

Manufacturing, Transportation & Industrial Technology

GUIDED PATHWAY: COMPUTER AIDED DRAFTING AND DESIGN TECHNOLOGY

(Certificate, AAS)

Computer Technology Department



This template demonstrates the course sequence for students interested in pursuing an award in Computer Aided Drafting and Design Technology. It does not represent a contract, nor does it guarantee course availability. Following this pathway will help you earn an Computer Aided Drafting and Design Technology, Associate in Applied Science Degree (D); CAD Draftsman, Certificate I (C1), or CAD Draftsman Certificate II (C2) in Computer Aided Drafting and Design Technology¹.

The program incorporates a multitude of skillsets, including solid modeling design, drone aviation technology, residential and commercial architecture, civil drafting, cartography, surveying, and Geographic Information Systems (GIS). The program utilizes industry based CAD software, including AutoCAD, AutoCAD Architecture, Land Development Desktop, Civil-3D, Revit, Inventor, Solid Works, and ESRI. In addition, the program provides instruction in the use of plotters, surveying instruments, drone navigation, and 3D printers.

The structure of the curriculum is designed to provide exit points for students desiring immediate entry into the workforce. The CAD Draftsman Certificate I consist of 24 hours; the CAD Draftsman Certificate II consists of 45 hours. The Computer Aided Drafting program offers multiple Occupational Skills Awards(OSA) that are a component of certificate I and II awards.

COLLEGE READINESS REQUIREMENTS (only for the AAS)

Enrolling in one or more courses may be necessary if assessment activities and previous academic experiences indicate a need for additional knowledge and skills:

READING & WRITING PLACEMENT	MATH PLACEMENT	ENGLISH LANGUAGE PROFICIENCY
TSI MET: YES NO IF NO, ADVISOR INSERT COURSE(S) NEEDED <input type="checkbox"/> INRW _____ <input type="checkbox"/> OTHER: _____	TSI MET: YES NO IF NO, ADVISOR INSERT COURSE(S) NEEDED <input type="checkbox"/> DEV MATH _____ <input type="checkbox"/> OTHER: _____	TSI MET: YES NO IF NO, ADVISOR INSERT COURSE(S) NEEDED <input type="checkbox"/> ESOL _____ <input type="checkbox"/> OTHER: _____

Exemptions/waivers may exist. Speak with an academic advisor regarding placement in college readiness courses and your ability to enroll in core academic coursework.

SEMESTER BY SEMESTER MAP FOR FULL-TIME STUDENTS²

D	C2	C1	SEMESTER 1	ACTION ITEMS
◆	◆	◆	DFTG 1305 – Introduction to Technical Drafting	<input type="checkbox"/> Meet with your advisor to confirm academic and career goals before the end of the semester. <input type="checkbox"/> Meet with a career advisor or instructor to research your career options and opportunities for job shadowing.
◆	◆	◆	DFTG 1309 – Basic Computer-Aided Drafting	
◆	◆	◆	GISC 1311 – Introduction to Geographic Information Systems	
◆	◆	◆	DFTG 2330 – Civil Drafting I	

TOTAL SEMESTER CREDIT HOURS: 12

D	C2	C1	SEMESTER 2	ACTION ITEMS
◆	◆	◆	DFTG 2340 – Solid Modeling/Design	<input type="checkbox"/> Meet with your advisor to file and official degree plan, confirm or update your academic/career path and program of study. Apply for the CAD Draftsman, Certificate I (C1).
◆	◆	◆	DFTG 2321 – Topographical Drafting	
◆	◆	◆	DFTG 1317 – Architectural Drafting - Residential	
◆	◆	◆	GISC 2320 – Intermediate Geographic Information Systems	

TOTAL SEMESTER CREDIT HOURS: 12

D	C2	C1	SUMMER SESSION I	ACTION ITEMS
◆	◆	◆	DFTG 2312 – Technical Illustration and Presentation	<input type="checkbox"/>

TOTAL SEMESTER CREDIT HOURS: 3

D	C2	C1	SUMMER SESSION II	ACTION ITEMS
◆	◆	◆	Elective – Mathematics Elective (C)	<input type="checkbox"/>

