

Engineering Graphics and Design Technology

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Advisory Committees:

Mechanical: Jackson McCourt, Caldera; Mike Thompson, Flowserve; Dan Olsen, Globalsim.

Structural: Steve Cospser, CKR Engineering; Terry Beighley, Intermountain Bridge Detailers; Pam Foote, SEI; Steve Holdaway, Tectonix Steel, Inc.

Architectural: Glen Barton, CEntry; Kevin Madson, KMA & Associates; Tyson Munford, Log Craft; Paul Magleby, Magleby Companies Inc.; Steve Sandstrom, Sandstrom Associates Architecture.

Electrical: Keith Hegerhorst, Hegerhorst Power Engineering.

Civil: Alan York, Provo City; Clyde Naylor, Utah County; Matt Brown, M.W. Brown Engineering; Brant Tuttle, Northern Engineering, Scott Bartlett, Boss Engineering.

High School Liaison: Dave Creer, Timpview High; John Howden, Payson High School.

College of Technology and Computing

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CAREER OPPORTUNITIES

The Engineering Graphics and Design Technology program prepares students for design, 3D modeling, surveying, and drafting careers in mechanical, architectural, structural, civil, and electrical/electronic fields. Jobs are available with architects, cities, counties, states, the federal government, engineering and surveying companies, mines, research and development companies, and the mechanical, structural steel, architectural development, electronics, construction, and fire protection industries. In addition, because of the broad nature of the Engineering Graphics and Design Technology program, graduates are prepared to succeed in most technological fields. For example, they can work as manufacturing, industrial engineering, and construction technicians. They can also work in functional areas of purchasing, estimating, bidding, plant management, quality control, expediting, and sales.

JOB DESCRIPTION – ENGINEERING GRAPHICS AND DESIGN TECHNOLOGY

Engineering Graphics Technicians (formerly Drafters/Designers) translate ideas from design layouts, specifications, rough sketches, and calculations of engineers & architects into working drawings, maps, plans, and illustrations which are used in making products, structures, land development, and civil infrastructure. They prepare 3D computer models and 2D drawings using Computer Aided Drafting, Design, and 3D modeling systems. They perform design and drafting work in mechanical, electrical/electronic, structural, architectural, civil, piping, and technical illustration fields. They make mathematical calculations using algebra, trigonometry, plane and solid geometry, applied mechanics, strength of materials and basic physics.

The Engineering Graphics Technician's job requires working closely with both professional and nonprofessional people. They also do liaison work between the shop or field and the engineering office. It is essential they be neat in appearance and develop professional work habits.

JOB DESCRIPTION – LAND SURVEYING

Surveying Technicians work out-of-doors doing surveys of property, roads, pipelines, subdivisions, and all types of construction projects. They may work in specialized fields such as topographic mapping, mine surveying, and hydrographic surveying. They use levels, total stations, and global positioning system equipment. They make mathematical calculations using algebra, trigonometry, and plane and solid geometry. They may also be called upon to produce drawings related to their work.

Surveyors also work closely with the public so it is imperative that they develop good human relations skills and professional work habits.

PROGRAMS

Students in the Engineering Graphics and Design Technology program may earn an Associate in Applied Science Degree, an Associate in Science Degree with a drafting pre-major or a Bachelor of Science in Technology Management Degree in Drafting Technology.

Reminder: an overall grade point average of 2.0 (C) or above is required for graduation.

AAS in Drafting Technology 63 CREDITS

General Education Requirements: 16 Credits

ENGLISH 2.0

- ENGL 1010 Introduction to Writing (3.0)
- ENGL 1060 Career Writing for Technology (3.0)
- ENGL 106A Career Writing for Technology--A (2.0)
- MGMT 2200 Business Communications (3.0)

MATHEMATICS 3.0

- EGDT 1600 Technical Math--Algebra (3.0)
- or MATH 1050 College Algebra (4.0)
- EGDT 1610 Technical Math--Geometry/Trig (3.0)
- or MATH 1060 Trigonometry (3.0)

HUMANITIES/FINE ARTS/FOREIGN LANGUAGE 3.0

- PHIL 2050 Ethics and Values (highly recommended) (3.0)
- Any approved Humanities, Fine Arts, or Foreign Language Distribution Course

SOCIAL AND BEHAVIORAL SCIENCE 2.0

- MGMT 3000 Organizational Behavior (3.0)
- Any approved Behavioral Science, Social, or Political Science

BIOLOGY OR PHYSICAL SCIENCE 2.0

- EGDT 1810 Principles of Technology (2.0)

PHYSICAL EDUCATION/HEALTH/SAFETY OR ENVIRONMENT 1.0

- Any approved Physical Education, Health, Safety or Environment Course

Discipline Core Requirements: 39 Credits

- EGDT 1010 Electrical-Electronic Drafting 3.0
- EGDT 1040 Computer Aided Drafting--AutoCAD 3.0
- EGDT 1070 3 Dimensional Computer Modeling 3.0
- EGDT 1080 AutoLisp 2.0
- EGDT 1100 Architectural Drafting 3.0
- EGDT 1200 Mechanical Drafting 3.0
- EGDT 1300 Structural Drafting 3.0
- EGDT 1400 Surveying 4.0
- EGDT 2020 Descriptive Geometry 3.0
- EGDT 2040 Piping Drafting 2.0
- EGDT 2050 Plate Layout 2.0
- EGDT 2600 Statics 3.0
- EGDT 2610 Strength of Materials 3.0
- EGDT 2850 Cooperative Correlated Instruction/Orientation 0.5
- EGDT 2860 Cooperative Correlated Instruction/SkillsUSA 0.5
- EGDT 2870 Portfolio and Career Preparation 1.0

