

# Architecture and Engineering Design

## Architecture and Engineering Design

The Architecture & Engineering Design department is in the [Scott M. Smith College of Engineering](#). To find the most up-to-date information, including Program Learning Outcomes for degree programs offered by the Architecture & Engineering Design department, visit their website.

[Architecture & Engineering Design department](#)

### DEPARTMENT CHAIR

**SMITH, Sidney D.** *Associate Professor*

### FACULTY

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**BARKER, David B.** *Assistant Professor*

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**JOHNSON, Jeffrey** *Lecturer*

**MCMULLIN, Paul** *Assistant Professor*

**MILES, Christopher** *Lecturer*

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**SMITH, Sidney D.** *Associate Professor*

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## Degrees & Programs

### Engineering Design Technology, A.A.S.

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#### Requirements

The Associate in Applied Science Degree is a "job ready" degree and applies the technical and functional elements of several Drafting and Design fields. Students will take courses in the fundamentals of drafting and design, industry standard two-dimensional and three-dimensional software, Architectural Design, Civil Design and Surveying, Electrical Design, Mechanical Design, and Structural Steel Detailing and Design. Students will take other supporting classes and advanced courses in a minimum of two specialty areas of their choosing.

#### Total Program Credits: 65

General Education Requirements:		19 Credits
English:		3
	<a href="#">ENGL 1010</a> Introduction to Academic Writing CC (3)	
or	<a href="#">ENGH 1005</a> Literacies and Composition Across Contexts CC (5)	
or	<a href="#">MKTG 220G</a> Written Business Communication GI WE (3)	
Mathematics:		
	<a href="#">EGDT 1600</a> Technical Math Algebra	3

or	<a href="#">MATH 1050</a> College Algebra QL (4)	
or	<a href="#">MATH 1055</a> College Algebra with Preliminaries QL (5)	
	<a href="#">EGDT 1610</a> Technical Math Geometry Trig	3
or	<a href="#">MATH 1060</a> Trigonometry QL (3)	
Humanities/Fine Arts/ Foreign Language:		3
	<a href="#">PHIL 2050</a> Ethics and Values IH (3)	
or	Any approved Humanities, Fine Arts, or Foreign Language Distribution Course	
Social and Behavioral Science:		3
	Any approved Social Science	
Biology or Physical Science:		3
	<a href="#">PHYS 1010</a> Elementary Physics PP	
Physical Education/Health/Safety or Environment:		1
	Any approved Physical Education, Health, Safety or Environment Course	
Discipline Core Requirements:		37 Credits
	<a href="#">EGDT 1010</a> Electrical Drafting and Design	3
	<a href="#">EGDT 1020</a> 3D Architectural Modeling	3
	<a href="#">EGDT 1040</a> Fundamentals of Technical Engineering Drawing	3
	<a href="#">EGDT 1070</a> 3 Dimensional Modeling--Inventor	3
or	<a href="#">EGDT 1071</a> 3 Dimensional Modeling--Solidworks (3)	
	<a href="#">EGDT 1100</a> Architectural Drafting and Desig	3
	<a href="#">EGDT 1200</a> Mechanical Drafting	3
	<a href="#">EGDT 1300</a> Structural Drafting	3
	<a href="#">EGDT 1400</a> Surveying Applications and Field Techniques I	3
	<a href="#">EGDT 2020</a> Descriptive Geometry	3
	<a href="#">EGDT 2040</a> Piping Drafting	2
	<a href="#">EGDT 2600</a> Applied Structures I - Statics	3
	<a href="#">EGDT 2610</a> Applied Structures II - Strength of Materials	3
	<a href="#">EGDT 285R</a> AEC Design Lecture Series	0.5
	<a href="#">EGDT 2860</a> Cooperative Correlated Instruction/ SkillsUSA	0.5
	<a href="#">EGDT 2870</a> Portfolio and Career Preparation	1
Elective Requirements:		9 Credits
Choose a minimum of three courses from the following list for a minimum of 9 credits:		9
	<a href="#">EGDT 2010</a> Advanced Electrical--CAD (2)	
	<a href="#">EGDT 2100</a> Architecture Materials and Methods (3)	
	<a href="#">EGDT 2200</a> Advanced Mechanical (3)	
	<a href="#">EGDT 2300</a> Advanced Structural--CAD (3)	
	<a href="#">EGDT 2400</a> Surveying Applications and Field Techniques II (3)	
	<a href="#">EGDT 2500</a> 3 Dimensional Modeling--Civil 3D (3)	
	<a href="#">EGDT 281R</a> Internship (1-3)	

#### Graduation Requirements:

## Architecture and Engineering Design

1. Completion of a minimum of 65 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, including a portfolio and exit interview.

