

Pre-Engineering (PRE.EGR.AAS)

Associate in Applied Science

Engineering/Manufacturing and Industrial Technology

Auburn Hills Campus

The Pre-Engineering program provides students with the academic foundation needed for transfer to a bachelor's degree program in engineering science. OCC offers three engineering focus areas – Electrical/Computer, Mechanical/Civil, and Industrial. Students earn an Associate of Applied Science degree and are prepared to enter their bachelor's degree program with about half of the required credits already completed.

Students are strongly encouraged to work with counselors at the intended transferring institution to maximize course transferability. Students must meet the requirements set by the institution they will transfer to. Completing the Pre-Engineering degree does not guarantee acceptance at another college or university.

Although most students will transfer to a 4-year engineering institution, students who consider this to be their terminal degree are qualified to work as engineering technicians within the electrical, mechanical, computer, or industrial industry.

Program Plan Example - E (<https://www.oaklandcc.edu/programs/plans/2021/O/opa.ct.2021.pdf>) Electrical Computer Focus Area (<https://www.oaklandcc.edu/programs/plans/2021/P/pre.egr.aas.2021.electricalcomputerfocus.pdf>)

Program Plan Example - Industrial Focus Area (<https://www.oaklandcc.edu/programs/plans/2021/P/pre.egr.aas.2021.industrialfocus.pdf>)

Program Plan Example - Mechanical Civil Focus Area (<https://www.oaklandcc.edu/programs/plans/2021/P/pre.egr.aas.2021.mechanicalcivilfocus.pdf>)

Code	Title	Credit Hours
Major Requirements		
CHE 1510	General Chemistry I	4
EGR 2010	Engineering Programming	4
ENG 1510 or ENG 1510E	Composition I Enhanced	3 4
ENG 1520 or ENG 2200	Composition II Professional Communication	3 4
MAT 1730	Calculus I	4
MAT 1740	Calculus II	4
MAT 2740	Calculus III	4
MAT 2810	Differential Equations	4
PHY 2400	Engineering Physics I	5
PHY 2500	Engineering Physics II	5
Required Supportive Courses		12-14

Complete one of the following focus areas.

Electrical/Computer Focus Area

EGR 2060	Engineering Digital Circuits	4
EGR 2080	Engineering Microcontrollers	4
EGR 2700	Engineering Circuits I	5

Mechanical/Civil Focus Area

CAD 1201	Introduction to Engineering Graphics	4
EGR 2100	Statics	3
EGR 2200	Mechanics of Materials	3
EGR 2500	Dynamics	3

Industrial Option Focus Area - Select 3 Courses

CAD 1201	Introduction to Engineering Graphics	4
MAT 1580	Statistics	4
ROB 2040	Programmable Controller Applications	4
ROB 2140	Advanced Programmable Controllers Applications	4

Total Credit Hours for Program-Related Courses **52-53**

General Education Requirements

Communication / English (3-credits)

Satisfied

Fine Arts / Humanities (6-credits) **6**

Complete 6 credits from Fine Arts/Humanities courses listed in the General Education Distribution List (<http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#fine-arts-humanities>)

Mathematics / Science (3-credits)

Satisfied

Social Science (6-credits) **6**

Complete 6 credits from Social Science courses listed in the General Education Distribution List (<http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#social-science>)

Written Communication (3-credits)

Satisfied

Total Credit Hours **64-67**

A minimum cumulative 2.00 grade point average (GPA) overall is required for graduation.