Elective Requirements: 8 Credits

Choose three courses from the following list for a minimum of 8 credits:

- EGDT 1060 MicroStation (2.0)
- EGDT 2010 Advanced Electrical--CAD (2.0)
- EGDT 2100 Advanced Architectural--CAD (3.0)
- EGDT 2200 Advanced Mechanical--CAD (3.0)
- EGDT 2300 Advanced Structural--CAD (3.0)
- EGDT 2310 Structural Steel Modeling (3.0)
- EGDT 2400 Surveying Applications (4.0)
- EGDT 2710 Special Problems--Mechanical (2.0)
- EGDT 2720 Special Problems--Surveying (2.0)
- EGDT 2730 Special Problems--Civil Drafting (2.0)
- EGDT 2740 Special Problems--Architectural (2.0)
- EGDT 2750 Special Problems--Architectural Rendering (2.0)
- EGDT 2760 Special Problems--Structural (2.0)
- EGDT 2780 Special Problems--Electrical (2.0)
- EGDT 281R Cooperative Work Experience (1.0)

Graduation Requirements:

- 1 Completion of a minimum of 63 semester credits.
- 2 Overall grade point average of 2.0 (C) or above. (Departments may require a higher GPA.)

Engineering Graphics and Design Technology

- 3 Residency hours-- minimum of 20 credit hours through course attendance at UVU.
- 4 Completion of GE and specified departmental requirements, including a portfolio and exit interview.

AS Pre Major in Drafting Technology

61 CREDITS

General Education Requirements: 35 Credits

- ENGL 1010 Introduction to Writing 3.0
 - ENGL 2010 Intermediate Writing--Humanities/Social Sciences 3.0
- or ENGL 2020 Intermediate Writing--Science and Technology (3.0)

Complete one of the following: 3.0

- MATH 1030 Quantitative Reasoning (3.0)
- MATH 1040 Introduction to Statistics (3.0)
- MATH 1050 College Algebra (4.0)

Complete one of the following: 3.0

- HIST 2700 US History to 1877 (3.0)
- and HIST 2710 US History since 1877 (3.0)
- HIST 1700 American Civilization (3.0)
- HIST 1740 US Economic History (3.0)
- POLS 1000 American Heritage (3.0)
- POLS 1100 American National Government (3.0)

Complete the following:

- PHIL 2050 Ethics and Values 3.0
 - HLTH 1100 Personal Health and Wellness 2.0
- or PES 1097 Fitness for Life (2.0)

Distribution Courses

- Biology 3.0
- Physical Science 3.0
- Additional Biology or Physical Science 3.0
- Humanities Distribution 3.0
- Fine Arts Distribution 3.0
- Social/Behavioral Science 3.0

Discipline Core Requirements: 16 Credits

- EGDТ or related courses (1000 level or higher) 16.0

Elective Requirements: 10 Credits

- Electives (1000 level or higher) 10.0

Graduation Requirements:

- 1 Completion of a minimum of 61 semester credits.
- 2 Overall grade point average of 2.0 (C) or above. (Departments may require a higher GPA.)
- 3 Residency hours-- minimum of 20 credit hours through course attendance at UVU.
- 4 Completion of GE and specified departmental requirements.

BS in Technology Management 125 CREDITS

The following Technical Area is available (see the Technology Management section of this catalog for complete degree requirement listings.)

Specialization in Drafting Technology 45 Credits

Emphasis Requirements: 45 Credits

Complete the following:

- EGDТ 1010 Electrical-Electronic Drafting 3.0
- EGDТ 1040 Computer Aided Drafting--AutoCAD 3.0
- EGDТ 1070 3 Dimensional Computer Modeling 3.0
- EGDТ 1080 AutoLisp 2.0
- EGDТ 1100 Architectural Drafting 3.0
- EGDТ 1200 Mechanical Drafting 3.0
- EGDТ 1300 Structural Drafting 3.0
- EGDТ 1400 Surveying 4.0
- EGDТ 2020 Descriptive Geometry 3.0
- EGDТ 2040 Piping Drafting 2.0
- EGDТ 2050 Plate Layout 2.0
- EGDТ 2600 Statics 3.0
- EGDТ 2610 Strength of Materials 3.0

Complete 8 credits from the following: 8.0

- EGDТ 1060 MicroStation (2.0)
- EGDТ 2010 Advanced Electrical--CAD (2.0)
- EGDТ 2100 Advanced Architectural--CAD (3.0)
- EGDТ 2200 Advanced Mechanical--CAD (3.0)
- EGDТ 2300 Advanced Structural--CAD (3.0)
- EGDТ 2310 Structural Steel Modeling (3.0)
- EGDТ 2400 Surveying Applications (4.0)

be given during advisement.

COOPERATIVE EDUCATION

Cooperative Education is highly recommended as an elective in these majors. Two credits may be applied towards graduation.

See Course Descriptions section of the catalog for detailed course information. This department manages the following course prefixes:

- EGDТ, Engineering Graphics and Design Technology

Due to the technical nature of the material in the following courses, additional reading and math instruction may be required. More information will