ARTICULATION AGREEMENT

Between the

ASSOCIATE IN SCIENCE DEGREE – Computer Science: Computer Science Transfer Concentration

PROGRAM

Of

Northern Essex Community College

And the

UNIVERSITY OF MASSACHUSETTS LOWELL College of Science

Spring 2019
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 Transfer Concentration 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 Concentration 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 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 are advised to take liberal arts courses that are recommended in this agreement for the best possible transfer experience.

5. Under the UML Massachusetts Advantage Plus Program, Massachusetts state community college students who have earned an Associate's degree in Computer Science Transfer Concentration 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: Computer Science Transfer Concentration 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 Concentration 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.
ARTICULATION AGREEMENT
Between the Associate in Science Degree: Computer Science Transfer
NORTHERN ESSEX COMMUNITY COLLEGE
And the
UNIVERSITY OF MASSACHUSETTS LOWELL
College of Sciences

Signature Page

Lane A. Glenn 4/1/19
President,
Northern Essex Community College

Jacqueline Moloney 5/29/19
Chancellor
University of Massachusetts Lowell

William Heineman 4/11/19
Vice President, Academic and Student Affairs
Northern Essex Community College

Michael Vayda 5/6/19
Provost and Vice Chancellor for Academic Affairs
University of Massachusetts Lowell

Carolyn Knoepfler 4/3/19
Assistant Dean, Science, Technology, Engineering, and Mathematics (STEM)
Northern Essex Community College

Noureddine Melikechi 5/14/19
Dean, Kennedy College of Sciences
University of Massachusetts Lowell

Jason Termini 4/3/19
Department Chair, Computer Sciences
Northern Essex Community College

David Adams 5/14/19
Computer Science
Undergraduate Coordinator
University of Massachusetts Lowell

Gerald Durkin 5/31/19
Associate Dean of Enrollment and Director of Transfer Admissions
University of Massachusetts Lowell
### NECC Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 113 Database Management</td>
<td>4</td>
</tr>
<tr>
<td>CIS 115 Information Security</td>
<td>4</td>
</tr>
<tr>
<td>CIS 117 Intro to Linux</td>
<td>1</td>
</tr>
<tr>
<td>CIS 154 C Programming</td>
<td>4</td>
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<tr>
<td>CIS 160 Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>CIS 252 Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>CIS 225 Microcomputers</td>
<td>4</td>
</tr>
<tr>
<td>ENG 101 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>MAT 251 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 252 Calculus II</td>
<td>4</td>
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**Program Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CIS 240 C++ Programming</td>
<td>4</td>
</tr>
<tr>
<td>CTE 101</td>
<td>3</td>
</tr>
<tr>
<td>CTE 103</td>
<td>1</td>
</tr>
</tbody>
</table>

**Natural Science Strongly Recommended:**

- PHS 131, CHM 121, BIO 111

**Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Humanities Elective Strongly Recommended: COM 112 Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective Strongly Recommended: SOC 101 Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Free Elective**

3-4

**Additional Courses Taken Via NECCUM**

*Not required for NECC Graduation but can be taken via NECCUM – Fall Yr 2*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH.2190 Discrete Structures I (Prereq MAT 251)</td>
<td>3</td>
</tr>
</tbody>
</table>
| Not required for NECC Graduation but can be taken via NECCUM — Spring Yr 2 | MATH. 3220 Discrete Structures II  
Prereq Discrete Structures 1. | 3 |
| Not required for NECC Graduation but can be taken via NECCUM — Spring Yr 2 | MATH. 3860 Probability and Statistics  
(Prereq MAT 252) | 3 |