

## **CAD DRAFTING TECHNOLOGY**

**Engineering, Math and Physical Sciences Division  
Room T102, (847) 543-2044**

This program prepares students for employment and advancement in Computer Aided Design (CAD). CAD Drafters work under the supervision of an engineer or designer creating drawings. With additional education and experience the graduate may advance to designer, checker, or supervisor. Drawings are produced using a variety of CAD/CAM software. Students may select a program from the following options: Architectural/Civil, Mechanical, and Graphics Animation and Presentation. See Architectural, Civil, and Multimedia programs for related fields of study.

To complete an AAS, students must meet the General Requirements on page 93. In addition, students should select General Education electives (\*) from those listed on page 94. All course prerequisites must be met.

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### **CAD DRAFTING TECHNOLOGY - MECHANICAL**

**(Associate in Applied Science) Plan 24DC**

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**Required General Education Coursework .....15**

CMM 111	Communication Skills <i>or</i>	
CMM 121	Fundamentals of Speech <i>or</i>	
CMM 122	Business and Professional Speaking <i>or</i>	
CMM 123	Dynamics of Small Group Discussion <i>or</i>	
CMM 128	Interviewing Practices	.....3
ECO 110	Economics for Business and Industry <i>or</i>	
ECO 221	Principles of Macroeconomics <i>or</i>	
PSC 122	State and Local Politics <i>or</i>	
	Social Sciences Elective	.....3
ENG 120	Technical Composition I <i>or</i>	
ENG 121	English Composition I	.....3
MTH 115	Applied Mathematics II	.....3
	Humanities or Fine Arts Elective*	.....3

**Required CAD Coursework .....37**

CAD 110	CAD/CAM Concepts	.....3
CAD 117	Introduction to AutoCAD	.....3
CAD 171	Introduction to Inventor	.....3
CAD 173	Introduction to SolidWorks	.....3
CAD 174	SolidWorks II	.....3
CAD 176	Introduction to ProEngineer	.....3
CAD 211	Mechanical Detailing with GD and T	.....3
CAD 217	AutoCAD II	.....3
CAD 271	Inventor II	.....3
CAD 276	ProEngineer II <i>or</i>	
	Technical Elective	
	(see Technical Elective list)	.....3
CDA 111	CAD Drafting Applications I	.....4
CDA 112	CAD Drafting Applications II	.....3

**Required Mechanical Coursework .....12**

CNC 218	Introduction to Master CAM	.....3
MET 111	Manufacturing Processes	.....3
MET 214	Mechanical Design and Drafting	.....3
MTT 112	Machining Principles	.....3

**Total Hours for AAS Degree .....64**

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### **CAD DRAFTING TECHNOLOGY – GRAPHICS, ANIMATION AND PRESENTATION**

**(Associate in Applied Science) Plan 24DJ**

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**Required General Education Coursework .....15**

ARC 228	History of Architecture <i>or</i>	
	Humanities or Fine Arts Elective*	.....3
CMM 111	Communication Skills <i>or</i>	
CMM 121	Fundamentals of Speech <i>or</i>	
CMM 122	Business and Professional Speaking <i>or</i>	
CMM 123	Dynamics of Small Group Discussion <i>or</i>	
CMM 128	Interviewing Practices	.....3
ENG 120	Technical Composition I <i>or</i>	
ENG 121	English Composition I	.....3
MTH 115	Applied Mathematics II	.....3
	Social Science Elective*	.....3

**Required CAD Coursework .....31**

CAD 110	CAD/CAM Concepts	.....3
CAD 117	Introduction to AutoCAD	.....3
CAD 171	Introduction to Inventor	.....3
CAD 173	Introduction to SolidWorks <i>or</i>	
CAD 176	Introduction to ProEngineer	.....3
CAD 179	Introduction to Autodesk 3ds Max	.....3
CAD 214	Introduction to Revit <i>or</i>	
	Technical Elective	
	(see Technical Elective list)	.....3
CAD 273	CAD Specialization <i>or</i>	
EWE 220	Cooperative Work Experience I	.....3
CAD 279	Autodesk 3ds Max II	.....3
CDA 111	CAD Drafting Applications I	.....4
CDA 112	CAD Drafting Applications II	.....3

**Required Graphics, Animation and Presentation Coursework .....15**

ARC 121	Architectural Graphics	.....3
ARC 216	Architectural Illustration <i>or</i>	
CAD 217	AutoCAD II	.....3
ART 222	Introduction to Computer Art	.....3
ART 263	2D Computer Animation	.....3
DMD 111	Introduction to Digital Media	.....3

**Total Hours for AAS Degree .....61**

## Associate in Applied Science and Career Certificates

### Technical Electives:

A broad choice of technical electives is available. See an advisor in the CAD department for approval of electives.