TOTAL SEMESTER CREDIT HOURS: 3

D	C2	C1	SEMESTER 3	ACTION ITEMS
◆	◆	◆	DFTG 2323 – Pipe Drafting	<input type="checkbox"/> Meet with your advisor to file and official degree plan, confirm or update your academic/career path and program of study. Apply for the CAD Draftsman, Certificate II (C2).
◆	◆	◆	SRVY 2348 – Plane Surveying	
◆	◆	◆	ENGL 1301 – Composition I (C)	
◆	◆	◆	DFTG 2328 – Architectural Drafting Commercial	
◆	◆	◆	Elective – Speech Elective (C)	

TOTAL SEMESTER CREDIT HOURS: 15

Course map continued on reverse side

D	C2	C1	SEMESTER 4	ACTION ITEMS
◆	◆	◆	DFTG 2281 – Cooperative Education – Drafting and Design Technology/Technician General	After reviewing your degree plan and program of study apply for graduation.
◆	◆	◆	DFTG 2332 – Advanced Computer – Aided Drafting ³	<input type="checkbox"/> Meet with your advisor to apply for Computer Aided
◆	◆	◆	ARCE 2444 – Statics and Strength of Materials	

			(Student may take PHYS 1301 and PHYS101 or Math 2412 as an alternative)	Drafting and Design Technology, Associate in Applied Science Degree. Sign up for commencement
◆			Elective – Language, Philosophy and Culture/Creative Arts Elective (C)	
◆			Elective – American History/Government/Political Science/Social and Behavioral Science Elective (C)	

TOTAL SEMESTER CREDIT HOURS: 15**AAS DEGREE MINIMUM: 60 SEMESTER CREDIT HOURS/PATHWAY TOTAL: 60 SEMESTER CREDIT HOURS**

1. Degree plans may change in subsequent catalogs. Be sure to consult with your advisor if you are following an older degree plan.
 2. Students must earn at least 25% of the program credit hours (15 hours) through instruction by Laredo College.
 3. CAPSTONE Course: The learning experience in this course results in a consolidation of a student's educational experience.
- (C) This course is in the LC Core Curriculum, if core complete, credits will transfer to any public college or university in Texas.

Certification and Licensure Information

Autodesk Certified Associate

Career Information

Common Job Titles

CAD Draftsman (Computer-Aided Design Draftsman)

Surveying and Mapping Technicians

Drafters

Regional Labor Market Information

Drafters use software to convert the designs of engineers and architects into technical drawings. Although drafters spend much of their time working on computers in an office, some may visit jobsites in order to collaborate with architects and engineers. Most drafters work full time. Drafters typically complete education after high school, often through a program at a community college or technical school. Some programs lead to an associate of applied science in drafting or a related degree. Others result in a certificate or diploma. The median annual wage for drafters was \$56,830 in May 2019. Employment growth will vary by specialty.

Source: <https://www.bls.gov/ooh/architecture-and-engineering/drafters.htm>

Career and labor market research tools

(see Quick Reference Guide at Bureau of Labor Statistics: <http://www.bls.gov/ooh/>, O*NET: <https://www.onetonline.org/>)

Career Resources: Students are encouraged to consult with their area of study advisor for additional career assistance. The above information is provided as a guide and reference tool for occupations related to this program. This is not a guarantee of job placement in any of these occupations after successful completion of an LC program. The common job titles listed are representative titles and are provided for career research. These are not the only occupations possible in this area of study.

Transfer Information

The Associate of Applied Science prepares students to directly enter the workforce; however, a Bachelor of Applied Arts and Sciences (BAAS) or Bachelor of Technology (BAT) degree can further a student's knowledge and probability for employment success. Baccalaureate degrees must meet general education requirements and completion of upper level courses.

Transfer Guides: The universities listed here do not constitute a Laredo College endorsement. Transfer course evaluations and determination of which courses will count toward a Bachelor's degree are made by the receiving transfer institution.

Texas A&M International University: <http://www.tamtu.edu>

South Texas College: <http://www.SouthTexas.edu>

Additional Transfer Resources: Students are encouraged to consult with a faculty advisor, area of study advisor, and/or their chosen transfer institution to ensure courses taken at LC will apply toward their bachelor's degree program.