

Computer-Aided Technology - Computer-Aided Design (Certificate)

Certificate of Mastery

Minimum of 19 credit hours

Computer-aided design (CAD) is the tool designers, engineers, architects and other skilled workers use to create 3D models and 2D construction and manufacturing drawings. CAD technicians are in high demand in a number of different industries. And, you could be, too, with a certificate of mastery in computer-aided design from Oklahoma City Community College. Architectural firms, engineering firms, manufacturers, construction companies, municipalities and government agencies are all relying on skilled CAD technicians to keep up with the constant changes in technology. You could design planes, automobiles or buildings with a computer-aided design certificate from OCCC. This is a fast-track program if you're looking to take just the core courses in computer-aided design or if you're a professional who would like to enhance your skills.

Course Sequence

Course ID	Course Name	Credits	Type	Min Gd
Term 1				
CAT 1043	Engineering Principles	3	Major	
CAT 1214	Computer Aided Design (CAD)	4	Major	
Term 2				
CAT 1253	CAD 3D Parametric Modeling	3	Major	
FA CAD CERT SUP ELEC	CAD Faculty Approved Support Electives	3	Major	
Term 3				
CAT 2540	Applications in CAD	3	Major	
CAT 2540	Applications in CAD	OR^	Major	
CAT 2703	Practicum	3*	Major	
Term 4				
CAT 2540	Applications in CAD	OR^	Major	
CAT 2703	Practicum	*	Major	
*16-week course offered during two 8-week terms				
^Take CAT 2540 (8-week course) in Term 3 and again in Term 4 with a different project emphasis OR take CAT 2540 in Term 3 AND CAT 2703 (16-week course) over Terms 3-4				

Course Grouping

Major Courses: (19 credit hours)

Computer-Aided Technology: CAT 1043, CAT 1214, CAT 1253, CAT 2540 (6 hrs: Take twice with different project emphasis) or CAT 2540 (3 hrs) & CAT 2703

Electives: Faculty Approved Electives (3 hrs) must have an ART, CAT, CS, ENGR or DMD prefix

General Education Courses: None

Life Skills Courses: None

Support Courses: None

Program Notes

Notes: A Certificate of Mastery program is designed to meet the needs of an individual who wants to enter the job market following the completion of the certificate.

Degree Program Course Descriptions

CAT 1043 - Engineering Principles

Prerequisites: Math 0103 or adequate math placement; 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; 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.

CAT 1253 - CAD 3D Parametric Modeling

Prerequisites: Math 0203 or adequate math placement; ENGL 0203, adequate placement score, or by meeting determined placement measures

3 Credits This course is an introduction to 3D parametric modeling techniques and concepts. The student will create 3D models and assemblies from 2D sketches using parametric dimensioning and constraints. This course satisfies the computer proficiency requirement.

CAT 2540 - Applications in CAD

Prerequisites: CAT 1043 and CAT 1214 or by evaluation. § Criteria for evaluation is in division office.

Credit VARIABLE 1 The student will use a Computer-Aided Design System to produce solutions to typical problems encountered in industry. The student will demonstrate his or her ability to understand the principles of

design, visualization, projection, analysis and product quality by producing a set of working drawings and presenting their work to a group of their peers. This course may be repeated with a different content. This course satisfies the computer proficiency requirement.

CAT 2703 - Practicum

Prerequisites: 12 hours of CAT or by evaluation. § Criteria for evaluation is in division office.

3 Credits The Practicum is a course designed to monitor students in an on-site job location. The student will report to and receive supervision by the employer during the course of the semester. The student will demonstrate the ability to work effectively in a commercial setting, toward satisfying objectives prescribed by the instructor and the participating employer. Work objectives will be consistent with meaningful career learning experiences. This course satisfies the computer proficiency requirement.

FA CAD CERT SUP ELEC - CAD Faculty Approved Support Electives

3 Credits Faculty approved electives: any 3 credits course with an ART, CAT, CS, ENGR or DMD prefix.