

ARTICULATION AGREEMENT

Between the

ASSOCIATE IN SCIENCE DEGREE – ENGINEERING TECHNOLOGY AND
ADVANCED MANUFACTURING PROGRAM

Of

Cape Cod Community College

And the

UNIVERSITY OF MASSACHUSETTS LOWELL
James B. Francis College of Engineering

Fall 2018

This articulation agreement has been established between Cape Cod Community College (CCCC) and the University of Massachusetts Lowell's College of Engineering (UML). This agreement was developed with the intent of facilitating the success of students at Cape Cod Community College (CCCC) and the University of Massachusetts Lowell (UML) as well as the transfer of course credits between the two partner institutions. Furthermore, these agreements are intended to serve as a guideline for those who desire to complete their Associate in Science Degree in Engineering Technology and Advanced Manufacturing at Cape Cod Community College while also transferring into Bachelor of Science in Engineering (Civil & Environmental, Electrical & Computer, or Mechanical) Degree Programs at the University of Massachusetts Lowell.

Students completing the described course program, in accordance with the minimum standards as set in this agreement, will be admitted to the corresponding Engineering Degree program at the University of Massachusetts Lowell. Furthermore, such students who complete the described series of courses will receive an Associate in Science degree in Engineering Technology and Advanced Manufacturing at Cape Cod Community College. Students who do not meet the minimum standards set forth herein will be considered for admissions to UML on a case-by-case basis.

OBJECTIVES:

1. To facilitate the completion of students' Associate in Science Degree in Engineering Technology and Advanced Manufacturing at CCCC.
2. To facilitate the completion of students' Bachelor of Science Degrees in various Engineering Programs at UML.
3. To encourage the transfer of qualified students from Cape Cod Community College to the University of Massachusetts Lowell by providing effective and concise guidelines.
4. To award appropriate academic credit for courses completed at CCCC towards UML's Engineering degree programs.

TERMS OF THE TRANSFER ARTICULATION AGREEMENT:

1. This document is based upon the evaluation of course descriptions offered by CCCC and UML. CCCC courses as listed in this agreement will transfer to UML provided a grade of "C" or higher has been earned. Courses judged below college level by the University of Massachusetts Lowell will not be accepted for transfer credit.
2. UML guarantees the acceptance of all students who complete those CCCC courses in the related concentrations as listed in the attached Programs of Study with an overall GPA of 2.5 or higher to the Bachelor of Science in Engineering Degree Programs.
3. UML guarantees the transfer of credit as stipulated in the attached Programs of Study. The University of Massachusetts Lowell may accept courses taken beyond the Associate Degree; however, students are encouraged to contact the transfer advisor at the University of Massachusetts Lowell for approval.
4. Cape Cod Community College transfer students will be subject to all general education requirements of the University of Massachusetts Lowell as set forth in the University of Massachusetts Lowell catalog.
5. Students who graduate with an overall GPA of 3.0 or higher will be eligible for the MassTransfer Tuition Credit for two years at UML provided they (1) matriculate within one year of receiving an associate degree; (2) enroll continuously (full-time or part-time) in day program; and (3) achieve 3.00 GPA after the first two semesters.

This agreement shall remain in effect for a period of three years from the date of its enactment, with the provision that the terms specified herein will continue to apply to students admitted from Cape Cod Community College's Associate in Science Degree: Engineering Technology and Advanced Manufacturing program within one year of the expiration of the agreement. Each institution agrees to provide timely notice to the other in the event of any modification to the curriculum that might affect compatibility for admission and transfer of coursework. This agreement may be subject to change, with notification, if curriculum requirements change at either institution. Students admitted to the Cape Cod Community College's Associate in Science Degree: Engineering Technology and Advanced Manufacturing program prior to such notification shall be admitted to the University of Massachusetts Lowell on the basis of this agreement. This agreement is conditional upon the Engineering Department maintaining its' program approval from the Massachusetts Board of Higher Education.