### Engineering Design Technology, A.A.S. Careers

1. Demonstrate knowledge of structural steel design and the AISC Standards
2. Demonstrate knowledge of mechanical design and engineering reference materials (Machinery's Handbook)
3. Demonstrate knowledge of architectural design, building codes, and construction methods and materials
4. Demonstrate knowledge of electrical design and the basic concepts of electricity and electronics
5. Demonstrate knowledge of civil design and related construction methods and materials
6. Demonstrate knowledge of surveying, surveying equipment, technology, and procedures
7. Demonstrate knowledge of algebra, trigonometry, plane and solid geometry, statics, and strength of materials
8. Combine cross disciplinary knowledge to solve predictable and unpredictable engineering design problems while utilizing the latest technologies available
9. Create quality, industry level design drawings for the various design disciplines
10. Use industry standard design software when producing design drawings
11. Cultivate an elevated commitment to work ethic, quality, productivity, and service

### Related Careers

- Architectural and Civil Drafters
- Electrical and Electronics Drafters
- Mechanical Drafters
- Drafters, All Other

### Engineering Design Technology, A.S.

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### Requirements

The Associate in Science Degree is a transferable degree and applies the technical and functional elements of several Drafting and Design fields without taking the advanced course work required in the Associate in Applied Science Degree. Students will take fundamental courses in drafting and design, industry standard two-dimensional and three-dimensional software, Architectural Design, Civil Design and Surveying, Electrical Design, Mechanical Design, and Structural Steel Detailing and Design.

### Total Program Credits: 61

General Education Requirements:		35 Credits
or	<a href="#">ENGL 1010</a> Introduction to Academic Writing CC	3
	<a href="#">ENGL 1005</a> Literacies and Composition Across Context CC (5.0)	
	<a href="#">ENGL 2010</a> Intermediate Academic Writing CC	3
Complete one of the following:		3
	<a href="#">MAT 1030</a> Quantitative Reasoning QL (3.0)	

	MAT 1035	Quantitative Reasoning with Integrated Algebra QL (6.0)	
	STAT 1040	Introduction to Statistics QL (3.0)	
	STAT 1045	Introduction to Statistics with Algebra QL (5.0)	
	MATH 1050	College Algebra QL (4.0) (MATH 1050 is a prerequisite for many classes in the program core.)	
	MATH 1055	College Algebra with Preliminaries QL (5.0)	
	MATH 1090	College Algebra for Business QL (3.0)	
Complete one of the following:			3
	HIST 1700	American Civilization AS (3.0)	
	HIST 1740	US Economic History AS (3.0)	
	HIST 2700	US History to 1877 AS (3.0)	
and	HIST 2710	US History since 1877 AS (3.0)	
	POLS 1000	American Heritage SS (3.0)	
	POLS 1100	American National Government AS (3.0)	
Complete the following:			
	PHIL 2050	Ethics and Values IH	3
	HLTH 1100	Personal Health and Wellness TE	2
or	EXSC 1097	Fitness for Life TE (2.0)	
Complete the following:			
	PHYS 1010	Elementary Physics PP	3
or	PHYS 2010	College Physics I PP	3
	Complete the following distribution courses:		
	Biology (Recommend BIOL 1010 General Biology)		3
	Humanities (Recommend ENGL 2100 Technical Communication HH)		3
	Social/Behavioral Science (Recommend COMM 1050 Introduction to Speech Communication)		3
	Physical Science (Recommend GEO 1010 Introduction to Geology)		3
	Fine Arts Distribution (Recommend EGDT 1720 Architectural Rendering)		3
Discipline Core Requirements:			26 Credits
Complete a minimum of 26 credits from the following tracks:			26
Architectural Drafting and Design Track. (Students select this track if interested in a career in architectural drafting and design. Students also take these classes as part of the Bachelor of Architecture degree.)			
	EGDT 1020	3D Architectural Modeling (3)	
	EGDT 1040	Fundamentals of Technical Engineering Drawing	
	EGDT 1100	Architectural Drafting and Design (3)	
	EGDT 2100	Architecture Materials and Methods (3)	
	EGDT 2600	Applied Structures I - Statics (3) (MATH 1050 is a prerequisite for this course)	
	ARC 1010	Classical Architecture Workshop (3)	
	ARC 2110	Architecture Studio I (4)	

