

Lake Superior State University — Articulation Agreement

NORTHWESTERN MICHIGAN COLLEGE

Transfer Major:

NMC: Engineering Transfer Program + Michigan Transfer Agreement
to
LSSU: B.S. Robotics Engineering (RE)

Contacts:

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Valid For: 2023-2027

Continuing with review and renewal every 4 years

NMC Courses

LSSU Equivalency

Additl. LSSU Courses for B.S. Degree

| NMC Courses | | LSSU Equivalency | | Additl. LSSU Courses for B.S. Degree | |
|--|--------------|--|--------------|---|-----------|
| CHM-150 (also L & R) General Chemistry I | 5 | CHEM-115 General Chemistry | 5 | EGEE-125 Digital Fundamentals | 4 |
| MTH-141 Calculus I | 5 | MATH-151 Calculus I | 4+1 | EGEE-211 Circuit Analysis Lab | 1 |
| MTH-142 Calculus II | 5 | MATH-152 Calculus II | 4+1 | EGNR-140 Lin. Algebra/ Num. Methods | 2 |
| MTH-241 Calculus III | 5 | MATH-251 Calculus III | 4+1 | EGNR-340 Adv. Num. Method for Eng. | 1 |
| MTH-251 Differential Equations | 4 | MATH-310 Differential Equations | 3+1 | EGNR-491 Engineering Design Project I | 3 |
| PHY-221 (also L&R) Prob & Prin. of Phys. I | 5 | PHYS-231 Applied Physics I | 4+1 | EGNR-495 Engineering Design Project II | 3 |
| PHY-222 (also L&R) Prob & Prin of Phys. II | 5 | PHYS-232 Applied Physics II | 4+1 | EGRS-105 Robotics Appl & Trends | 1 |
| | | | | EGRS-215 Introduction to Robotics | 2 |
| | | | | EGRS-305 Robotics Safety & Cobots | 3 |
| Sub-total | 34 | Sub-total | 34 | EGRS-365 Prog. Logic Controllers | 3 |
| Recommended Electives (13 credits) | | | | EGRS-372 Mobile Robotics | 4 |
| EGR-101 Intro to Engineering | 1 | Waive EGNR-101 Intro to Engineering | | EGRS-385 Robotics Engineering | 4 |
| EGR-111 Intro to Computer Science | 3 | EGNR265 "C" Programming | 3 | EGRS-430 Systems Integ & Mach. Vision | 4 |
| EGR-113 Engineering Graphics I | 3 | EGME-141 Solid Modeling | 3 | EGRS-435 Automated Manuf. Systems | 3 |
| EGR-201 Statics | 3 | EGEM-220 Statics | 3 | EGRS-460 Control Systems | 4 |
| EGR-211 Electrical Circuits | 3 | EGEE-277 Tech Elective (Waive EGEE210 Circuit Analysis - lecture only) | 3 | | |
| Courses listed below are useful but not reqd. for transfer to LSSU's RE Program | 13 | Addl. Electives that can be transferred | 12 | MATH-308 Probability and Statistics | 3 |
| EGR-202 Mechanics of Materials | 3 | EGME-225 Mechanics of Materials | 3 | Technical Elective Credits | 7 |
| EGR-203 Dynamics | 4 | EGEM-320 Dynamics | 3+1 | | |
| EGR-220 Engineering Practice I | 2 | Technical Elective | 2 | | |
| EGR-221 Material Science | 3 | EGME-275 Materials Engineering | 3 | | |
| EGR-232 Introductory Thermodynamics | 3 | Technical Elective | 3 | | |
| | 15 | | 15 | | |
| Additional Michigan Transfer Agreement (MTA) Courses Reqd. (min.) | 20 | Gen. Ed. Requirements at LSSU - Met | 20 | | |
| * see attached MTA requirements sheet | | | | Note: It is sufficient if overall 13 EGR credits from NMC are transferred (incl EGR201) to complete LSSU's Robotics Engineering B.S. degree in 2 years. But, additional EGR credits from NMC reduces course load at LSSU. See 2-yr plan of study at LSSU attached. | |
| • 2 Courses in English Cognp. | 8 | MTA requirements can also be completed at LSSU. | | | |
| • 1 Course in Mathematics | Met | | | | |
| • 2 Courses in Social Science/Grp 1 | 6 | | | | |
| • 2 Courses in Humanities/Grp 1 | 6 | | | | |
| • 2 Courses in Natural Science including one with a lab | Met | | | | |
| TOTAL NMC CREDITS | 67-82 | TOTAL LSSU TRANSFER CREDITS | 66-81 | Min. ADDL. LSSU CREDITS REQD. | 52 |

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. Robotics Eng. program

APPROVED BY:



3/5/24



3/7/2024

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

(Date)

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

(Date)