Electrical and Computer Engineering

Cape Cod Community College		UMass Lowell			
Course Number	Course Name	Credits	Course Number	Course Name	Credits
First Semester					
ENL 101	English Composition I	3	ENGL.1010	College Writing I	3
CHM 151	General Chemistry I	4	CHEM.1210	Chemistry I	3
			CHEM.1230L	Chemistry I Laboratory	1
ENR 106	3D Design and Analysis I	3	MECH.1070	Introduction to Mechanical Engineering	2
MAT 240	Calculus I	4	MATH.1310	Calculus I	4
	Humanities & Fine Arts	3		Arts & Humanities	3
Total		17 Total			16
Second Semester					
COM 103	Human Communication	3	ENGL.2220	Oral Communication	3
ENR 107	3D Design and Analysis II	3	MECH.2010	Computer Aided Design	2
MAT 250	Calculus II	4	MATH.1320	Calculus II	4
ENR 103	Introduction to Robotics	4	MECH.1990	Mech Eng 1000 Level Elective	3
ECO117 or 118	Behavioral & Social Sciences	3		Social Science	3
Total		17 Total			15
Third Semester					
	Behavioral and Social Sciences	3		Social Science	3
PHY 211	University Physics I	4	PHYS.1410	Physics I	3
			PHYS.1410L	Physics I Lab	1
MAT 260	Calculus III	4	MATH.2310	Calculus III	4
ENR 110	Engineering and Scientific Computing	3	EECE.2160	ECE Applications Prog.	3
ENR 204	Circuit Theory 1	4	EECE.2010	Circuit Theory I	3
			EECE.2070	Basic Circuits Lab I	2
Total		18 Total			19
Fourth Semester					
PHY 212	University Physics II	4	PHYS.1440	Physics II	3
			PHYS.1440L	Physics II Lab	1
MAT 270	Differential Equations	3	MATH.2340	Differential Equations	3
ENR 205	Circuit Theory II	3	EECE.2020	Circuit Theory II	3
		1	EECE.2080	Basics Circuits Lab II	2
CSC 120	Computer Programming 1: C++	4	EECE.2160	ECE Applications Programming	3
Total		15 Total			15
Grand Total		67 Grand Total			65

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Civil & Environmental Engineering

Cape Cod Community College			UMass Lowell		
Course Number	Course Name	Credits	Course Number	Course Name	Credits
First Semester					
ENL 101	English Composition I	3	ENGL.1010	College Writing I	3
	Humanities & Fine Arts	3		Arts & Humanities	3
CHM 151	General Chemistry I	4	CHEM.1210	Chemistry I	3
			CHEM.1230L	Chemistry I Lab	1
ENR 106	3D Design Analysis	3	CIVE.1070	Intro Civil Engineering	3
MAT 240	Calculus I	4	MATH.1310	Calculus I	4
Total		17	Total		17
Second Semester					
COM 103	Human Communication	3	ENGL.2220	Oral Communication	3
CHM 152	General Chemistry II (Eng Tech Electiv	4	CHEM.1220	Chemistry II	3
			CHEM.1240L	Chemistry II Lab	1
ENL 102	English Composition II	3	ENGL.1020	College Writing II	3
MAT 250	Calculus II	4	MATH.1320	Calculus II	4
ENR 103	Introduction to Robotics	4	MECH.1990	Mech Eng 1000 Level Elective	3
Total		18	Total		17
Third Semester					
ECO 118	Microeconomics (Behavioral & Social	3	ECON.1010	Microeconomics	3
PHY 211	University Physics I	4	PHYS.1410	Physics I	3
			PHYS.1410L	Physics I Lab	1
MAT 260	Calculus III	4	MATH.2310	Calculus III	4
ENR 201	Statics (Eng Tech Elective)	3	ENGN.2050	Statics	3
MAT 150	Elementary Statistics*	3	CIVE.2860	Prob. & Stat. for Engineers	3
Total		17	Total		17
Fourth Semester					
PHY 211	University Physics II	4	PHYS.1440	Physics II	3
			PHYS.1440L	Physics II Lab	1
MAT 270	Differential Equations	3	MATH.2360	Eng. Differential Equations	3
ENR 209	Strength of Materials (Eng Tech Electi	4	ENGN.2060	Strength of Materials	3
ENR 202	Dynamics (Eng Tech Elective)	3	ENGN.2070	Dynamics	3
	Behavioral and Social Sciences	3		Social Science	3
Total		17	Total		16
Grand Total		69	Grand Total		67

*Students are required to take one extra course at 4Cs for this agreement.


