

MECHANICAL DRAFTING 15.1300.40

Program Description, Industry Credential, Coherent Sequence, and Teacher Certification

PROGRAM DESCRIPTION

The **Mechanical Drafting** program prepares individuals to apply technical knowledge and skills to develop working drawings and electronic simulations in support of mechanical and industrial engineers, and related professionals. The **Mechanical Drafting** program includes instruction in manufacturing materials and processes, mechanical drafting, electrode-mechanical drafting, basic metallurgy, geometric dimensioning and tolerancing, blueprint reading, and technical communication.

The **Mechanical Drafting** program is delivered as a coherent sequence of courses designed to offer students knowledge and skills that meet the need of the workplace. The Professional Skills developed by business and industry leaders across Arizona are integrated throughout the program. Students learn how to get along with their team members, to make critical decisions, to solve problems, to develop respect, and to be successful in their chosen occupation.

Mechanical Drafting students also develop leadership, social, civic, and career skills through their participation in the state-recognized Career and Technical Student Organization SkillsUSA.

The **Mechanical Drafting** instructional program prepares students for entry-level employment, further training, and/or post-secondary education for these and other occupations:

Architectural Related Services, Engineering Related Services, Aerospace Product and Parts Manufacturing, Architectural and Structural Metals Manufacturing, Employment Services, Building Equipment Contractor, Navigational Instruments Manufacturing, Measuring Instruments Manufacturing, Electromedical Instruments Manufacturing, Control Instruments Manufacturing, Electronic Component Manufacturing, Metalworking Machinery Manufacturing, Fabricated Metal Product Manufacturing, Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing, Industrial Machinery Manufacturing, Machinery Merchant Wholesaler, Equipment Merchant Wholesaler, Supplies Merchant Wholesalers, Household and Institutional Furniture and Kitchen Cabinet Manufacturing, Agriculture Machinery Manufacturing, Construction Machinery Manufacturing, Mining Machinery Manufacturing, Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing, Management of Companies and Enterprises, Commercial and Service Industry Machinery Manufacturing, General Purpose Machinery Manufacturing, Boiler Manufacturing, Tank Manufacturing, Shipping Container Manufacturing, Building Material and Supplies Dealers

INDUSTRY CREDENTIALS

The following credentials have been approved for the A-F CCR and are CTED eligible for the **Mechanical Drafting** instructional program:

- Autodesk Certified User (ACU) - 3Ds Max
- Autodesk Certified User (ACU) - AutoCAD
- Autodesk Certified User (ACU) - Fusion 360 CAD
- Autodesk Certified User (ACU) - Inventor – Imperial
- Autodesk Certified User (ACU) - Inventor – Metric
- Autodesk Certified User (ACU) - Maya

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- Autodesk Certified User (ACU) - Revit Architecture – Imperial
- Autodesk Certified User (ACU) - Revit Architecture – Metric
- Certified SolidWorks Associate (CSWA)
- Certified SolidWorks Professional (CSWP)
- Mastercam Associate

The following industry credentials have been approved to meet CTED eligibility for the **Mechanical Drafting** instructional program:

- ArcGIS Certified Desktop Entry Certification
- Autodesk Certified Professional
- Certified Apprentice Drafter - High School
- Certified Drafter - Advanced High School

COHERENT SEQUENCE

15.1300.13 - Mechanical Drafting I, **and**

15.1300.40 - Mechanical Drafting II, **and program may elect to add:**

15.1300.45- Mechanical Drafting III, **or**

15.1300.50 - Mechanical Drafting IV, **or**

15.1300.72 - Mechanical Drafting – DCE (Diversified Cooperative Education) **or**

15.1300.77 - Mechanical Drafting – Internship **or**

15.1300.82 - Mechanical Drafting – Cooperative Education

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TEACHER CERTIFICATION REQUIREMENTS

The instructor must be ADE/CTE certified in one of the following Certificates: PCTIET, SCTIET, or SSCTEET

Note:

- Mechanical Drafting 15.1300.72 may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN).
- Mechanical Drafting 15.1300.77 is not required to have a Cooperative Education Endorsement (CEN).
- Teacher/Coordinator 15.1300.82 is required to have a Cooperative Education Endorsement (CEN).

CERTIFICATE TYPES

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| PCTIET | Provisional Career and Technical Education Industrial and Emerging Technologies |
| SCTIET | Standard Career and Technical Education Industrial and Emerging Technologies |
| SSCTEET | Standard Specialized Career and Technical Education Industrial and Emerging Technologies |