UNIVERSITY OF MASSACHUSETTS LOWELL
Division of Graduate, Online & Professional Studies

MEMORANDUM

TO: Noureddine Melikechi, Dean, Kennedy College of Sciences
FROM: Nancy Ludwig, Associate Dean, Division of Graduate, Online & Professional Studies
RE: Articulation Agreement

This proposed articulation agreement has been established for students from Cape Cod Community College who have completed the Associate Degree in Information Technology, in accordance with the minimum standards as set by the Division of Graduate, Online & Professional Studies, and would like to transfer to the University of Massachusetts Lowell, Division of Graduate, Online & Professional Studies, Bachelor of Science in Information Technology program. The terms of the articulation agreement are set forth in the attached document for you to review and approve.

This articulation agreement was initiated in June of 2019 and was completed with the combined effort of the following individuals from the University of Massachusetts Lowell, Division of Graduate, Online & Professional Studies and Cape Cod Community College:

UMASS Lowell
Nancy Ludwig, Associate Dean, Division of Graduate, Online & Professional Studies
Yelena Rykalova, Assistant Teaching Professor, BSIT Program Coordinator
April O'Donnell, Student Support Specialist, Division of Graduate, Online & Professional Studies
Vanessa Hoercher, Administrative Support Specialist, Division of Graduate, Online & Professional Studies

Cape Cod Community College
Kathleen Bent, Chair, Business Department
Mary Olenick, Coordinator of Transfer and Articulation Agreements
Louis Beco, Professor

The above mentioned individuals are pleased to bring this agreement to you for approval and are looking forward to the mutually beneficial partnership established between the University of Massachusetts Lowell, Division of Graduate, Online & Professional Studies and Cape Cod Community College.

ARTICULATION AGREEMENT

between

CAPE COD COMMUNITY COLLEGE
Information Technology
Security Penetration Testing
Associate in Science Degree

and the

UNIVERSITY OF MASSACHUSETTS LOWELL
Division of Graduate, Online and Professional Studies
Bachelor of Science in Information Technology

FALL 2020

This articulation agreement has been established between Cape Cod Community College's Information Technology Security Penetration Testing Associate in Science Degree program (Cape Cod Community College) and the University of Massachusetts Lowell, Division of Graduate, Online & Professional Studies, Bachelor of Science in Information Technology Degree (UMass Lowell).

Students completing the Information Technology Security Penetration Testing Associate in Science Degree at Cape Cod Community College, in accordance with the minimum standards as set by the Division of Graduate, Online & Professional Studies at the University of Massachusetts Lowell, will be admitted to that department as juniors. Students who do not meet the aforementioned minimum standards will be considered for admission on a case-by-case basis.

OBJECTIVES:
1. To encourage the transfer of qualified students from Cape Cod Community College to UMass Lowell, Division of Graduate, Online & Professional Studies.
2. To award academic credit for courses completed for the Associate Degree toward the requirements for the Bachelor Degree as stated in this agreement.
3. To provide students with accurate and clear information regarding the transfer of their coursework and credits to UMass Lowell, Division of Graduate, Online & Professional Studies.

TERMS OF THE ARTICULATION AGREEMENT:
1. UMass Lowell guarantees the acceptance of students who complete the Information Technology Security Penetration Testing Associate in Science Degree program at Cape Cod Community College with an overall cumulative GPA of 2.0 or better to the Bachelor of Science in Information Technology Degree program at UMass Lowell, Division of Graduate, Online & Professional Studies. All bachelor's degree candidates are required to earn a minimum 2.00 cumulative grade point average (GPA), present a minimum of 120 semester hours, fulfill the residency requirements, conform to the general regulations and requirements of the University, satisfy the regulations and academic standards of the colleges which exercise jurisdiction over the degrees for which they are matriculating, satisfy the curriculum requirements established by the departments or programs in their major, and complete the University's Core Curriculum requirements, which are listed within the program's curriculum outline.
2. This agreement acknowledges the transfer of credit as stipulated in the attached Program of Studies and assumes the completion of the Associate Degree. UMass Lowell, Division of Graduate, Online & Professional Studies may accept courses taken beyond the Associate Degree (20 courses); however, students are encouraged to contact the transfer advisor for approval. At the discretion of the department up to 75 credits may be accepted in transfer.
3. UMass Lowell may require that 50% of the major is completed in residence; a minimum of 120 credits must be completed to earn a Bachelor of Science in Information Technology.
4. Students transferring from Cape Cod Community College will be subject to all general education requirements at UMass Lowell as set forth in the University of Massachusetts Lowell catalog. Students interested in participating in this agreement should be advised to take the suggested liberal arts courses. These courses are required at UMass Lowell and students are advised to complete them as a part of their Associate Degree. Students meeting the requirements of the *MassTransfer Gen Ed Foundation* will be exempt from University general education requirements, but will be required to meet any specific Information Technology Department general education requirements.
5. This document is based upon the evaluation of course descriptions presented to UMass Lowell. Courses listed in this agreement will transfer provided a grade of "C-" or better has been earned. When appropriate, the benefits of the *MassTransfer Gen Ed Foundation* will be honored.
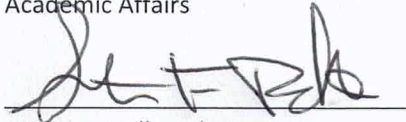
This agreement shall remain in effect for a period of three years from the date listed below, with the provision that the terms specified herein will continue to apply to students admitted from Cape Cod Community College within one year of the expiration of the agreement. Each institution agrees to provide timely notice to the other in event of any modification to the curriculum that might affect compatibility for admission and transfer of coursework. This agreement may be subject to change, without notice, if curriculum requirements change at either institution. Students admitted to the Associate Degree program prior to such notification shall be admitted to the UMass Lowell, Division of Graduate, Online & Professional Studies on the basis of this agreement.