	ARC 2210	Architecture Studio II (4)	
	ARC 2220	Construction Documents and Specifications (3)	
Civil Drafting and Design Track. (Students select this track if interested in a career in civil drafting and design. Students may also apply these courses to several focus areas within the Surveying and Mapping B.S. degree.)			
	EGDT 1020	3D Architectural Modeling (3)	
	EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
	EGDT 1060	MicroStation Infrastructure Design (3)	
	EGDT 1300	Structural Drafting (3)	
	EGDT 1400	Surveying Applications and Field Techniques I (3)	
	EGDT 1600	Technical Math Algebra (3)	
and	EGDT 1610	Technical Math Geometry Trig (3) (MATH 1050 is a prerequisite for MATH 1060 Trigonometry)	
or	MATH 1060	Trigonometry QL (3)	
	EGDT 2040	Piping Drafting (2)	
	EGDT 2400	Surveying Applications and Field Techniques II (3) (MATH 1050, MATH 1060, or EGD 1600 are prerequisites for this course)	
	EGDT 2500	3 Dimensional Modeling--Civil 3D (3)	
Mechanical/Electrical Drafting and Design Track. (Students select this track if interested in a career in mechanical drafting and design.)			
	EGDT 1010	Electrical Electronic Drafting (3)	
	EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
	EGDT 1050	Introduction to 3D Printing PP (2)	
	EGDT 1070	3 Dimensional Modeling--Inventor (3)	
or	EGDT 1071	3 Dimensional Modeling--Solidworks (3)	
	EGDT 1200	Mechanical Drafting (3)	
	EGDT 2020	Descriptive Geometry (3)	
	EGDT 2200	Advanced Mechanical (3)	
	EGDT 2600	Applied Structures I - Statics (3) (MATH 1050, or EGD 1600 and EGD 1610 are prerequisite for this course)	
	EGDT 2610	Applied Structures II - Strength of Materials (3) (MATH 1050, or EGD 1600 and EGD 1610 are prerequisites for this course)	
Structural Drafting and Design Track. (Students select this track if interested in a career in structural drafting and design.)			
	EGDT 1020	3D Architectural Modeling (3)	
	EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
	EGDT 1100	Architectural Drafting and Design (3)	
	EGDT 1300	Structural Drafting (3)	
	EGDT 1600	Technical Math Algebra (3)	
or	MATH 1060	Trigonometry (3)	

