# Engineering Technology

**Associate in Applied Science**

*Minimum of 63 credit hours*

The Engineering Technology program will allow students to use their Federal Aviation Administration Airframe and Powerplant certification to earn a degree that will help them diversify in the workplace. Required major and general education courses are offered at Oklahoma City Community College. Support hours for this program are completed through successful completion of the FAA Airframe and Powerplant licensure Prior Learning Assessment.

## Course Sequence

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<th>Course ID</th>
<th>Course Name</th>
<th>Credits</th>
<th>Type</th>
<th>Min Gd</th>
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<tr>
<td><strong>Suggested Freshman 1st Semester</strong></td>
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<tr>
<td>SCL 1001</td>
<td>Success in College and Life</td>
<td>1</td>
<td>Life Skills</td>
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<tr>
<td>ENGL 1113</td>
<td>English Composition I</td>
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<tr>
<td>MATH 1513</td>
<td>College Algebra for Business, Life Sciences and Social Sciences</td>
<td>OR</td>
<td>Major</td>
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<tr>
<td>CS 1103</td>
<td>Introduction to Computers and Applications</td>
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<td>ENGR 1113</td>
<td>Introduction to Engineering</td>
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<td>Major</td>
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<td><strong>Suggested Freshman 2nd Semester</strong></td>
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<td>HIST 1483</td>
<td>U.S. History to The Civil War</td>
<td>OR</td>
<td>Gen Ed</td>
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<td>HIST 1493</td>
<td>U.S. History Since The Civil War</td>
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<td>CAT 1043</td>
<td>Engineering Principles</td>
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<td>Major</td>
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<td><strong>Suggested Sophomore 1st Semester</strong></td>
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<tr>
<td>MATH 1613</td>
<td>Trigonometry</td>
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<td>Major</td>
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<td>CAT 1214</td>
<td>Computer Aided Design (CAD)</td>
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<tr>
<td>PLA</td>
<td>Prior Learning Assessment</td>
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<td>Support</td>
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</table>

## Course Grouping

Major Courses: 15 credit hours - CAT 1043; CAT 1214; ENGR 1113; MATH 1513 or MATH 1533; MATH 1613
General Education Courses: 18 credit hours- English: ENGL 1113; ENGL 1213; History: HIST 1483 or HIST 1493; Political Science: POLSC 1113;
Computer Science: CS 1103; Three Credits General Education Elective
Life Skills Courses: 1 credit hour- Life Skills: SCL 1001
Support Courses: 28 credit hours- PLA (Prior Learning Assessment credit based on National Certification(s))*

## Program Notes

Notes: This Technical and Occupational program is designed to prepare students to enter the job force following completion. See Technical and Occupational Programs in the general information section of the catalog.
Prior Learning Assessment (PLA) is contingent upon successful completion of the national FAA Airframe and Powerplant certification, and meeting resident credit hour requirements.
CAT 1043 - Engineering Principles
Prerequisites: Math 0103 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits The student will use computational techniques and computer-aided drawing to create, analyze and graphically represent solutions to architectural and engineering problems, reflecting national, international and professional norms and standards. The student will be able to describe and demonstrate familiarity with the functions and responsibilities of research, manufacturing, construction and quality assurance involved in the solutions of a variety of engineering and architectural problems. This course satisfies the computer proficiency requirement.

CAT 1214 - Computer Aided Design (CAD)
Prerequisites: Math 0103 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures
4 Credits The student will learn and demonstrate the proper use of computer-aided design software as a design tool in fields such as Engineering, Architectural and Multimedia. Emphasis will be on computer-aided design fundamentals such as creating, editing and printing of 2D computer-aided design documents. The student will demonstrate his or her understanding of the structure, use and development of computer-aided design documents by correctly creating, using and storing computer-aided design documents. This course satisfies the computer proficiency requirement.