SIGNATURES

University of Massachusetts Lowell

Joseph Hartman, Ph.D., P.E.
Provost and Vice Chancellor
Academic Affairs

Steven F. Tello, Ed.D.
Vice Provost
Division of Graduate, Online & Professional Studies
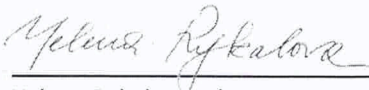
Noureddine Melikechi, D.Phil.
Dean of Kennedy College of Science

Haim Levkowitz, Ph.D.
Chair, Computer Science
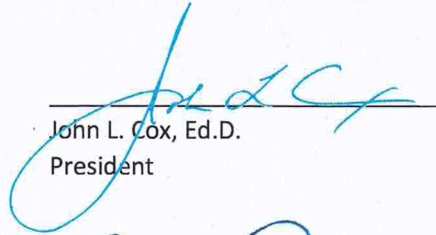
Nancy Ludwig, Ed.D.
Dean
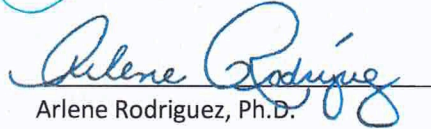Division of Graduate, Online & Professional Studies

Yelena Rykalova, Ph.D.
Assistant Teaching Professor
BSIT Program Coordinator

Cape Cod Community College

John L. Cox, Ed.D.
President

Arlene Rodriguez, Ph.D.
Vice President
Academic and Student Affairs

Patrick Preston, L.P.D
Dean, Health Sciences, Social & Behavioral Sciences,
Human Services, Funeral Services, Business and
Advanced Studies

Program of Studies
Cape Cod Community College Information Technology Security Penetration Testing Associate in Science Degree transferring into
University of Massachusetts Lowell Bachelor of Science in Information Technology, Division of Graduate, Online & Professional Studies