	EGDT 2300	Advanced Structural CAD (3) (MATH 1050, MATH 1060 or EGD 1600 and EGD 1610 are prerequisites for this course)	
	EGDT 2310	Structural Steel Modeling (3)	
	EGDT 2600	Applied Structures I - Statics (3) (MATH 1050, or EGD 1600 and EGD 1610 are prerequisites for this course)	
	EGDT 2610	Applied Structures II - Strength of Materials (3) (MATH 1050, or EGD 1600 and EGD 1610 are prerequisites for this course)	
General Drafting and Design Track. (Students select this track if interested in a career in general techniques and principles.) Complete the following:			
	EGDT 1020	3D Architectural Modeling (3)	
	EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
	EGDT 1070	3 Dimensional Modeling--Inventor (3)	
or	EGDT 1071	3 Dimensional Modeling--Solidworks (3)	
	EGDT 1300	Structural Drafting (3)	
	EGDT 1400	Surveying Applications and Field Techniques I (3)	
Choose 11 Credits of Electives from the following: (Some courses may have additional prereqs.)			
	ARC 1010	Classical Architecture Workshop (3)	
	ARC 2110	Architecture Studio I (4)	
	ARC 2210	Architecture Studio II (4)	
	EGDT 1010	Electrical Electronic Drafting (3)	
	EGDT 1050	Introduction to 3D Printing PP (2)	
	EGDT 1060	MicroStation Infrastructure Design (3)	
	EGDT 1100	Architectural Drafting and Design (3)	
	EGDT 1200	Mechanical Drafting (3)	
	EGDT 1300	Structural Drafting (3)	
	EGDT 1600	Technical Math Algebra (3)	
	EGDT 1610	Technical Math Geometry Trig (3)	
	EGDT 1720	Architectural Rendering FF (3)	
	EGDT 2020	Descriptive Geometry (3)	
	EGDT 2040	Piping Drafting (2)	
	EGDT 2100	Architecture Materials and Methods (3)	
	EGDT 2200	Advanced Mechanical (3)	
	EGDT 2300	Advanced Structural--CAD (3)	
	EGDT 2310	Structural Steel Modeling (3)	
	EGDT 2400	Surveying Applications and Field Techniques II (3)	
	EGDT 2500	3 Dimensional Modeling--Civil 3D (3.0)	
	EGDT 2610	Applied Structures II - Strength of Materials (3)	
	EGDT 281R	Internship (1)	
	EGDT 285R	AEC Design Lecture Series (0.5)	

# Architecture and Engineering Design

	EGDT 2860	Cooperative Correlated Instruction SkillsUSA (0.5)	
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## 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.

## Engineering Design Technology, A.S.

### Careers

1. Graduates will be proficient in 5 major industrial areas of design and drafting.
2. Graduates will be conversant in the subject matter of all drafting disciplines at a 75% or higher level as demonstrated by oral presentation and display of samples of work completed while in the EGDT program

### Related Careers

- Architectural and Civil Drafters
- Electrical and Electronics Drafters
- Mechanical Drafters
- Drafters, All Other

## Surveying Technology, A.A.S.

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### Requirements

The AAS in Surveying Technology meets the educational component for licensure as a Professional Land Surveyor (PLS) in the State of Utah according to the State of Utah Office of Administrative Rules 156-22-302(c)(1).

This degree prepares students for immediate employment beyond entry level work in surveying or civil engineering firms.

Students will be prepared to perform many of the various field and office tasks related to surveying including site and topographic surveys, boundary investigation and research, map-making, various survey adjustment calculations, writing of legal property descriptions, and other survey technician duties and responsibilities.

### Total Program Credits: 63

Matriculation Requirements:	
Before being formally admitted into the AAS Surveying Technology degree program, full and part-time students must matriculate into the AAS Surveying and Mapping Cohort by completing a Matriculation Application on or before the July 15th deadline prior to the Fall cohort to which the student desires to gain entry. No courses may be taken until the student has been approved by the Surveying and Mapping Program Coordinator. Complete My Educator with an exam score of 80% or higher OR complete IM 2010 Business Computer Proficiency (3.0 credit hours) with B- or higher. All Surveying and Mapping students who have been matriculated into the Associate of Applied Science degree program must have access to their own laptop computer which can be made available during classes and which meets the minimum hardware specifications as defined by current AutoCAD® hardware specifications prior to starting classes in the semester for which they have matriculated.	
General Education Requirements:	12 Credits

