

Drafting Department

DEGREES:

Drafting and Design (AS)
Survey and Civil Drafting (AS)

CERTIFICATES OF ACHIEVEMENT

Drafting and Design
Survey and Civil Drafting
Maker Space Technology

JOB-DIRECT LOW UNIT CERTIFICATE

Computer Aided Drafting (CAD) Technician

COURSES:

DRFT (Drafting)

CONTACT INFORMATION:

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P.A.C.E. - INDUSTRIAL AND APPLIED TECHNOLOGY - A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to work hands-on with objects, machines, tools, plants, or animals?
- ...enjoys work and play outside, including use your physical or athletic abilities?
- ...likes to follow directions to organize, plan and complete a project or task?
- ...is interested in attaining employment as soon as possible?

P.A.C.E. - SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS - A PATHWAY FOR ACADEMIC AND CAREER EXCELLENCE AT SOLANO COMMUNITY COLLEGE

ARE YOU THE KIND OF PERSON WHO...

- ...desires to observe, learn, analyze, evaluate, or solve problems?
- ...enjoys to question and explore physical or biological happenings?
- ...likes to work hands-on with objects, machines, tools, plants, or animals?
- ...is interested in math and/or thinking analytically to solve complex problems?

Drafting

Drafting and Design Technician

Certificate of Achievement and Associate in Science

Program Description

This program is designed to provide students with entry level skills in the fields of mechanical, electrical, civil and architectural drafting and/or design.

The Certificate of Achievement can be obtained upon completion of the 31-31.5-unit major. The Associate in Science can be obtained by completing the 31-31.5-unit major, General Education, and electives as needed to complete a minimum of 60 units. All courses in the major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes

Students who complete the Drafting and Design Technician Certificate of Achievement/Associate will be able to:

1. Demonstrate proficiency using industry standard computer aided drafting/design CAD (AutoCAD) software program.
2. Demonstrate proficiency at reading, drawing, and dimensioning industry standard mechanical drawings.
3. Demonstrate proficiency at reading, drawing, and dimensioning industry standard civil drawings.
4. Demonstrate proficiency at reading, drawing, and dimensioning industry standard electronic drawings.
5. Demonstrate proficiency at reading, drawing, and dimensioning industry standard architectural drawings.

REQUIRED COURSES	Units	List A: (Select one course).....	Units
DRFT 045 Introduction to Computer-Aided Drafting (CAD).....	4	OCED 070 Occupational Soft Skills	1.5
DRFT 055 Mechanical Drafting - Level I.....	3	OCED 090 Occupational Work Experience	1
DRFT 058 Solid Modeling with Solidworks	3	OCED 091 General Work Experience	1
DRFT 060 Architectural Drafting I.....	3		
DRFT 075 Electronic Drafting.....	3		
DRFT 080 Civil Drafting I.....	3		
DRFT 161 Introduction to REVIT Architecture Software.....	3		
IT 140 Industrial Materials.....	3		
IT 151 Vocational Mathematics	3		
IT 171 Making Things 1 - 3D Technology	1		
IT 172 Making Things 2 - 2D Technology	1		
One Course from List A.....	1-1.5		
Required Major Total Units	31-31.5		

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Drafting Technician."

Drafting

Survey and Civil Drafting Technician

Certificate of Achievement and Associate in Science

Program Description

This program is designed to provide students with entry-level skills in the fields of Surveying Technician, Civil Drafting Technician, and/or mapping technician.

The Certificate of Achievement can be obtained upon completion of the 26-26.5-unit major. The Associate in Science may be obtained by completing the 26-26.5-unit major, General Education, and electives as needed to complete a minimum of 60 units. All courses for this major must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes

Students who complete the Survey and Civil Drafting Technician Certificate of Achievement/Associate Degree will be able to:

1. Demonstrate proficiency using industry standard computer aided drafting/design CAD (AutoCAD) software program.
2. Demonstrate proficiency at reading, drawing and dimensioning industry standard civil drawings.
3. Demonstrate basic understanding in using industry standard survey equipment including Transit, Theodolite, and Level.

