

UMBC UGC Change in Existing Course: CMSC441 – Design and Analysis of Algorithms

Date Submitted: 11/1/2019

Proposed Effective Date: 1/1/2020

	Name	Email	Phone	Dept
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COURSE INFORMATION: (please provide all information in the “current” column, and only the information changing in the “proposed” column)

change		current	proposed
<input type="checkbox"/>	Course Number(s)	CMSC 441	
<input type="checkbox"/>	Formal Title	Design and Analysis of Algorithms	
<input type="checkbox"/>	Transcript Title (≤30c)		
<input type="checkbox"/>	Recommended Course Preparation		
<input checked="" type="checkbox"/>	Prerequisite NOTE: Unless otherwise indicated, a prerequisite is assumed to be passed with a “D” or better.	You must have completed MATH 142 or MATH 152 and CMSC 341 and STAT 355 with a grade of C or better.	You must have completed MATH 142 or MATH 152 and CMSC 341 and one of the following (STAT 355, STAT 451, or CMPE 320) each with a grade of C or better.
<input type="checkbox"/>	# of Credits Must adhere to the <u>UMBC Credit Hour Policy</u>	3	
<input type="checkbox"/>	Repeatable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/>	Max. Total Credits	3	Max. Total Credits: This should be equal to the number of credits for courses that cannot be repeated for credit. For courses that may be repeated for credit, enter the maximum total number of credits a student can receive from this course. E.g., enter 6 credits for a 3 credit course that may be taken a second time for credit, but not for a third time. Please note that this does NOT refer to how many times a class may be retaken for a higher grade.
<input type="checkbox"/>	Grading Method(s)	<input type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail	<input type="checkbox"/> Reg (A-F) <input type="checkbox"/> Audit <input type="checkbox"/> Pass-Fail

CURRENT CATALOG DESCRIPTION:

This course studies fundamental algorithms, strategies for designing algorithms, and mathematical tools for analyzing algorithms. Fundamental algorithms studied in this course include algorithms for sorting and searching, hashing, and graph algorithms. Mathematical tools include asymptotic notations and methods for solving recurrences. Algorithm design strategies include the greedy method, divide-and-conquer, dynamic programming, and randomization.

PROPOSED CATALOG DESCRIPTION (Approximately 75 words in length. Please use full sentences): leave blank if no changes are being proposed to the catalog description. NOTE: information about prerequisites should NOT appear in the catalog description.)

RATIONALE FOR CHANGE:

Many students take this course particularly from computer engineering (CMPE) but require manual permissions because they took CMPE 320 instead of STAT 355. Both STAT 451 and CMPE 320 provide adequate statistics background for CMSC 441.



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October 28, 2019

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 SCI100 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