

**LEVEL I CERTIFICATE: COMPUTER-AIDED DRAFTING**  
 (Student selects *CADD.CERI* as program of study on ApplyTexas)

[=10 <sup>th</sup> Grade (Fall)]		10 <sup>th</sup> Grade (Spring)	
*DFTG 1305- Introduction to Technical Drawing	3hrs	*DFTG 2319-Intermediate Computer-Aided Drafting	3hrs
11 <sup>th</sup> Grade (Fall)		11 <sup>th</sup> Grade (Spring)	
*DFTG 1333- Mechanical Drafting	3hrs	DFTG 2332- Advanced Computer-Aided Drafting	3hrs
12 <sup>th</sup> Grade (Fall)		12 <sup>th</sup> Grade (Spring)	
Technical Major or Drafting Elective ( <i>based on college pathway</i> )	3hrs	Technical Major or Drafting Elective ( <i>based on college pathway</i> )	3hrs

**Students may receive at least the three certificates prior to high school graduation.**

*Denotes courses in which industry certification exam prep and testing is offered.*

*DFTG 1305-Autodesk Certified User-AutoCAD*

*DFTG 2319-Autodesk Certified User-Revit-Imperial*

*DFTG 1333-Autodesk Certified User-Inventor*

**Suggested Technical Major or Drafting Electives**

**Architecture (Transfer Pathway)**

Fall ARCH 2301 Freehand Drawing I

Spring ARCH 1311 Intro to Architecture (**TSI required, 2-2-0**)

**Architectural Technology (Workforce Pathway)**

Fall DFTG 1317 Architectural Drafting: Residential

Spring DFTG 1345 Parametric Modeling

**Technical Drafting (Workforce Pathway)**

Fall DFTG 2323 Pipe Drafting

Spring DFTG 2345 Adv. Pipe Drafting (Prereq: DFTG 2323)

**Construction Management**

Fall CNBT 1300 Residential and Light Commercial Blueprint Reading

Spring CNBT 1311 Construction Materials and Methods I

**Engineering (Transfer Pathway)**

Fall ENGR 1201 Introduction to Engineering (**TSI required, 3-2-2**)

Spring ENGR 1304 Engineering Graphics I (**TSI required, 3-1-3**)

Or

Fall MATH 1314 College Algebra (**TSI required, 3-1-3**)

Spring MATH 1316 Plane Trigonometry (**TSI required, 3-1-3**)

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**Course Descriptions**

ARCH 1311- Introduction to Architecture	An introduction to architecture that explores the practices, principles, and wider context of architecture and design. Focuses on the role of architecture in society, culture, and the broader physical context of the built environment. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria: A.8 Cultural Diversity and Social Equity, and D.1 Stakeholder Roles in Architecture. <b>(R2, E2, M1)</b>
ARCH 2301- Architectural Freehand Drawing I	Development of freehand drawing skills in architecture. Methods and skills, including emphasis on principles of light, shade, scale, proportion, line, and tonal quality for exploring and developing conceptual ideas and for clear graphic presentations. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria: A.1 Professional Communication Skills, and A.4 Architecture Design Skills. <b>(R1, E1, M0)</b>
CNBT 1300- Residential and Light Commercial Construction Drawings	Introduction to construction drawings with a focus on residential and light commercial construction.
CNBT 1311 Construction Materials and Methods I	Introduction to construction materials and methods and their applications. <b>(R2, E1, M1)</b>
DFTG 1305- Introduction to Technical Drawing	An introduction to reading, interpreting, and developing technical drawings, including the principles of drafting and computer-aided design.
DFTG 1317- Architectural Drafting - Residential	Preparation of architectural drawings for residential structures with emphasis on light frame construction methods, including architectural drafting procedures, practices, terms, and symbols. R2, E1, M2
DFTG 1333- Mechanical Drafting	Preparation of mechanical drawings including dimensioning and tolerances, sectioning techniques, orthographic projection, and pictorial drawings.
DFTG 1345-Parametric Modeling and Design	Parametric-based design software for 3D design and drafting. <b>Prerequisite is DFTG 1305</b> (R1,E1,M1)
DFTG 2319- Intermediate Computer-Aided Drafting	A continuation of practices and techniques in computer-aided design including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3D.

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DFTG 2323- Pipe Drafting	A study of pipe fittings, symbols, specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. <b><i>Prerequisite is DFTG 1305</i></b>
DFTG 2332- Advanced Computer-Aided Drafting	Application of advanced CAD techniques.
DFTG 2345- Advanced Pipe Drafting	A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting, such as pipe fittings, symbols, specifications and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics. <b><i>Prerequisite is DFTG 1305</i></b>
ENGR 1201-Introduction to Engineering	An introduction to engineering as a discipline and a profession. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society. <b>(R3-E2-M2)</b>
ENGR 1304-Engineering Graphics I	Methods of graphical communications, working drawings for design and production, data analysis, technical reports, computer graphics. Equal emphasis on computer-assisted design and traditional mechanical drafting techniques. <b><i>Prerequisites: MATH 1314 or equivalent academic preparation. (R3,E1,M3)</i></b>
MATH 1314- College Algebra	Polynomials, rational, radical, exponential, logarithmic functions, equations w/functions matrices; possibly sequences, series, probability and conics. <b>(R3,E1,M3)</b>
MATH 1316- Plane Trigonometry	In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. <b>(R3,E1,M3)</b>