



Pathways to Achievement, Completion, Career & Transfer

ACADEMIC MAP

2023-2024



032223

Engineering Science Transfer – Civil/Environmental Concentration Associate in Science

START here

SEMESTER 1 – FALL	CREDITS	MILESTONE	COMPLETED
MAT 290 – Calculus I for Engineering and Science	4		<input type="checkbox"/>
ENG 101 – English Composition I	3		<input type="checkbox"/>
CHE 151 – General Chemistry for Engineering and Science I	4		<input type="checkbox"/>
PHY 171 – Physics for Engineering and Science I	4		<input type="checkbox"/>
FYE – First-Year Experience and 2 additional IDS Electives	3		<input type="checkbox"/>

TOTAL CREDITS 18

SEMESTER 2 – SPRING	CREDITS	MILESTONE	COMPLETED
MAT 291 – Calculus II for Engineering and Science	4		<input type="checkbox"/>
ENG 102 – English Composition II: Introduction to Literature	3		<input type="checkbox"/>
CHE 152 – General Chemistry for Engineering and Science II	4		<input type="checkbox"/>
EGR 101 – Introduction to Engineering	4		<input type="checkbox"/>
PHY 172 – Physics for Engineering and Science II	4		<input type="checkbox"/>

TOTAL CREDITS 19

SEMESTER 3 – FALL	CREDITS	MILESTONE	COMPLETED
MAT 292 – Calculus III for Engineering and Science	4		<input type="checkbox"/>
ETH 101 – Ethics and Society	3		<input type="checkbox"/>
ECO 140 – Principles of Macroeconomics	3		<input type="checkbox"/>
EGR 205 – Surveying – taken at UML	3		<input type="checkbox"/>
EGR 210 – Statics	3		<input type="checkbox"/>

TOTAL CREDITS 16

SEMESTER 4 – SPRING	CREDITS	MILESTONE	COMPLETED
MAT 298 – Differential Equations	3		<input type="checkbox"/>
EGR 211 – Strength of Materials	3		<input type="checkbox"/>
EGR 212 – Dynamics	3		<input type="checkbox"/>
Humanities Elective **	3		<input type="checkbox"/>

TOTAL CREDITS 12

You've FINISHED!



Milestone Courses

should be taken in the order shown. This will help you stay on track and graduate on time.



Make Your Summer Matter. Summer is a great time to take some elective courses and get ahead.

Helpful Hints

- Students must begin the Calculus sequence in semester I.
- MAT 290 – Calculus I must be taken concurrently with, or prior to, PHY 171.
- MAT 291 – Calculus II must be taken concurrently with, or prior to, PHY 172.
- Students begin taking courses at UML during their third semester (reverse-transfer).
- Individual electives vary by engineering concentration. MCC students will take their engineering electives at UML, and receive full credit toward their associate degree through the reverse articulation agreement that is part of this program.
- Students who wish to transfer to four-year institutions other than UML upon completion of their associate degree should consult with Advising early in the program.

** Humanities Electives: ART 101, 105, 106; COM 103; PHL 101; ENG 113, 119, 160, 161, 185

Career and Transfer Outlook

Career opportunities are open to students who transfer and complete a bachelor's degree. Engineers design complex systems, solve technical problems, and provide supervision and leadership.

To learn more, call us at 1-800-818-3434 or visit www.middlesex.mass.edu



Engineering Technology and Transfer

The **Engineering Technology and Transfer** programs at Middlesex Community College offer a clear pathway so you can meet your educational and career goals. There are multiple entrance, exit and continuation points along this pathway. Each program offers courses that prepare you for the next level of study, as well as for employment opportunities. Your job options grow with completion of each extra step, as does earning potential! **Program Outcome skill competencies** can be found on the individual program pages of the MCC Academic Catalog at www.middlesex.mass.edu/catalog.

ENGINEERING TECHNOLOGY: PRECISION MACHINING CERTIFICATE

Competencies: Prepares students for employment in a variety of entry-level advanced manufacturing machining positions.

Learn more about the competencies at www.middlesex.mass.edu/catalog

JOB OPTIONS

CNC Machine Programmer
CNC Tool Operator
Quality Assurance/Control Inspector
Manufacturing Production Technician

SALARY RANGE

\$38,565-\$48,204
(\$18.54 - \$23.18 / hr)



ENGINEERING TECHNOLOGY: COMPUTER AIDED DESIGN CERTIFICATE

Competencies: Prepares students for employment in a variety of architectural, mechanical and CAD drafting and designer positions.

Learn more about the competencies at www.middlesex.mass.edu/catalog

JOB OPTIONS

Architectural Drafter
Civil CAD Drafter
Millwork Drafter
Staff Structural Detailer
Electrical Drafter

SALARY RANGE

\$30,540-\$38,180
(\$14.68 - \$18.36 / hr)



ENGINEERING TECHNOLOGY: COMPUTER AIDED DESIGN ASSOCIATE DEGREE

Competencies: Prepares students for careers with emphasis on Mechanical Computer Aided Design (CAD) Drafting and Design, basic Electro/Mechanical and Printed Circuit Board layout and entry level Architectural CAD.

Learn more about the competencies at www.middlesex.mass.edu/catalog

JOB OPTIONS

Architectural and Civil Drafter
Electrical and Electronics Drafter
Mechanical Drafting Technician

SALARY RANGE

\$37,811-\$43,651
(\$18.18 - \$21.00 / hr)





ENGINEERING SCIENCE TRANSFER: MECHANICAL ENGINEERING A.S.

Competencies: Prepares students for transfer to an engineering bachelor degree program and employment in a variety of technical positions.

Learn more about the competencies at www.middlesex.mass.edu/catalog

JOB OPTIONS

Mechanical Technologist
Mechanical Engineering Technician
Electrometrical Engineering Technician
Industrial Engineering Technician
Robotics Technician

SALARY RANGE

\$39,985-\$40,985
(\$19.22 - \$19.70 / hr)



ENGINEERING SCIENCE TRANSFER: CIVIL/ENVIRONMENTAL ENGINEERING A.S.

Competencies: Prepares students for transfer to an engineering bachelor degree program and employment in a variety of positions.

Learn more about the competencies at www.middlesex.mass.edu/catalog

JOB OPTIONS

Civil Engineering Technician
Surveying Technician
Construction and Building Inspector

SALARY RANGE

\$41,130-\$42,360
(\$19.77 - \$20.37 / hr)



CAREER GROWTH

Job opportunities for those with a Bachelor's degree, depending upon the major, include: Mechanical Engineer, Materials Engineer, Industrial/Manufacturing Engineer, Civil Engineer, Construction Engineer, Transportation Engineer, City /Town Engineer.



Learn more about Advanced Manufacturing, CAD and Engineering jobs, salaries, required education, and employment outlook by visiting <http://www.bls.gov/ooh/> or http://lmi2.detma.org/lmi/lmi_oes_a.asp#3.



Average **starting salary** for students earning a **Bachelor's degree** is **\$57,830-\$68,000 ***

*Depending on the major

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