

**ARTICULATION AGREEMENT**

**Between the**

**ASSOCIATE IN SCIENCE DEGREE – Computer Science Transfer  
PROGRAM**

**Of**

**Northern Essex Community College**

**And the**

**UNIVERSITY OF MASSACHUSETTS LOWELL  
College of Science**

**Fall 2012**

This articulation agreement has been established between Northern Essex Community College (NECC) and the University of Massachusetts Lowell's College of Science (UML). This agreement was developed with the intent of facilitating the success of students at Northern Essex Community College (NECC) and the University of Massachusetts Lowell 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 Associates of Science Degree in Computer Science at Northern Essex Community College while also transferring into Bachelor of Science in Computer Science Degree Program at the University of Massachusetts Lowell.

Students completing the described course programs, in accordance with the minimum standards as set in this agreement, will be admitted to the Computer Science Degree program at the University of Massachusetts Lowell. Furthermore, such students who complete the described series of courses will receive an Associates of Science Degree in Computer Science Transfer at NECC, and may qualify for a tuition waiver through UML's Massachusetts Advantage Plus Program as described below. Students who do not meet the minimum standards set forth herein will be considered for admission to UML on a case-by-case basis.

#### OBJECTIVES:

1. To facilitate the completion of students' Associates of Science Degree in Computer Science Transfer at NECC.
2. To facilitate the completion of students' Bachelor of Science Degrees in various Computer Science Program at UML.
3. To encourage the transfer of qualified students from Northern Essex Community College to the University of Massachusetts Lowell by providing effective and concise guidelines.
4. To award appropriate academic credit for courses completed at NECC towards UML's Computer Science degree program.

#### TERMS OF THE TRANSFER ARTICULATION AGREEMENT:

1. This document is based upon the evaluation of course descriptions offered by NECC and UML. NECC courses as listed in this agreement will transfer to UML provided a grade of "C-" or higher has been earned. When appropriate, the requirements of the Mass Transfer Program will be honored. 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 NECC courses in the related concentrations as listed in the attached Program of Study with an overall GPA of 2.5 or higher to the appropriate Bachelor of Science in Computer Science Degree Program.
3. UML guarantees the transfer of credit as stipulated in the attached Program of Study. The University of Massachusetts Lowell requires that at least 50% of the major be completed in residence; the total number of credits required to earn a Bachelor of Science in Computer Science Degree from UML is at least 120 credits and varies by Degree Program. The University of Massachusetts Lowell may accept courses taken beyond the Associates Degree (60 credits); however, students are encouraged to contact the transfer advisor at the University of Massachusetts Lowell for approval.

4. Northern Essex 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. Northern Essex Community College students interested in participating in this agreement should be advised to take liberal arts courses that will transfer as general education electives.
5. Under the UML Massachusetts Advantage Plus Program, Massachusetts state community college students who have earned an Associate's degree in Computer Science Transfer from NECC and graduated with a 3.0 or better grade point average will receive a full-tuition waiver at UML. After transferring, students must be continuously enrolled and maintain a 3.0 grade point average at UML to continue the waiver for up to four 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 Northern Essex Community College's Associate in Science Degree: Computer Science Transfer 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 Northern Essex Community College's Associate in Science Degree: Computer Science Transfer 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 Computer Science Department maintaining its' program approval from the Massachusetts Board of Higher Education.



**NORTHERN ESSEX COMMUNITY COLLEGE**  
 Associate in Computer Science Transfer  
 To  
**UNIVERSITY OF MASSACHUSETTS LOWELL**  
 Bachelor of Science in Computer Science

NECC Course Requirements		UMass Lowell Equivalent & Credits	
CIS 141 Computer Science I and CIS 205 C Programming	8	91.101 Computing I	4
CIS 252 Computer Science II and CIS 121 Operating System	8	91.102 Computing II	4
CIS 240 C++Programming Language	4	91.201 Computing III	4
CIS 113 Database Management	3	General Elective	3
CIS 115 Information Security	4	General Elective	3
MAT 251 Calculus I	4	92.131 Calculus I	4
MAT 252 Calculus II	4	92.132 Calculus II	4
<b>Program Electives Must be courses below</b>	14/16		
CTE 101 & CTE 103 Logic and Design Lab	5	16.265 Logic Design	3
CIS 190 Android Programming	4	91.199 General Free Elective	3
CTN 201 Computer Networks I	3	91.299 General Free Elective	3
CTE 210 Microcomputers	4	91.203 Assembly Language Programming	4
ENG 101 English Composition I	3	42.101 College Writing I	4
ENG 102 English Composition II	3	42.102 College Writing II	3
COM 112 Interpersonal Communications	3	42.222 Oral Communication	3
PHI 110 Ethics	3	45.203 Introduction to Ethics	3
History or Political Science	3	Social Science	3
<i>Not required for NECC Graduation but can be taken via NECCUM (Fall, Yr2)</i>	0	92.321 Discrete Structures I (Prereq MAT 251)	3
<i>Not required for NECC Graduation but can be taken via NECCUM (Spring, Yr2)</i>	0	92.386 Probability and Statistics (Prereq MAT 252)	3
Natural Science 1 (at NECC) <b>Not required for NECC Graduation</b>	0	Science Course ( <b>BIO 103 &amp; 104 NOT recommended</b> )	4
Natural Science 2 (at NECC) <b>Not required for NECC Graduation</b>	0	Science Course ( <b>BIO 103 &amp; 104 NOT recommended</b> )	4