Complete one of the following English courses (Recommend MKTG 220G):			3
	ENGL 1010	Introduction to Academic Writing CC	
or	ENGH 1005	Literacies and Composition Across Contexts CC (5)	
	MKTG 2200	Written Business Communication GI WE (3)	
Complete one of the following Mathematics courses(Recommend EGDT 1600):			3
	EGDT 1600	Technical Math Algebra (3)	
	MATH 1060	Trigonometry QL (3)	
Complete any approved Humanities, Fine Arts, or Foreign Language Distribution Course. (Recommend COMM 1020)			3
	Any approved Biology or Physical Science Course (Recommend PHYS 1010)		3
Surveying and Technology Foundation			51 Credits
	SURV 1020	Introduction to Surveying and Mapping WE	1
	EGDT 1040	Fundamentals of Technical Engineering Drawing	3
	EGDT 1400	Surveying Applications and Field Techniques I	3
	EGDT 1610	Technical Math Geometry Trig	3
	SURV 1030	Fundamentals of Geodesy and Control Surveys	3
	SURV 1220	Remote Sensing and Photogrammetry	3
	SURV 1340	Fundamentals of Boundary Law	3
	SURV 2010	Land History of America WE	3
	EGDT 2400	Surveying Applications and Field Techniques II	3
or	SURV 2100	Mapping From Field to Finish	3
	SURV 2310	Surveying US Public Lands	3
	SURV 2320	Property Descriptions	3



		and Public Land Records	
	<a href="#">SURV 2350</a>	Ethics and Liabilities for Surveyors	2
	<a href="#">GIS 2640</a>	Fundamentals of Geographic Information Systems	3
Any lower division elective courses with the following prefixes: SURV, GIS, GEOG, EGDT, CIVE, CMGT, or MATH for a total of 12 credit hours			15

## Graduation Requirements:

1. Completion of a minimum of 63 semester credits required for a AAS degree
2. Minimum overall grade point average 2.0 or above.
3. Residency hours: Minimum of 20 credit hours of Surveying and Mapping courses through course attendance at UVU.

## Surveying Technology, A.A.S. Careers

1. Implement the principles and practices of the professional Land Surveyor.
2. Integrate the professionals' role and responsibilities of protecting the land rights, title, and interest of the public.
3. Perform all common land surveys using professionally acceptable metrology and geodesy principles and practices.
4. Create maps using professionally acceptable drafting, design, and cartographic principles and practices.
5. Develop prudent ethical judgement and critical thinking skills in making professional decisions.

## Related Careers

- Cartographers and Photogrammetrists
- Surveyors
- Surveying and Mapping Technicians

## Surveying and Mapping, A.S.

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## Requirements

Geomatics is the study of geospatial measurement and representation including such disciplines as land surveying, photogrammetry, remote sensing (satellite imaging and laser scanning), geographic information systems (GIS), cartography, global positioning systems (GPS), and some parts of geography and civil engineering.

Geomatics is a discipline which integrates acquisition, modeling, analysis, and management of geo-spatial reference data.

Based on the scientific framework of geodesy, it uses terrestrial, marine, airborne, satellite-based sensors, and measurement systems and technologies to acquire spatial and other data.

The Land Surveying component of Geomatics includes investigation, analysis, and application of boundary/property laws and legal principles pertaining to specific public and private properties and is a regulated profession wherein a license to practice land surveying is issued by each state in an effort to protect the public and private interests in property boundaries.

Students in the Geomatics program may earn an Associate in Science in Geomatics which will help them be immediately employable as entry level surveyor GIS technician.

Students may also earn a Bachelor of Science in Geomatics which will prepare them to successfully pass the national Fundamentals of

Surveying (FS) exam which is a significant step towards surveying licensure.

The bachelor degree program has been developed around four core disciplines which build on an in-depth foundation of knowledge needed for the professional practice of surveying and GIS.

Geomatics program goals are to secure ABET/ASAC accreditation by Fall Semester 2017 and to continue to encourage student interest in obtaining graduate degrees in the field of Geomatics from other nationally ranked institutions.

The program is operating under an annual cohort system starting in the fall semester of each year, so matriculation is required to ensure that each prospective student completes all required course prerequisites prior to entrance into a cohort.

