

Program Planning Guide

Computer-Aided Drafting Technology, Diploma (D50150)

Program Length: 4 semesters

Career Pathway Options: Associate in Applied Science in Computer-Aided Drafting Technology; Diploma in Computer-Aided Drafting

Program Sites: Lee Main Campus - Day Program

Suggested Course Schedule:	HOURS			Grade	Semester	Notes
	Class	Lab	Credit			
1st Semester (Fall)						
BPR 111	Print Reading	1	2	2		
CIS 110	Introduction to Computers	2	2	3		
DFT 111	Technical Drafting I	1	3	2		
DFT 151	CAD I	2	3	3		
		6	10	10		
2nd Semester (Spring)						
BPR 121	Blueprint Reading: Mechanical	1	2	2		
DFT 153	CAD III	2	3	3		
DDF 211	Design Process I	1	6	4		
MEC 161	Manufacturing Processes I	3	0	3		
MEC 161A	Manufacturing Processes I Lab	0	3	1		
DFT 154	Intro to Solid Modeling	2	3	3		
		9	17	16		
3rd Semester (Fall)						
ENG 110	Freshman Composition	3	0	3		
	OR ENG 111 Writing & Inquiry					
DFT 152	CAD II	2	3	3		
DFT 254	Intermediate Solid Model/Render	2	3	3		
MAT 121	Algebra & Trigonometry	2	2	3		
		9	8	12		
4th Semester (Spring)						
DFT 211	Gears, Cams & Pulleys	1	3	2		

Total Semester Hours Credit: 40

Course Descriptions:

BPR 111 Print Reading 1-2-2
 This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

BPR 121 Blueprint Reading: Mechanical 1-2-2
Take one--Prerequisite: BPR 111 or MAC 131
 This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

CIS 110 Introduction to Computers 2-2-3
 This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. *This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.*

DDF 211 Design Process I 1-6-4
 This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

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DFT 111	Technical Drafting I	1-3-2	ENG 110	Freshman Composition	3-0-3
<i>Prerequisite: DFT-111</i>			<i>Prerequisites: ENG 090 and RED 080 or appropriate test scores</i>		
This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorials drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.			Corequisites: None This course is designed to develop informative and business writing skills. Emphasis is placed on logical organization of writing, including effective introductions and conclusions, precise use of grammar, and appropriate selection and use of sources. Upon completion, students should be able to produce clear, concise, well-organized short papers.		
DFT 151	CAD I	2-3-3	ENG 111	Writing and Inquiry	3-0-3
<i>Local Prerequisite: DFT 111 or Instructor Approval</i>			<i>Prerequisites: Take one set: RED 090 and ENG 090, ENG 095, DRE 098, or appropriate placement test scores; or Multiple Measures waiver.</i>		
This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.			This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the CAA and ICAA as a universal general education transfer component (UGETC) course in English Composition.		
DFT 152	CAD II	2-3-3	MAT 121	Algebra/Trigonometry I	2-2-3
<i>Local Prerequisite: DFT 151</i>			<i>Prerequisite: DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, and DMA 060</i>		
This course introduces extended CAD applications. Emphasis is placed upon intermediate applications of CAD skills. Upon completion, students should be able to use extended CAD applications to generate and manage drawings.			This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include the properties of plane and solid geometry, area and volume, and basic proportion applications; simplification, evaluation, and solving of algebraic equations and inequalities and radical functions; complex numbers; right triangle trigonometry; and systems of equations. Upon completion, students will be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results.		
DFT 153	CAD III	2-3-3	MEC 161	Manufacturing Processes I	3-0-3
<i>Local Prerequisite: DFT 152</i>			This course provides the fundamental principles of value-added processing of materials into usable forms for the customer. Topics include material properties and traditional and non-traditional manufacturing processes. Upon completion, students should be able to specify appropriate manufacturing processing for common engineering materials.		
This course introduces advanced CAD applications. Emphasis is placed upon advanced applications of CAD skills. Upon completion, students should be able to use advanced CAD applications to generate and manage data.			MEC 161A	Manufacturing Proc I Lab	0-3-1
DFT 154	Introduction to Solid Modeling	2-3-3	<i>This course is a laboratory for MEC 161. Emphasis is placed on experiences that enhance the materials presented in MEC 161. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in MEC 161.</i>		
<i>Local Prerequisite: DFT 151</i>					
This course is an introduction to basic three-dimensional solid modeling and design software. Topics include basic design, creation, editing, rendering, and analysis of solid models and creation of multi view drawings. Upon completion, students should be able to use design techniques to create, edit, render, and generate a multi view drawing.					
DFT 211	Gears, Cams, & Pulleys	1-3-2			
<i>Prerequisites: Take one set: (1) DFT 111 and MAT 121; (2) DFT 111 and MAT 171</i>					
This course introduces the principles of motion transfer. Topics include gears, cams, pulleys, and drive components. Upon completion, students should be able to solve problems and produce drawings dealing with ratios.					
DFT 254	Intermed Solid Model/Render	2-3-3			
<i>Prerequisites: DFT 154</i>					
This course presents a continuation of basic three-dimensional solid modeling and design software. Topics include advanced study of parametric design, creation, editing, rendering and analysis of solid model assemblies, and multiview drawing generation. Upon completion, students should be able to use parametric design techniques to create and analyze the engineering design properties of a model assembly.					