ARC 121	Architectural Graphics	3
CAD 110	CAD-CAM Concepts	3
CAD 117	Introduction to AutoCAD	3
CAD 171	Introduction to Inventor	3
CAD 173	Introduction to SolidWorks	3
CAD 174	SolidWorks II	3
CAD 176	Introduction to ProEngineer	3
CAD 177	Site Planning and Drafting	3
CAD 179	Introduction to Autodesk 3ds Max	3
CAD 211	Mechanical Detailing with GD and T	3
CAD 214	Introduction to Revit	3
CAD 217	AutoCAD II	3
CAD 271	Inventor II	3
CAD 276	ProEngineer II	3
CAD 279	Autodesk 3ds Max II	3
CNC 218	Introduction to MasterCam	3
ELT 111	Electronic Drafting	2
EWE 220	Cooperative Work Experience I	2-4
MET 111	Manufacturing Processes	3
MET 112	Basic Metallurgy I	3
MET 214	Mechanical Design and Drafting	3
MTH 115	Applied Mathematics II	3
MTT 111	Machine Shop I	3
MTT 112	Machining Principles	3

### CAD DRAFTING TECHNOLOGY – ARCHITECTURAL/CIVIL (Associate in Applied Science) Plan 24DR

#### Required General Education Coursework .....15

ARC 228	History of Architecture <i>or</i> Humanities or Fine Arts Elective*	3
CMM 111	Communication Skills <i>or</i>	
CMM 121	Fundamentals of Speech <i>or</i>	
CMM 122	Business and Professional Speaking <i>or</i>	
CMM 123	Dynamics of Small Group Discussion <i>or</i>	
CMM 128	Interviewing Practices	3
ECO 110	Economics for Business and Industry <i>or</i>	
ECO 221	Principles of Macroeconomics <i>or</i>	
PSC 122	State and Local Politics <i>or</i> Social Sciences Elective*	3
ENG 120	Technical Composition I <i>or</i>	
ENG 121	English Composition I	3
MTH 115	Applied Mathematics II	3

#### Required CAD Coursework .....24

CAD 110	CAD/CAM Concepts	3
CAD 117	Introduction to AutoCAD	3
CAD 177	Site Planning and Drafting	3
CAD 179	Introduction to Autodesk 3ds Max	3
CAD 214	Introduction to Revit	3
CAD 217	AutoCad II	3
CAD 273	CAD Specialization <i>or</i>	
EWE 220	Cooperative Work Experience I	3
CAD 279	Autodesk 3ds Max II	3

#### Required Architectural Coursework.....27

ARC 121	Architectural Graphics	3
ARC 170	Architectural Design	3
ARC 171	Architectural Working Drawings	3
ARC 216	Architectural Illustrations	3
ARC 271	Commercial Working Drawings	3
CMT 111	Construction Layout <i>or</i>	
CIV 111	Basic Surveying	4
CMT 113	Construction Materials	3
CMT 117	Construction Methods	3
CIV 213	Subdivision Planning and Design	3

#### Total Hours for AAS Degree .....67

### CAD DRAFTING TECHNOLOGY – GRAPHICS, ANIMATION AND PRESENTATION (Certificate) Plan 24DK

This advanced certificate is designed for the individual who possesses education or experience in computer aided design (CAD) or graphic arts. The certificate fills the gap between CAD and computer-generated art and provides the graduate with the skills to create sophisticated computer enhanced presentations for use in a variety of applications. Most courses require prerequisites before enrollment.