## Total Program Credits: 60

General Education Requirements:			35 Credits
	<a href="#">ENGL 1010</a>	Introduction to Academic Writing CC	3
or	<a href="#">ENGH 1005</a>	Literacies and Composition Across Contexts CC (5.0)	
	<a href="#">ENGL 2010</a>	Intermediate Academic Writing CC	3
Complete one of the following:			3
	<a href="#">MAT 1030</a>	Quantitative Reasoning QL (3.0)	
	<a href="#">MAT 1035</a>	Quantitative Reasoning with Integrated Algebra QL (6.0)	
	<a href="#">STAT 1040</a>	Introduction to Statistics QL (3.0)	
	<a href="#">STAT 1045</a>	Introduction to Statistics with Algebra QL (5.0)	
	<a href="#">MATH 1050</a>	College Algebra QL (4.0)	
	<a href="#">MATH 1055</a>	College Algebra with Preliminaries QL (5.0)	
Complete one of the following:			3
	<a href="#">HIST 1700</a>	American Civilization AS (3.0)	
	<a href="#">HIST 1740</a>	US Economic History AS (3.0)	
	<a href="#">HIST 2700</a>	US History to 1877 AS (3.0)	
and	<a href="#">HIST 2710</a>	US History since 1877 AS (3.0)	
	<a href="#">POLS 1000</a>	American Heritage SS (3.0)	
	<a href="#">POLS 1100</a>	American National Government AS (3.0)	
Complete the following:			
	<a href="#">PHIL 2050</a>	Ethics and Values IH	3
	<a href="#">HLTH 1100</a>	Personal Health and Wellness TE (2.0)	
or	<a href="#">EXSC 1097</a>	Fitness for Life TE	2
Distribution Courses:			
	Biology		3
	Physical Science		3
	Additional Biology or Physical Science		3
	Humanities		3
	Fine Arts		3
	Social/Behavioral		3
Discipline Core Requirements:			22 Credits
	My Educator Exam *		
	<a href="#">SURV 1020</a>	Introduction to Surveying and Mapping WE	1

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	EGDT 1040	Fundamentals of Technical Engineering Drawing	3
	EGDT 1400	Surveying Applications and Field Techniques I	3
Complete one of the following:			
	MATH 1060	Trigonometry QL	3
	EGDT 1600	Technical Math Algebra (3.0)	3
and	EGDT 1610	Technical Math Geometry Trig (3.0)	3
	EGDT 2400	Surveying Applications and Field Techniques II	3
	MKTG 220G	Written Business Communication GI WE	3
	SURV 2310	Surveying US Public Lands (3.0)	3
	SURV 2320	Property Descriptions and Public Land Records (3.0)	3
Elective Requirements:			
Approved Surveying and Mapping elective courses can be taken with the following prefixes: SURV, GIS, EGDT, CIVE, CMGT, or MATH			3

## Graduation Requirements:

1. Completion of a minimum of 60 or more 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.

## Footnote

\* Students will be required to complete the My Educator exam with a score of 80 percent or higher or complete the IM 2010 course with a score of 80 percent or higher.

## Surveying and Mapping, A.S.

### Careers

1. Demonstrated critical thinking ability in performing surveying, mapping, or civil design duties and responsibilities at a professionally competent level and to communicate technical information effectively in a professional team environment.
2. Exercised prudent ethical judgement in professional decisions while protecting the land rights, title, and interest of the public.
3. Advanced professionally by being given more responsibilities; or have successfully completed a graduate level degree.
4. Demonstrated professional development through continuing education or earning certifications or professional licensure.
5. Served in their professional organizations and/or local communities.

### Related Careers

- Cartographers and Photogrammetrists
- Surveyors
- Surveying and Mapping Technicians

## Architectural Design Technology, Certificate of Proficiency

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## Requirements

The Certificate of Proficiency in Architectural Design Technology applies the technical and functional elements of residential and commercial architectural design. Students will take courses in the fundamentals of drafting and design, two-dimensional and three-dimensional software/ Building Information Modeling (BIM) packages, architectural rendering, residential design and construction, and commercial design and construction.

### Total Program Credits: 17

Discipline Core Requirements:		17 Credits
EGDT 1000	Introduction to Engineering Drawing and Technical Design	2
EGDT 1020	3D Architectural Modeling	3
EGDT 1040	Fundamentals of Technical Engineering Drawing	3
EGDT 1100	Architectural Drafting and Design	3
EGDT 1720	Architectural Rendering FF	3
EGDT 2100	Architecture Materials and Methods	3

### Graduation Requirements:

1. Completion of a minimum of 17 semester credits.
2. Minimum grade of C- required in all courses.
3. Overall grade point average of 2.0 (C) or above.
4. Residency hours-- minimum of 5 credit hours through course attendance at UVU.

