

# Lake Superior State University — Articulation Agreement

## NORTHWESTERN MICHIGAN COLLEGE

**Transfer Major:**

**NMC: ASE Pre-Engineering**

**to**

**LSSU: B.S. Mechanical Engineering**

**Contacts:**

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**Valid For: 2023-2027**

Continuing with review and renewal every 4 years

**NMC Courses**

**LSSU Equivalency**

**Additional LSSU Courses**

ENG 111 English Composition 4 ENG 112 English Composition 4 Humanities (Any one course) 3 MTH-141 Calculus I 5 MTH-142 Calculus II 5 MTH-241 Calculus III 5 MTH-251 Differential Equations 4 PHYS-221 (also L&R) Prob & Prin of Phys I 5 PHYS-222 (also L&R) Prob & Prin of Phys II 5 CHM-150 (also L & R) General Chemistry I 5 Social Science (One course) 3 <b>Sub-total 48</b>	ENGL110 First Year Composition I 3 ENGL111 First Year Composition II 3 Humanities 3 MATH-151 Calculus I 4 MATH-152 Calculus II 4 MATH-251 Calculus III 4 MATH-310 Differential Equations 3 PHYS-231 Applied Physics I 4 PHYS-232 Applied Physics II 4 CHEM-115 General Chemistry 5 Social Science 3 <b>Sub-total 40</b>	EGME-110 Manufacturing Processes 3 EGNR-140 Linear Alg / Num Methods 2 EGME-276 Strength of Materials Lab 1 MATH-308 Probability and Statistics 3 EGME-350 Machine Design 4 EGEE-211 Circuit Analysis Lab 1 EGNR-340 Num Methods for Engineers 1 EGME-337 Thermodynamics 4 EGME-338 Fluid Mechanics 3 EGME-431 Heat Transfer 3 EGME-432 Thermal Fluids Lab 2 EGRS-460 Control Systems 4 EGNR-491 Engineering Design Project I 3 EGNR-495 Engineering Design Project II 3 <b>Sub-total 37</b>
<p style="text-align: center;"><b>Directed Electives (min. 25 cr)</b></p> EGR-101 Intro to Engineering 1 EGR-111 Intro to Computer Science 3 EGR-113 Engineering Graphics I 3 EGR-201 Statics 3 EGR-202 Mechanics of Materials 3 EGR-203 Dynamics 4 EGR-221 Material Science 3 EGR-211 Electrical Circuits 3 EGR-220 Engineering Practice I 2 <b>Sub-total 25</b>	EGNR-101 Intro to Engineering 1 EGNR265 "C" Programming 3 EGMT-141 Solid Modelling 3 EGEM-220 Statics 3 EGME-225 Mechanics of Materials 3 EGEM-320 Dynamics + EGEM377 3+1 EGME-275 Engineering Materials 3 EGEE-277 Tech Elective (Waive Circuit Analysis - lecture only) 3 EGNR277 Tech Elective 2 <b>Sub-total 25</b>	<p><b>SENIOR SEQUENCE (Select 1) 6 - 10</b></p> Industrial: EGNR491 & 495 - 6 Co-op: EGNR450, 451, and 491 - 10 Research: EGNR260, 460, 461 - 8
<p><b>Michigan Transfer Agreement (MTA)</b>  <b>For MTA, Additional Courses Req'd. - 6</b>                      1 Course in Social Science/Grp 3                      1 Course in Humanities/Grp 3</p>	<p><b>General Ed. Requirements</b>                      If MTA is not met, additional 6 credits will be required to complete MTA requirements 6</p>	<p><b>TECHNICAL ELECTIVE (Select 1 area from below) 17-19</b></p> <p><b>Vehicle Systems (18-19 cr):</b>                      EGEE280, EGME240, EGME310, EGME415, EGME425, &amp; [EGME442 or EGRS461]</p> <p><b>Robotics &amp; Automation (17-18 cr):</b>                      EGRS365, EGRS385, EGRS430, EGRS435, &amp; [3-4 cr Approved Tech Elective]</p> <p><b>General: 17 cr:</b>                      Approved Tech Electives, min (2) 400-level; max (2) 200-level courses</p> <p><b>Approved Tech Electives:</b>                      EGME 240, 310, 415, 425, 442;                      EGMT 216;                      EGNR 261, 361, 310, 346, 490;                      EGRS 305,325,372,375,385, 430,435,461                      EGEE 280, 310, 330, 345, 411</p>
<p><b>TOTAL NMC CREDITS 73-79</b></p>	<p><b>TOTAL Equivalent LSSU CREDITS 65-71</b></p>	<p><b>ADDITIONAL LSSU CREDITS 60-66</b></p>

- Course schedules and offerings throughout the year are subject to change without notice. Students are expected to work closely with advisors in planning out their academic schedules.
- Any of the NMC courses listed above will transfer to LSSU with a grade of 'C-' (1.7) or better.
- Any student completing the Engineering Transfer program at NMC is guaranteed admission into LSSU's B.S. Mechanical Eng. Program

**APPROVED BY::**

*Kimberly Muller*

3/5/24

Dr. Kimberly Muller  
Interim Provost and  
Vice President for Academic Affairs  
Lake Superior State University

(Date)

*Stephen N. Siciliano*

3/7/2024

Dr. Stephen N. Siciliano  
Vice President for Educational Services  
Northwestern Michigan College

(Date)