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Cape Cod Community College		Mechanical Engineering		Umass Lowell	
Course Number	Course Name	Credits	Course Number	Course Name	Credits
First Semester					
ENL 101	English Composition I	3	ENGL.1010	College Writing I	3
CHM 151	General Chemistry I	4	CHEM.1210	Chemistry I	3
			CHEM.1230L	Chemistry I Laboratory	1
ENR 106	3D Design and Analysis I	3	MECH.1070	Intro to Mechanical Engineering	2
MAT 240	Calculus I	4	MATH.1310	Calculus I	4
	Art & Humanities	3		See Transfer Dictionary for Equivalencies	3
Total		17	Total		16
Second Semester					
COM 103	Human Communication	3	ENGL.2220	Oral Communication	3
ECO117 or 118	Behavioral & Social Sciences	3		Social Science	3
ENR 107	3D Design and Analysis II	3	MECH.2010	Computer Aided Design	2
MAT 250	Calculus II	4	MATH.1320	Calculus II	4
ENR 103	Introduction to Robotics	4	MECH.1990	Mech Eng 1000 Level Elective	3
Total		14	Total		15
Third Semester					
	Behavioral and Social Sciences	3		See Transfer Dictionary for Equivalencies	3
PHY 211	University Physics I	4	PHYS.1410	Physics I	3
			PHYS.1410L	Physics I Lab	1
MAT 260	Calculus III	4	MATH.2310	Calculus III	4
ENR 201	Statics	3	ENGN.2050	Statics	3
ENR 202	Dynamics	3	ENGN.2070	Dynamics	3
Total		17	Total		17
Fourth Semester					
PHY 212	University Physics II	4	PHYS.1440	Physics II	3
			PHYS.1440L	Physics II Lab	1
MAT 270	Differential Equations	3	MATH.2340	Differential Equations	3
ENR 207	Material Science	3	MECH.2960	Materials Science for Engineers	3
ENR 208	Thermodynamics	3	MECH.2420	Thermodynamics	3
ENR 209	Strength of Materials	4	ENGN.2060	Strength of Materials	3
Total		17	Total		16
Grand Total		65	Total		64

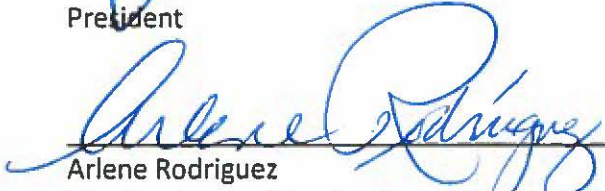
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Signature Page


Cape Cod Community College Approval




John L. Cox
President




Arlene Rodriguez
Vice President of Academic and Student Affairs



Donald Crampton
Dean – Math, Science, Engineering and Applied
Technology

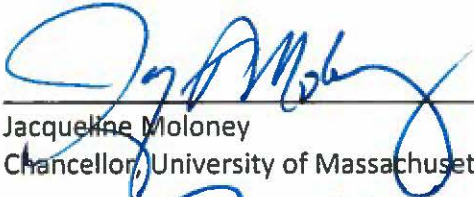


Frederick Bsharah
Department Chair - Engineering Sciences &
Applied Technology
Associate Professor of Engineering



Date

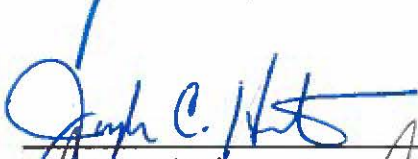
University of Massachusetts Lowell Approval



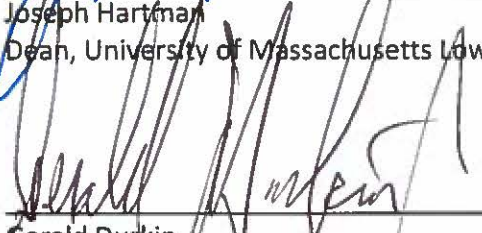
Jacqueline Moloney
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Joseph Hartman
Dean, University of Massachusetts Lowell



Gerald Durkin
Associate Dean of Enrollment and Director of
Transfer Admissions



Date