CS 1103 - Introduction to Computers and Applications
Prerequisites: Math 0103 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits This hands-on course affords students a basic understanding of computers and their application. Upon completion of this course, the student will be able to demonstrate the ability to use a computer operating system, an office suite, productivity tools, as well as the Internet at an introductory level. Advanced Standing is available. This course satisfies the computer proficiency requirement.

ENGL 1113 - English Composition I
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions.

ENGL 1213 - English Composition II
Prerequisites: ENGL 1103 or ENGL 1113 taken within the last year, with strong encouragement for immediate continuation. 3 Credits In this advanced writing course, students will create essays that explore and evaluate a variety of issues and perspectives suggested by fiction, poetry, drama, essays, and other types of cultural texts. Students will refine and augment the writing techniques they learned in ENGL 1113 or ENGL 1103 to develop well-reasoned, well-structured arguments in a clear, fluid, and engaging prose style.

ENGL 1233 - Technical Writing for the Workplace
Prerequisites: ENGL 1113 or ENGL 1103; MATH 0203 College Prep Math II or adequate Math Placement Test Score
3 Credits This course will expose students to technical communication and will allow students to practice professional methods of writing in the workplace. In addition to constructing technical documents appropriate for use in professional and job-related environments, students will learn about rhetorical methods for presenting technical information in ethical and formal prose designed for clear and effective communication with employers and colleagues. This course will equip the student with written and oral communication skills necessary for sharing information and discussing content in professional settings; developing an awareness of technical genres; utilizing technological platforms for constructing documents; using visuals and graphics professionally; writing professional correspondence; constructing reports; designing project proposals, and composing instructions.

ENGR 1113 - Introduction to Engineering
Prerequisites: MATH 1613 with a grade of "C" or better
3 Credits The student will demonstrate familiarity with basic methods and techniques of engineering by recording, analyzing, and presenting solutions in writing to a variety of engineering problems. The student will utilize (1) the engineering language including terminology and graphing and (2) computational techniques based on the calculator, computer, and dimensional analysis. This course satisfies the computer proficiency requirement.

HIST 1483 - U.S. History to The Civil War
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits After analyzing events in American history from 1400 to 1877 in such areas as revolution, geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student's search for change, precedents, and conflict in the American past. A general education requirement.

HIST 1493 - U.S. History Since The Civil War
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits After analyzing events in American history from 1870 to the present in such areas as political reform, industrialization, urbanization, ethnic acculturation and war, the student will be able to identify meaningful changes in his society, identify equal rights in that society, and help resolve conflict in this society based on the students search for change, equal rights and conflicts in the American past.

MATH 1513 - College Algebra for Sciences
Prerequisites: MATH 0403 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits This hands-on course affords students for whom Calculus and Analytic Geometry is a requirement. Topics will include conic sections, systems of equations (both linear and nonlinear), and a general introduction to functions and their graphs, including transformations and properties of functions.
discussion of functions with emphasis on polynomial, rational, exponential, and logarithmic functions.

**MATH 1613 - Trigonometry**
*Prerequisites: Pre or Corequisite: MATH 1513 or MATH 1533 or adequate math placement test score and ENGL 0203, adequate placement score, or by meeting determined placement measures*

3 Credits  The student will evaluate trigonometric functions and their inverses, graph trigonometric functions, prove trigonometric identities, solve trigonometric equations, solve problems involving triangles and indirect measurement, use trigonometric forms of complex numbers, and identify and graph polar curves.

**PLA - Prior Learning Assessment**
*Prerequisites: None*

**VARIABLE Credits**

**POLSC 1113 - American Federal Government**
*Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures*

3 Credits  A study of the principles, structure, processes and functions of the United States federal government.

**SCL 1001 - Success in College and Life**
*Prerequisites: ENGL 0106 or adequate reading/writing assessment scores*

1 Credit  Students will learn best practices for academic, career, and personal success. Students will discover their individual strengths, interests, and values to create a personalized plan; select and utilize resources that are applicable to their growth and success; and engage as active and responsible members of the academic community. This course should be taken during a student’s first semester of college work at Oklahoma City Community College and is a required course in degree plans to satisfy the Life Skills requirement.