REQUIRED COURSES	Units
DRFT 045 Introduction to Computer-Aided Drafting (CAD).....	4
DRFT 060 Architectural Drafting I	3
DRFT 080 Civil Drafting I	3
DRFT 140 Surveying.....	3
DRFT 161 Introduction to REVIT Architecture Software.....	3
IT 151 Vocational Mathematics.....	3
One course from List A	3
One course from List B	1-1.5
One course from List C	3
Required Major Total Units.....	26-26.5

List A: (select one course)	Units
GEOL 010 Introduction to Geographic Information Systems.....	3
GEOG 010 Introduction to Geographic Information Systems	3

List B: (select one course)	Units
OCED 070 Occupational Soft Skills	1.5
OCED 090 Occupational Work Experience	1
OCED 091 General Work Experience	1

List C: (select one course)	Units
GEOL 001 Physical Geology	3
GEOL 005 Geology of California	3
IT 050 Alternative Energy Technologies.....	3

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Survey Technician / Civil Drafting Technician."

Drafting

Maker Space Technology

Certificate of Achievement

Program Description

This program is an overview of basic design of manufacturing skills and concepts. Students will learn basic 2D and 3D CAD (Computer Aided Design) skills and how to output those designs using common Maker Space machines and tools such as 3D printers, laser cutters, and CNC (Computer Numeric Controlled) machines. The program also provides a basic overview of manufacturing systems such as motors, wiring and controllers, and the related career opportunities available to individuals with these skills.

The Certificate of Achievement can be obtained upon completion of the 16.5-18-unit major. All courses must be completed with a minimum grade of C or a P if the course is taken on a Pass/No Pass basis.

Program Outcomes

Students who complete the Maker Space Technology Certificate of Achievement will be able to:

1. Demonstrate an understanding of the main principles of Mechatronics.
2. Demonstrate an ability to safely use a 3D printer, laser cutter, CNC machine, basic hand and power tools, and basic electronics.
3. Demonstrate and ability to create a CAD drawing and output to a Maker Space machine.

REQUIRED COURSES	Units
IT 101 Introduction to Mechatronics.....	3
IT 171 Making Things 1 – 3D Technology	1
IT 172 Making Things 2 - 2D Technology	1
IT 173 Making Things 3 – Tool Use and Safety.....	1
IT 174 Making Things 4 – Basic Electronics	1
IT 175 Maker Space Technology Lab I.....	1.5
IT 176 Maker Space Technology Lab II.....	1.5
IT 179 Making Things 5 - Sewing Fundamentals.....	1
One Course from List A.....	1.5-3
Select Option A or Option B	4
Required Major Total Units.....	16.5-18

List A (select one course).....	Units
DRFT 151 3D Modeling with Fusion 360	1.5
DRFT 058 Solid Modeling with Solidworks	3

Select Option A or Option B..... Units

Option A

DRFT 045 Introduction to Computer-Aided Drafting (CAD)	4
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Option B

DRFT 145 AutoCAD Basics.....	1
DRFT 079 Blueprint Reading	3

This is a Gainful Employment Program. For additional information, please visit
http://www.solano.edu/gainful_employment/ and select "Maker Space Technology."

Computer Aided Drafting (CAD) Technician

Job-Direct Low Unit Certificate

REQUIRED COURSES	Units
DRFT 045 Introduction to Computer-Aided Drafting (CAD).....	4
DRFT 079 Blueprint Reading.....	3
One course from List A	3
One course from List B	3
Total Units.....	13

List A: (select one course)	Units
DRFT 058 Solid Modeling with Solidworks	3
DRFT 161 Introduction to REVIT Architecture Software.....	3

List B: (select one course)

.....	Units
DRFT 055 Mechanical Drafting - Level I.....	3
DRFT 060 Architectural Drafting I	3
DRFT 075 Electronic Drafting	3
DRFT 080 Civil Drafting I	3