## Architectural Design Technology, Certificate of Proficiency

### Careers

1. Demonstrate knowledge of architectural design, building codes, and construction methods and materials
2. Create quality, industry level design drawings for the design discipline
3. Use industry standard design software when producing design drawings

### Related Careers

- Architectural and Civil Drafters

## Civil Design and Surveying Technology, Certificate of Proficiency

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### Requirements

The Certificate of Proficiency in Civil Design and Surveying Technology will be dedicated to teaching the technical and functional elements of civil design and surveying, and will educate students in the process of taking civil related projects from data obtained from ground observations and measurements made by surveying to conceptual design to completed construction documents and finally to surveying and staking the proposed design on the ground so it can be constructed. Students will be required to take civil and surveying courses currently offered in the Engineering Design Technology (EDT) department including the courses from the Drafting Technology program and the Surveying and Mapping program. From these courses students will learn the basics of surveying, civil drafting and design, and be trained in industry standard two-dimensional and three-dimensional software packages. Students will also take courses in surveying applications, land development,

advanced field and office surveying, and civil design. A student with a Certificate of Proficiency in Civil Design and Surveying Technology will be prepared for an entry level job as a civil drafter/designer or survey technician. They can increase their education, training, and employability by completing the Associate of Applied Science in Engineering Design Technology, Certificate of Proficiency in Mapping Technology, Certificate of Proficiency in Surveying Technology, Associate of Applied Science in Surveying Technology (pending), Associate of Science in Surveying and Mapping and/or a Bachelor of Science in Surveying and Mapping.

## Total Program Credits: 18

Discipline Core Requirements:		12 Credits
Choose one of the following courses:		3
EGDT 1600	Technical Math Algebra (3.0)	
and EGDT 1610	Technical Math Geometry Trig (3.0)	
or MATH 1060	Trigonometry QL (3.0)	
EGDT 1040	Fundamentals of Technical Engineering Drawing	3
EGDT 1400	Surveying Applications and Field Techniques I	3
EGDT 2400	Surveying Applications and Field Techniques II	3
Elective Requirements:		6 Credits
Choose 6 credit hours:		6
Any course beginning with the following prefix may be taken as an elective: EGDT, SURV, GIS, ENGR, or CIVE		

## Graduation Requirements:

1. Completion of a minimum of 18 semester credits.
2. Minimum grade of C- required in all courses.
3. Overall grade point average of 2.0 (C) or above.
4. Residency hours-- minimum of 4 credit hours through course attendance at UVU.

## Civil Design and Surveying Technology, Certificate of Proficiency

### Careers

1. Implement the principles and practices of the Survey Technician, Mapper, and Civil Designer.
2. Perform all common land surveys and civil engineering plans using professionally acceptable principles and practices of civil design and surveying.
3. Create maps and plans using professionally acceptable drafting, design, and cartographic principles and practices.

## Related Careers

- Cartographers and Photogrammetrists
- Surveyors
- Surveying and Mapping Technicians

## Mechanical Design Technology, Certificate of Proficiency

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## Requirements

The Certificate of Proficiency in Mechanical Design Technology applies the technical and functional elements of mechanical design. Students

will take courses in the fundamentals of drafting and design, basic mechanical drafting and design, two-dimensional and three-dimensional software packages, electrical design, and advanced mechanical design.

## Total Program Credits: 17

Discipline Core Requirements:		17 Credits
EGDT 1000	Introduction to Engineering Drawing and Technical Design	2
EGDT 1010	Electrical Drafting and Design	3
EGDT 1040	Fundamentals of Technical Engineering Drawing	3
EGDT 1070	3 Dimensional Modeling--Inventor	3
or EGDT 1071	3 Dimensional Modeling--Solidworks (3.0)	
EGDT 1200	Mechanical Drafting and Design	3
EGDT 2200	Advanced Mechanical	3

## Graduation Requirements:

1. Completion of a minimum of 17 semester credits.
2. Minimum grade of C- required in all courses.
3. Overall grade point average of 2.0 (C) or above.
4. Residency hours-- minimum of 5 credit hours through course attendance at UVU.