	UML Course ID	University of Massachusetts Lowell Bachelor of Science in Information Technology	Credits	Cape Cod Course ID	Cape Cod Community College Associate in Security Penetration Testing	Credits
Core Curriculum Requirements	ENGL.1010	College Writing I	3	ENL 101	English Composition I	3
	ENGL.1020	College Writing II	3	ENL 102	English Composition II (Gen Ed Recommendation)	3
	----.----	Arts & Humanities Courses (AH)	3	COM 103	Human Communication	3
	----.----	Arts & Humanities Courses (AH)	3			
	----.----	Arts & Humanities Courses (AH)	3			
	ECON.2010	Economics I (Microeconomics) (SS)	3			
	----.----	Social Sciences (SS) Course	3	----.----	Behavioral & Social Science (Suggest ECO117)	3
	----.----	Social Sciences (SS) Course	3	----.----	Behavioral & Social Science (Suggest ECO 118)	3
	MATH.2830	Introduction to Statistics	3	----.----	Mathematics/Quantitative Reasoning (Suggest MAT150)	3
	----.----	Science with Lab Perspective (SCL)*	3	----.----	Math **OR** Natural/Physical Science (Suggest Science with Lab or MAT195)	3
		Lab	1		Lab	1
	----.----	Science with Lab Perspective (SCL)*	3			
		Lab	1			
	----.----	STEM Perspective Course	3			
		Total Credits	**36/38**		**Total Credits**	**22**
IT Degree Requirements	INFO.4600	Computer Ethics	3			
	ENGL.2240	Business Writing **OR**	3			
	ENGL.2260	Scientific and Technical Communication				
	ECON.2020	Economics II (Macroeconomics)	3			
	MATH.1200	Pre-calculus Mathematics I	3			
	MATH.2190	Discrete Structures I	3			
	INFO.2110	Introduction to Programming W/C I **OR**	3			
	INFO.2670	C Programming **				
	INFO.4800	Project-Based Information Systems **OR**	6			
	INFO.4770	Project-Based Information Systems - Part I **&**				
	INFO.4780	Project-Based Information Systems - Part II				
	INFO.3850	Introduction to Information Security	3			
		Total Credits	**27**		**Total Credits**	**0**
IT Electives		Information Technology Elective	3	BIT 187	Introduction to Networks (Cisco I)	3
		Information Technology Elective	3	BIT 115	IT: Windows Desktop Operating Services	3
		Information Technology Elective	3	BIT 113	Microcomputer Hardware	3
		Information Technology Elective	3	BIT 116	IT: Linux	3
		Information Technology Elective	3	BIT 240	Security+	3
		Information Technology Elective	3	BIT 241	IT: Ethical Hacking	3
		Information Technology Elective	3	BIT 248 / BIT.248L	Switching, Routing & Wireless Essentials (Cisco 2) / Switching, Routing & Wireless Essentials Lab	3
		Information Technology Elective	3	BIT 242	IT: Advanced Ethical Hacking I	3
		Information Technology Elective	3	BIT 243	IT: Advanced Ethical Hacking II	3
		Information Technology Elective	3	BIT 254	Computer Forensics	3
		Total Credits	**30**		**Total Credits**	**30**
Focus Electives		**Choose six classes from one focus group (AH) (SS) (MGT) (SME)**				
		Focus I	3	BUS 100	Introduction to Business	3
		Focus 2	3			
		Focus 3	3			
		Focus 4	3			
		Focus 5	3			
		Focus 6	3			
		Total Credits	**18**		**Total Credits**	**3**
Free Electives		Free Elective 1	3	BIT 245	IT Security: Penetration Testing	3
		Free Elective 2	3	BIT104	Cybercrime	3
		Free Elective 3	3			
		Total Credits	**9**		**Total Credits**	**6**
		Total Degree Credits	**120/122**		**Total Transfer Credits**	**61**

TRANSFER RECOMMENDATIONS: Students may move BUS100 Introduction to Business to Free Elective 3 if Focus Area is not MGT concentrated.

The table below is a reiteration of the Program of Studies minus the accepted transfer credits. It represents a clear expectation of what courses students will need to take after they matriculate to UML.

	UML Course ID	Required Enrollment Courses at University of Massachusetts Lowell	Credits
Core Curriculum	----.----	Science with Lab Perspective **(required)**	3
	----.----	Lab	1
	ECON.2010	Economics I (Microeconomics) **(required)**	3
IT Degree Requirements	INFO.4600	Computer Ethics	3
	ENGL.2240	Business Writing **OR**	3
	ENGL.2260	Scientific and Technical Communication	
	ECON.2020	Economics II (Macroeconomics)	3
	MATH.1200	Pre-calculus Mathematics I	3
	MATH.2190	Discrete Structures I	3
	INFO.2110	Introduction to Programming W/C I **OR**	3
	INFO.2670	C Programming **	
	INFO.4800	Project-Based Information Systems **OR**	6
	INFO.4770	Project-Based Information Systems - Part I **AND**	
	INFO.4780	Project-Based Information Systems - Part II	
	INFO.3850	Introduction to Information Security	3
Focus Electives	----.----	Focus Elective	3
	----.----	Focus Elective	3
	----.----	Focus Elective	3
	----.----	Focus Elective	3
	----.----	Focus Elective	3
	----.----	Free Elective	3
Credit Req**	----.----	Arts & Humanities Courses **(recommended)**	3
	----.----	Arts & Humanities Courses **(recommended)**	3
	----.----	Social Sciences Course **(recommended)**	3
		Total Credits Required at UML	**60/61**

*Science with Lab can be a science course (3cr) with a separate lab course (1cr) or a science course with the lab component built into the course (3cr; Example: LIFE.2140, CHEM.1010, CHEM.1020). Such courses are usually annotated with "SCL" in the course notes.

**Courses needed to fulfill credit requirements for degree.