better)
CS-204 Algorithmic Problem Solving II in Java	4	Prerequisites: MA-441 and CS-101 (C or better)
ET-506 LINUX Operating System	3	Prerequisite: ET-704 or department permission
ET-540 Digital Computer Theory I	3	None
ET-704 Networking Fundamentals I	3	None
ET-710 Front End UI/UX Web Development	3	None
ET-725 Computer Network Security	3	Corequisite: ET-704
MA-119 College Algebra[1]	3	Placement or co-enroll in MA-10ALP
MA-121 Trigonometry[1]	1	Corequisite: MA-119
MA-443 Analytic Geometry and Calculus III	4	Prerequisite: MA-442 (C or better)
MA-461 Linear Algebra	4	Prerequisites: MA-441 (C or better)
MA-481 Probability and Statistics	3	Corequisite: MA-442
MA-905 Undergraduate Research in Mathematics and/or Computer Science I	2	Prerequisite: MA-440 or Departmental Permission
MA-906 Undergraduate Research in Mathematics and/or Computer Science II	2	Prerequisite: MA-440 or Departmental Permission

Notes:
1. Depending on math placement, students may be required to complete MA-119 and/or MA-121 (both with a C or better) prior to MA-440. When required by math placement, MA-119 and MA-121 will count as major electives.