

ARTICULATION AGREEMENT

Between the

ASSOCIATE IN SCIENCE DEGREE – ENGINEERING PROGRAM

Of

Northern Essex Community College

And the

UNIVERSITY OF MASSACHUSETTS LOWELL

James B. Francis College of Engineering

Fall 2017

This articulation agreement has been established between Northern Essex Community College (NECC) 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 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 Sciences Degree in Engineering at Northern Essex Community College while also transferring into Bachelor of Science in Engineering 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 Associates of Science degree in Engineering at NECC. 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' Associates of Science Degree in Engineering at NECC.
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 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 Engineering degree programs.

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. 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 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 Associates Degree; 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. Students meeting the requirement of the General Education Foundation Courses (MASS Transfer Block) will be exempt from 35


credits of University general education requirements, but will be required to meet any specific College of Engineering general education requirements, not to exceed two courses.

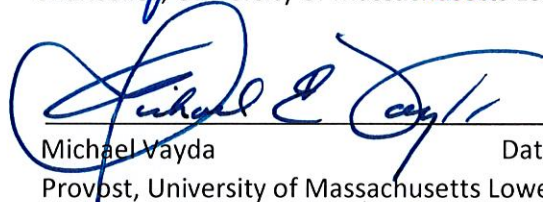
This agreement shall remain in effect for a period of three years from the date of its enactment, with the provision that the terms specified herein will continue to apply to students admitted from Northern Essex Community College's Associate in Science Degree: Basic Engineering program within one year 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: Engineering Science 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.


Signature Page


 4/26/17
Lane Glenn Date
President, Northern Essex Community College

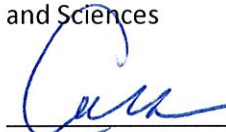
 6/1/17
Jacqueline Moloney Date
Chancellor, University of Massachusetts Lowell


 4/24/17
William Heineman Date
Vice President, Academic and Student Affairs

 5-26-2017
Michael Vayda Date
Provost, University of Massachusetts Lowell

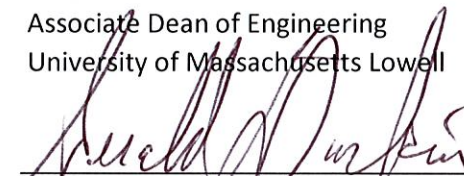

Kelly Sullivan Date
Dean, Technology, Arts, Professional Studies
and Sciences

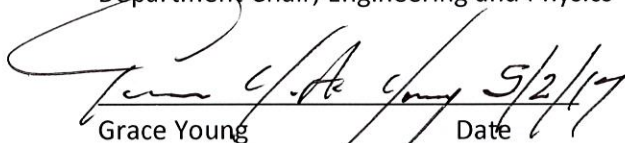
 5/15/2017
Joseph Hartman Date
Dean, University of Massachusetts Lowell

 4/19/17
Carolyn Knoepfler Date
Assistant Dean, Science, Technology,
Engineering and Advanced Manufacturing

 5/8/17
Oliver Ibe Date
Associate Dean of Engineering
University of Massachusetts Lowell

 4/12/17
Paul Chanley Date
Department Chair, Engineering and Physics


Gerald Durkin Date
Associate Dean of Enrollment and Director of
Transfer Admissions

 5/2/17
Grace Young Date
Dean, Academic and Career Advising,
Articulation and Transfer

NORTHERN ESSEX COMMUNITY COLLEGE
Engineering Science-Chemical Concentration
To
UNIVERSITY OF MASSACHUSETTS LOWELL
Bachelor of Science in Chemical Engineering

| NECC Course Requirements & Credits | | UMass Lowell Equivalent & Credits | |
|---|---|--|--------|
| CHM 121 General Chemistry I | 4 | CHEM. 1210 Chemistry I CHEM. 1230 Chemistry I Lab | 3 1 |
| CHM 122 General Chemistry II | 4 | CHEM. 1220 Chemistry II CHEM.1240L Chemistry II lab | 3 1 |
| CHM 221 Organic Chemistry I | 4 | CHEM. 2210 Organic Chemistry I CHEM.2270L Organic Chem Lab IA | 3 1 |
| CHM 222 Organic Chemistry II | 4 | CHEM.2220 Organic Chemistry II CHEM.2280 Organic Chem Lab IIA | 3 1 |
| CTE 111 Circuit Analysis 1 | 4 | EECE. 2110 Fund of Electricity | 3 |
| ECO 201 Micro Economics | 3 | ECON. 2010 Economics I (Microeconomics) | 3 |
| ECO 202 Macro Economics | 3 | ECON. 2020 Economics II (Macroeconomics) | 3 |
| ENG 101 English Composition I | 3 | ENGL. 1010 College Writing I | 3 |
| ENG 102 English Composition II | 3 | ENGL. 2020 College Writing II | 3 |
| ENG 103 Technical Writing | 3 | ENGL 2260 Tech & Scientific Communication | 3 |
| EST 104 Engineering+ Essentials & Design | 3 | ENGN. 1070 Into Engineering I | 2 |
| EST 110 Engineering Design Graphics | 3 | ENGN. 1080 Intro Engineering II (Course is not required for UML ChE) | 3 |
| MAT 251 Calculus I | 4 | MATH. 1310 Calculus I | 4 |
| MAT 252 Calculus II | 4 | MATH 1320. Calculus II | 4 |
| MAT 253 Calculus III | 4 | MATH. 2310 Calculus III | 4 |
| MAT 254 Differential Equations | 4 | MATH. 2360 Eng Differential Equations | 3 |
| PHS 131 Engineering Physics I | 4 | PHYS. 1410 Physics I PHYS. 1410L Physics I Lab | 3 1 |
| PHS 132 Engineering Physics II | 4 | PHYS. 1440 Physics II PHYS. 1440Physics II Lab | 3 1 |
| <i>PHI 110 Ethics</i> | 3 | PHIL.2030 Introduction to Ethics | 3 |
| <i>Humanities: STRONGLY Recommended COM 111-Public Speaking</i> | 3 | ENGL. 2220 Oral Communication | 3 |
| Additional Courses Taken Through NECCUM | | | |
| <i>Not required for NECC Graduation but can be taken via NECCUM (Fall, Yr2)</i> | 0 | CHEN. 2010 Material Balances (Fall) | 3 |

| | | | |
|---|---|---|--------|
| <i>Not required for NECC Graduation but can be taken via NECCUM</i> (Spring, Yr 2) | 0 | CHEN. 2020 Energy Balances & Intro Thermodynamics (Spring, Year 2) | 3 |
| <i>Can be taken via NECCUM</i> BIOL. 2100 Biology for Engineers BIOL. 2120L Biology For Engineers Lab | 0 | BIOL. 2100 Biology for Engineers BIOL. 2120L Biology For Engineers Lab | 3 1 |