ARC 121	Architectural Graphics	3
ART 222	Introduction to Computer Art	3
ART 263	2D Computer Animation	3
CAD 110	CAD/CAM Concepts	3
CAD 117	Introduction to AutoCAD <i>or</i>	
CDA 111	CAD Drafting Applications I	3-4
CAD 179	Introduction to Autodesk 3ds Max	3
CAD 279	Autodesk 3ds Max II	3
DMD 111	Introduction to Digital Media	3

#### Total Hours for Certificate .....24-25

### CAD DRAFTING TECHNOLOGY – GENERAL (Certificate) Plan 24DM

ARC 121	Architectural Graphics	3
CAD 110	CAD/CAM Concepts	3
CAD 117	Introduction to AutoCAD	3
CAD 177	Site Planning and Drafting	3
CAD 179	Introduction to Autodesk 3ds Max	3
CDA 111	CAD Drafting Applications I	4
CIV 111	Basic Surveying	4
ELT 111	Electronic Drafting	2
MET 111	Manufacturing Processes	3
MTH 115	Applied Mathematics II	3

#### Total Hours for Certificate .....31

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**CAD DRAFTING TECHNOLOGY – ARCHITECTURAL**  
(Certificate) Plan 24DN

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ARC 121	Architectural Graphics .....	3
ARC 216	Architectural Illustrations.....	3
CAD 110	CAD-CAM Concepts .....	3
CAD 117	Introduction to AutoCAD.....	3
CAD 179	Introduction to Autodesk 3ds Max.....	3
CAD 214	Introduction to Revit .....	3
CAD 217	AutoCAD II .....	3

**Total Hours for Certificate.....21**

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**CAD DRAFTING TECHNOLOGY – CIVIL**  
(Certificate) Plan 24DO

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ARC 121	Architectural Graphics .....	3
CAD 110	CAD/CAM Concepts .....	3
CAD 117	Introduction to AutoCAD.....	3
CAD 177	Site Planning and Drafting.....	3
CAD 217	AutoCAD II .....	3
CIV 111	Basic Surveying <i>or</i>	
CIV 213	Subdivision Planning and Design.....	3-4
CMT 111	Construction Layout .....	3

**Total Hours for Certificate .....21-22**

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**CAD DRAFTING TECHNOLOGY – 3D PARAMETRIC**  
(Certificate) Plan 24DP

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CAD 171	Introduction to Inventor .....	3
CAD 173	Introduction to SolidWorks .....	3
CAD 174	SolidWorks II .....	3
CAD 176	Introduction to ProEngineer.....	3
CAD 211	Mechanical Detailing with GD and T .....	3
CAD 271	Inventor II.....	3
CAD 276	ProEngineer II .....	3

**Total Hours for Certificate.....21**

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**CAD DRAFTING TECHNOLOGY – AUTOCAD**  
(Certificate) Plan 24DQ

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CAD 110	CAD/CAM Concepts .....	3
CAD 117	Introduction to AutoCAD.....	3
CAD 211	Mechanical Detailing with GD and T .....	3
CAD 217	AutoCAD II .....	3
CDA 111	CAD Drafting Applications I .....	4
CDA 112	CAD Drafting Applications II .....	3

**Total Hours for Certificate.....19**

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**CAD DRAFTING TECHNOLOGY – SOLIDWORKS**  
(Certificate) Plan 24DS

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CAD 173	Introduction to SolidWorks .....	3
CAD 174	SolidWorks II .....	3
CAD 211	Mechanical Detailing with GD and T .....	3

**Total Hours for Certificate.....9**

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**CAD DRAFTING TECHNOLOGY – PROENGINEER**  
(Certificate) Plan 24DT

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CAD 176	Introduction to ProEngineer.....	3
CAD 211	Mechanical Detailing with GD and T .....	3
CAD 276	ProEngineer II .....	3

**Total Hours for Certificate.....9**

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**CAD DRAFTING TECHNOLOGY – AUTODESK INVENTOR**  
(Certificate) Plan 24DU

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CAD 171	Introduction to Inventor .....	3
CAD 211	Mechanical Detailing with GD and T .....	3
CAD 271	Inventor II.....	3

**Total Hours for Certificate.....9**

For more information on recommended courses or program specific advising, contact the following faculty members or the Engineering, Math and Physical Sciences division at (847) 543-2044:

Steve Dulmes                      Tina Ye