

# Computer Aided Design (CADD)

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## Courses

### ***CADD 1101 Drafting Technology Theory I: 2 semester hours.***

Basic drafting fundamentals and theory. Includes lettering, linework, spatial visualization, multiview drawings, sections, auxiliaries, dimensioning, and notation. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 1108 and CADD 1109. F

### ***CADD 1108 Introduction to CAD: 4 semester hours.***

Basic CAD skills taught in the 2-D AutoCAD environment to include computer skills, drawing environment, annotation, shape creation and manipulation, and plotting. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 1101. F

### ***CADD 1109 Drafting Applied Algebra: 2 semester hours.***

Algebraic solutions, word problems, equations and graphing concepts, ratio and proportion, and metric system relating to design drafting applications. PREREQ: Minimum score of 30 on ALEKS or equivalent. F

### ***CADD 1111 Drafting Technology Theory II: 2 semester hours.***

Additional drafting fundamentals and theory to include size tolerancing, isometric projection, welding symbology, gearing, threads and fasteners, manufacturing processes, and axonometric projection. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 1101 and CADD 1108. F

### ***CADD 1119 Drafting Applied Descriptive Geometry: 2 semester hours.***

Descriptive geometry applications related to design drafting explored. PREREQ: Minimum score of 30 on ALEKS or equivalent, CADD 1109 or CADD 2209. F

### ***CADD 1121 Mechanical Drafting Technology Theory I: 2 semester hours.***

Drafting theory of welding symbology, geometric dimensioning and tolerancing, working drawings, assemblies, piping concepts, advanced dimensioning and tolerancing principles. Introduction to fundamentals of flat pattern layouts and 3D modeling. PREREQ: CADD 1111. COREQ: CADD 1122. PREREQ or COREQ: CADD 1129. S

### ***CADD 1122 Mechanical Drafting Technology Lab I: 3 semester hours.***

Apply Mechanical Drafting Technology Theory I including welding symbology, geometric dimensioning and tolerancing, working drawings and 3D modeling using CAD systems with emphasis on drawing details, assemblies, and subassemblies. Applications of advanced dimensioning and tolerancing principles, flat pattern layouts, revolutions, and piping. PREREQ: CADD 1108. COREQ: CADD 1121. S

### ***CADD 1129 Drafting Applied Analytic Geometry: 2 semester hours.***

Analytic geometry applications including intersections and revolutions. Solutions of problems relating to design drafting are emphasized. PREREQ: CADD 1119. S

### ***CADD 1137 Mechanical Drafting Technology Theory II: 2 semester hours.***

Instruction in drafting theory including advanced instruction in parametric 3D modeling using CAD systems. PREREQ: CADD 1121. COREQ: CADD 1138. PREREQ or COREQ CADD 1139. S

### ***CADD 1138 Mechanical Drafting Technology Laboratory II: 3 semester hours.***

Apply Mechanical Drafting Technology Theory II including application of Parametric Modeling Theory to create parametric 3D models using CAD systems. PREREQ: CADD 1122. COREQ: CADD 1137. S

### ***CADD 1139 Drafting Applied Trigonometry: 2 semester hours.***

Applications and solutions in trigonometry and vectors relating to design drafting. PREREQ: CADD 1129. S

### ***CADD 2207 Architectural Design Theory I: 2 semester hours.***

Fundamentals of residential architectural design, floor plans, elevations, room layout, aesthetic design, site plans, Universal Design, the National CAD Standard, and electrical symbology. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 2208 and CADD 2209. F

### ***CADD 2208 Architectural Design Laboratory I: 3 semester hours.***

Apply Architectural Design Theory I including documentation and modeling of residences using CAD systems. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 2207. F

### ***CADD 2209 Estimation Concepts: 2 semester hours.***

Introduction to statistics and probability and cost estimation concepts. Solutions of problems relating to design drafting are emphasized. PREREQ: Minimum score of 30 on ALEKS or equivalent. F

### ***CADD 2217 Architectural Design Theory II: 2 semester hours.***

Commercial architectural concepts and design theory. Commercial building design relating to design drafting emphasized. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 2207 and CADD 2218. F

### ***CADD 2218 Architectural Design Laboratory II: 3 semester hours.***

Application of Architectural Design Theory II including documentation and 3D modeling of commercial buildings using current Building Information Modeling (BIM) software. PREREQ: Minimum score of 30 on ALEKS or equivalent. COREQ: CADD 2208 and CADD 2217. F

### ***CADD 2227 Structural Steel Drafting Theory: 2 semester hours.***

Concepts of structural steel drafting and detailing including erection drawings and detailing of steel members. PREREQ: CADD 2217. COREQ: CADD 2228. S

### ***CADD 2228 Structural Steel Drafting Laboratory: 3 semester hours.***

Apply Structural Steel Drafting Theory including preparing structural steel detailing drawings using CAD systems, and structural steel drafting and detailing using a 3D modeling system. PREREQ: CADD 2218. COREQ: CADD 2227. S

### ***CADD 2247 Design Integration Theory: 2 semester hours.***

Concepts including Mechanical, Electrical, and Plumbing (MEP) building systems and graphic presentation methods explored. PREREQ: CADD 2227. COREQ: CADD 2248. S

### ***CADD 2248 Design Integration Laboratory: 3 semester hours.***

Applications of MEP building systems and graphic presentation methods including rendering and animation using CAD systems. PREREQ: CADD 2228. COREQ: CADD 2247. S

### ***CADD 2295 CADD Internship: 1-16 semester hours.***

Industrial work experience via a cooperative program for selected students. PREREQ: CADD major or permission of coordinator. F, S, Su

### ***CADD 2296 Independent Study: 1-8 semester hours.***

Addresses specific learning needs of individuals for the enhancement of knowledge and skills within the program area under the guidance of an instructor. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D

### ***CADD 2298 Special Topics: 1-8 semester hours.***

Addresses specific needs of industry, enabling student to upgrade technical skills that are not included in the current program curriculum. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D