

UMBC UGC Program Changes & Other Request: Computer Science

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Proposed Effective Date: 1/1/2020

	Name	Email	Phone	Dept
Dept Chair or UPD	Jeremy Dixon	jdixon@umbc.edu	5-8866	CSEE
Other Contact	Mohamed Younis	younis@umbc.edu	5-3969	CSEE

Specifics (see instructions):

Currently, students who major in computer science (CMSC) are required to complete 12 credits (sequence of BIO141/BIO142 or CHEM101/CHEM102 or PHYS121/PHYS122 + 4 additional credits).

This proposal is to remove the required 12 credits and replace with a science sequence plus a lab (sequence of BIO141/BIO142 or CHEM101/CHEM102 or PHYS121/PHYS122 + one lab science to include SCI101L or CHEM102L or PHYS122L or GES286).

Additionally, students who transfer in a science course with a laboratory component will have met the laboratory portion of this requirement so long as the transferred science course is intended for science and/or engineering majors. This includes courses where the laboratory components are transferred without additional credits."

Rationale (see instructions):

The computer science program (CMSC) at UMBC is ABET accredited. As such, we are provided with curricular requirements as defined by the accrediting organization. The natural science requirement from ABET now states: *"At least six semester credit hours (or equivalent) in natural science course work intended for science and engineering majors. This course work must develop an understanding of the scientific method and must include laboratory work."*

The current 12-credit requirement causes issues when students take a sequence (8 credits) and then an additional 3 credit course (leaving them with 11 credits). The computer science major currently relies on the GEP laboratory requirement to enforce the ABET science requirement. However, the GEP lab requirement is not a good fit since it allows classes that are explicitly intended for students not majoring in science or engineering (e.g., SCI 100 Water). We hope that by modifying the natural science requirement, students will find it easier to meet the computer science requirements and the general education requirements at the same time.

Of note, the chairs of PHYS, CHEM, BIOL, GES, and MATH have all been notified of this change and have had the opportunity to voice any concerns. This may result in an enrollment change for some courses. Courses such as GES 110, GES 120, MATH 225, MATH 251, or MATH 301 may have lowered enrollment from our majors. Courses such as GES 286, PHYS 122L, CHEM 102L, SCI 101L, and CMPE 306 may have increased enrollment from our majors.



Department of Computer Science and Electrical
Engineering
University of Maryland, Baltimore County
ITE 325J
1000 Hilltop Circle, Baltimore, MD 21250

jdixon@umbc.edu // p: 410.455.8866
csee.umbc.edu

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Dear UGC,

Below is a summary of the 7 changes that the Department of Computer Science and Electrical Engineering (CSEE) is proposing regarding the Computer Science program (CMSC).

Our goal is to have all of these go into effect in January 2020.

Thank you,

A handwritten signature in black ink, appearing to read 'J. Dixon'.

Jeremy Dixon
Undergraduate Program Director – Computer Science
CSEE
UMBC

Num	Name of Change	Change Type	Course Number	Description of Change	Related Files
1	New Study Track - AI/ML	Program Change	XXX	New Study Track	Program_Change_AI-ML.docx Program_Change_CMSC AI Track Details.docx
2	Change to CMSC Tracks	Program Change	XXX	Change requirements for CMSC students who complete multiple tracks.	Program_Change_CMSC_Tracks.docx
3	Change to CMSC Natural Science Requirement	Program Change	XXX	Change natural science requirements for CMSC majors. Going from 12 credits (sequence of BIO1/BIO2 or CHEM1/CHEM2 or PHYS1/PHYS2 + 4 additional credits) to 10-12 credits (sequence of BIO1/BIO2 or CHEM1/CHEM2 or PHYS1/PHYS2 + one lab science to include SC1100 or CHEM102L or PHYS122L or GES286) Additionally, students who transfer from a school with a lab science will have met this lab requirement.	Program_Change_CMSC_Natural_Science_Change.docx
4	Malware Analysis	New Course	CMSC 491 to CMSC 449	New Course - converting CMSC 491 to CMSC 449	NewCourse_CMSC449 - Malware_Analysis.docx NewCourse_CMSC449 - Malware_Analysis_Syllabus.pdf
5	Introduction to Data Science	New Course	CMSC 491 to CMSC 462	New Course - converting CMSC 491 to CMSC 462	NewCourse_CMSC462 - Intro_to_Data_Science.doc NewCourse_CMSC462 - Intro_to_Data_Science_Syllabus.doc
6	Undergraduate Teaching Assistantship	New Course	CMSC 496	New Course	NewCourse_CMSC396 - Undergraduate_Teaching_Assistantship.docx NewCourse_CMSC396 - Undergraduate_Teaching_Assistantship_Syllabus.docx
7	Design and Analysis of Algorithms	Course Change	CMSC 441	Modify prerequisites and at least one of the following: (STAT 355, CMPE 320, or STAT 451) all with a grade of C or better.	Course_Change_CMSC441_Prerequisites.docx