4 Year Program Articulation Pathway

Catalog 2022-2023

A.A. Computer Science and Technologies, Computer Science

Montgomery College

0-32 credits

Course	Credits	Course	Credits
ENGL101 (if needed for ENGL102/103, or Program Elective)	3	English Foundation: ENGL102 or ENGL103	3
CMSC140 - Introduction to Programming	3	*MATH182 - Calculus II	4
*MATH181 - Calculus I	4	**Foreign Language 102 (HUMD)	3
**Foreign Language 101 (GEIR)	3	Arts Distrbution	3
†Behavioral and Social Science Distribution	3	COMM108 or COMM112 (GEIR)	3
		CMSC226 or Program Elective (if needed)	0-3
Total	16	**Total**	16-19

33-62 credits

Course	Credits	Course	Credits
***CMSC203 - Computer Science I	4	^ Science Sequence (NSND)	4
**Foreign Language 201	3	***CMSC204 - Computer Science II	4
^ Science Sequence (NSLD)	4	***CMSC207 - Introduction to Discrete Structures	4
*MATH284 - Linear Algebra (Program Elective)	4	†Behavioral and Social Science Distribution	3
Total	15	**Total**	15

Articulation Notes:

* Course can be used to satisfy UMBC major requirements when completed with a "C" or better. Students who have more than two attempts in any course required to progress in the major will not be permitted to major in Computer Science at UMBC (a withdrawal is considered an attempt).

** **Foreign Language Requirement:** UMBC's language requirement consists of completion of a foreign language through the 201 level or demonstrated proficiency at that level. The proficiency requirement is met by previous experience as follows: 1) completion of level 4 or higher of a language in high school, or 2) corresponding AP, IB or CLEP credit, or 3) completion of a language through the 201 level at a regionally accredited college or university. The Shady Grove Transfer Credit Limit Exception is available to students who earn an associate degree prior to transferring to UMBC at Shady Grove and will permit the transfer of up to 66 credits, instead of the standard 60-credit transfer limit, from a Maryland two-year school to UMBC on the condition that six (6) of the 66 credits are language courses directly applicable toward the 201-level language sequence required as part of the UMBC general education program.

*** Students are admitted to the UMBC Computer Science program only when they complete all three of the following Gateway courses: CMSC 203 and CMSC 204 with grades of B or higher, and CMSC207 with a grade of C or higher. Students who have more than two attempts in any course required to progress in the major will not be permitted to major in Computer Science at UMBC (a withdrawal is considered an attempt).

^ **Science Sequence:** To meet UMBC major requirements, students need to complete a science sequence plus a lab with a "C" or better. The science sequence plus a lab can be satisfied by completing one of the following sequences: PHYS161 + PHYS262, or CHEM131 + CHEM132.

Consult an advisor for complete list of Program Electives. Not all CMSC courses transfer to all institutions. Please consult an advisor or UMBC before selecting program elective courses.

† To meet Montgomery College graduation requirements, courses must come from different disciplines.

Computer Science, Cybersecurity, B.S.

UMBC

Year 3

Fall Semester		Spring Semester	
Course	Credits	Course	Credits
CMSC313 - Computer Organization & Assembly Language	3	CMSC331 - Programming Languages	3
CMSC340 - Advanced C++	3	CMSC421 - Operating Systems	3
CMSC341 - Data Structures	3	CMSC426 - Computer Security	3
Social Science GEP Requirement	3	CMSC 481 - Computer Networks	3
Elective (if needed)	0-3	Elective	3
Total	12-15	**Total**	15

Year 4

Course	Credits	Course	Credits
CMSC411 - Computer Architecture	3	CMSC304 - Social & Ethical Issues in IT	3
CMSC4xx Elective (select from CYBR list)	3	CMSC441 - Algorithms	3
CMSC4xx Elective (select from CYBR list)	3	CMSC447 - Software Engineering I	3
CMSC4xx Elective	3	Upper Level Elective	3
STAT355 - Probability & Statistics	4	Elective	3
Total	16	**Total**	15

With questions at Montgomery College, schedule an appointment with a counselor using Starfish

With questions at UMBC's Shady Grove campus, Jeannette Kartchner at jkartch@umbc.edu

With questions at UMBC, contact Jeremy Dixon at jdixon@umbc.edu

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