

# Engineering -- Pre-Engineering

## Associate in Science

Minimum of 62 Credits

Pre-engineering students learn about fundamental engineering principles and how they are applied to real life problems. At Oklahoma City Community College, the Pre-Engineering Program is designed especially for students who want to complete a bachelor's or advanced degree in any of the various branches of engineering. Courses cover subjects such as Engineering Graphics and Design, Statics, Dynamics, Strength of Materials, Thermodynamics, Electrical Science, Fluid Mechanics and Programming. Students in pre-engineering are often interested in chemistry, physics, mathematics, technology, computers and electronics. Degrees in pre-engineering prepare students to continue studies at a four-year college or university. Once students graduate, they find career opportunities with industry or government in any of more than 30 branches of engineering.

Course #	Course Name	Credits	Type	Prerequisites
<b>Suggested Freshman 1st Semester</b>				
SCL 1001	SUCCESS IN COLLEGE AND LIFE	1	Life Skills	None
MATH 2104	CALCULUS AND ANALYTIC GEOMETRY I	4	Gen Ed	(R) (W), MATH 1533 and MATH 1613 or adequate Math Placement Test Score
CHEM 1115	GENERAL CHEMISTRY I	5	Gen Ed	(R) (W), MATH 1513 or MATH 1533 or both MATH 0123 and High School Chemistry or CHEM 0123 or CHEM 1123
ENGL 1113	ENGLISH COMPOSITION I	3	Gen Ed	(R) (W), Adequate reading and writing assessment scores or LS 0033 College Writing II, either taken within the last year, with strong encouragement for immediate continuation.
HUM	* HUMANITIES ELECTIVE	3	Gen Ed	
<b>Suggested Freshman 2nd Semester</b>				
MATH 2214	CALCULUS AND ANALYTIC GEOMETRY II	4	Gen Ed	(R) (W), MATH 2104 or equivalent within the last year
ENGL 1213	ENGLISH COMPOSITION II	3	Gen Ed	(R) (W), ENGL 1113 English Composition I taken within the last year, with strong encouragement for immediate continuation.
HIST 1483	U.S. HISTORY TO THE CIVIL WAR --OR--		Gen Ed	(R) (W)
HIST 1493	U.S. HISTORY SINCE THE CIVIL WAR	3	Gen Ed	(R) (W)
PHYS 2014	ENGINEERING PHYSICS I	4	Gen Ed	(R) (W), MATH 2104 (or at least 4 hours of calculus) within the last year or Evaluation by Instructor Prerequisite or Corequisite: MATH 2214
<b>Suggested Sophomore 1st Semester</b>				
MATH 2314	CALCULUS AND ANALYTIC GEOMETRY III	4	Support	(R) (W), MATH 2214 or equivalent within the last year
ENGR 2003	(C) ENGINEERING PRACTICE I	3	Major	English 1213, English Composition II
PHYS 2114	ENGINEERING PHYSICS II	4	Gen Ed	(R) (W), PHYS 2014 and MATH 2214 (or at least 8 hours of calculus) within the last year or Evaluation by Instructor Prerequisite or Corequisite: MATH 2314
ENGR 2133	(C) RIGID BODY MECHANICS --OR--		Major	(R) (W), PHYS 2014
ENGR 2243	(C) STATICS	3	Major	(R), (M) PHYS 2014
SOC SC	* SOCIAL SCIENCE ELECTIVE	3	Gen Ed	
<b>Suggested Sophomore 2nd Semester</b>				
POLSC 1113	AMERICAN FEDERAL GOVERNMENT	3	Gen Ed	(R) (W)
FA ENGL	** (C) FACULTY APPROVED ELECTIVE FROM ENGL OR COM	3	Major	
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FA SUPPORT	*** FACULTY APPROVED SUPPORT ELECTIVES	3-5	Support	
HUM	* HUMANITIES ELECTIVE	3	Gen Ed	

Major Courses: (12-credit hours) Engineering: (C)ENGR 2003; (C)ENGR 2133 or (C)ENGR 2243; and two more Faculty Advisor approved courses selected from (C)ENGR 1213; (C)ENGR 2103; (C)ENGR 2143; (C)ENGR 2313; (C)ENGR 2333; (C)ENGR 2343; (C)ENGR 2523; (C)ENGR 2613

General Education Courses: (42 credit hours) English: ENGL 1113; ENGL 1213; History: HIST 1483 or HIST 1493; Political Science: POLSC 1113; Chemistry: CHEM 1115; Physics: PHYS 2014; PHYS 2114; Mathematics: MATH 2104, MATH 2214; Humanities: Six credit hours; Social Sciences: Three credit hours

Life Skills Courses: (1 credit hour) Life Skills: SCL 1001

Support Courses: (7-9 credit hours) Mathematics: MATH 2314; 3-5 credit hours of Faculty Advisor approved Support Electives selected from (C)ENGR 1213; (C)ENGR 2103; (C)ENGR 2143; (C)ENGR 2243; (C)ENGR 2313; (C)ENGR 2333; (C)ENGR 2343; (C)ENGR 2523; (C)ENGR 2613; CHEM 1215; CHEM 2115; CHEM 2125; CS 2163; CS 2363; MATH 2013; MATH 2413; PHYS 2223.

Notes: This program is designed for students planning to continue their education at a four-year college or university. See University Parallel/Transfer Programs for information and requirements in the general information section of the catalog. \*Should select the course appropriate to the student's transfer institution.

\*\*Approved Engineering Elective selected from (C)ENGR 1213; (C)ENGR 2103; (C)ENGR 2143; (C)ENGR 2243; (C)ENGR 2313; (C)ENGR 2333; (C)ENGR 2343; (C)ENGR 2523; (C)ENGR 2613

\*\*\*Approved Support Elective selected from (C)ENGR 1213; (C)ENGR 2103; (C)ENGR 2143; (C)ENGR 2243; (C)ENGR 2313; (C)ENGR 2333; (C)ENGR 2343; (C)ENGR 2523; (C)ENGR 2613; CHEM 1215; CHEM 2115; CHEM 2125; CS 2163; CS 2363; MATH 2013; MATH 2413; PHYS 2223

(C)A grade of "C" or higher must be achieved.