

# 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 Webpage** - Click Here (<https://www.oaklandcc.edu/programs/pre/>)

**Program Outcomes and Full Time Plan Example** - Electrical Computer Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.electrical.aas>)

**Program Outcomes and Part Time Plan Example** - Electrical Computer Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.electrical.aas-pt/>)

**Program Outcomes and Full Time Plan Example** - Industrial Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.industrial.aas>)

**Program Outcomes and Part Time Plan Example** - Industrial Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.industrial.aas-pt/>)

**Program Outcomes and Full Time Plan Example** - Mechanical Civil Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.mechanical.aas>)

**Program Outcomes and Part Time Plan Example** - Mechanical Civil Focus Area (<https://www.oaklandcc.edu/program-plan/pre.egr.mechanical.aas-pt/>)

Code	Title	Credit Hours
<b>Major Requirements</b>		
CHE 1510	General Chemistry I	4
EGR 1100	Introduction to Engineering	3
EGR 2010	Engineering Programming	4
ENG 1510	Composition I	3

or ENG 1510E	Composition I Enhanced	4
ENG 1520 or ENG 2200	Composition II Professional Communication	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

**Complete one of the following focus areas.**

#### Electrical/Computer Focus Area

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

#### Mechanical/Civil Focus Area

CAD 1201	Introduction to Engineering Graphics	4
EGR 2100	Statics	3
EGR 2500	Dynamics	3

#### Industrial Option Focus Area

ROB 2040	Programmable Controller Applications	4
Additional Requirement Select 1 of 3 Courses		
CAD 1201	Introduction to Engineering Graphics	4
MAT 1580	Statistics	4
ROB 2140	Advanced Programmable Controllers Applications	4

**Total Credit Hours for Program-Related Courses** **8-10**

### General Education Requirements

#### Communication / English (3-credits)

Satisfied

**Fine Arts / Humanities (6-8 credits)** **6-8**

Complete two courses from the Fine Arts/ Humanities Michigan Transfer Agreement Distribution list. These courses must be taken in more than one academic discipline and must be completed with a grade of "C" (2.0) or higher. (<http://catalog.oaklandcc.edu/graduation-requirements/michigan-transfer-agreement/#mta-fine-arts-humanities>)

#### Mathematics / Science (3-credits)

Satisfied

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

Complete two courses from the Social Sciences Michigan Transfer Agreement Distribution list. These courses must be taken in more than one academic discipline and must be completed with a grade of "C" (2.0) or higher. (<http://catalog.oaklandcc.edu/graduation-requirements/michigan-transfer-agreement/#mta-social-sciences>)

**Written Communication (3-credits)**

Satisfied

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**Total Credit Hours**

**63-67**

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