## Mechanical Design Technology, Certificate of Proficiency

### Careers

1. Demonstrate knowledge of mechanical design and engineering reference materials (Machinery's Handbook).
2. Create quality, industry level design drawings for the design discipline.

## Related Careers

- Mechanical Drafters

## Structural Design Technology, Certificate of Proficiency

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## Requirements

The Certificate of Proficiency in Structural Design Technology applies the technical and functional elements of structural steel detailing. Students will take courses in the fundamentals of drafting and design, basic structural steel detailing, two-dimensional and three-dimensional software/Building Information Modeling (BIM) packages, and advanced structural design and detailing.

## Total Program Credits: 17

Discipline Core Requirements:		17 Credits
EGDT 1000	Introduction to Engineering Drawing and Technical Design	2
EGDT 1020	3D Architectural Modeling	3
EGDT 1040	Fundamentals of Technical Engineering Drawing	3
EGDT 1300	Structural Drafting and Design	3

## Architecture and Engineering Design

EGDT 2300	Advanced Structural CAD	3
EGDT 2310	Structural Steel Modeling	3

### Graduation Requirements:

1. Completion of a minimum of 17 semester credits.
2. Minimum grade of C- required in all courses.
3. Overall grade point average of 2.0 (C) or above.
4. Residency hours-- minimum of 5 credit hours through course attendance at UVU.

## Structural Design Technology, Certificate of Proficiency

### Careers

1. Demonstrate knowledge of structural steel detailing/design and the AISC Standards.
2. Create quality, industry level design drawings for the design discipline.
3. Use industry standard design software when producing design drawings.

### Related Careers

- Drafters, All Other

## Surveying Technology, Certificate of Proficiency

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### Requirements

The Certificate of Proficiency in Surveying Technology is intended to provide part of the educational competency required for licensure as a Professional Land Surveyor (PLS) in the State of Utah. If an individual holds a bachelor of science degree in a related surveying field such as civil engineering or construction management, according to the State of Utah Office of Administrative Rules 156-22-302(c)(3), they may complete an additional 30 semester hours of surveying specific course work to complete the educational component for licensure. This certificate meets this regulatory educational requirement if the related degree includes algebra, calculus, geometry, statistics, or trigonometry. It prepares students for immediate employment beyond entry level work in surveying or civil engineering firms as a crew chief or a position with similar responsibilities. Students will be prepared to perform many of the various field and office tasks related to surveying including site and topographic surveys, boundary investigation and research, map-making, various survey adjustment calculations, writing of legal property descriptions, and other survey technician duties and responsibilities.

### Total Program Credits: 28

Surveying Technology Foundation		28 Credits
SURV 1020	Introduction to Surveying and Mapping WE	1
EGDT 1040	Fundamentals of Technical Engineering Drawing	3
EGDT 1400	Surveying Applications and Field Techniques I	3
SURV 1220	Remote Sensing and Photogrammetry	3
EGDT 2400	Surveying Applications and Field Techniques II	3
SURV 2310	Surveying US Public Lands	3

SURV 2320	Property Descriptions and Public Land Records	3
SURV 3340	Boundary Law	3
Approved Surveying and Mapping elective courses can be taken with the following prefixes: SURV, GIS, GEOG, EGDT, ENGR, CIVE, CMGT, MATH, or LEGL. Total of 6 credit hours		6

### Graduation Requirements:

1. Completion of a minimum of 28 semester credits required for a Certificate of Completion in Surveying Technology
2. Overall grade point average 2.5 or above with a minimum of 3.0 GPA in all Surveying Technology courses. No grade lower than a "B" in all Surveying Technology Foundation courses.
3. Residency hours: Minimum of 8 credit hours of Surveying and Mapping courses through course attendance at UVU.

## Surveying Technology, Certificate of Proficiency

### Careers

1. Implement the principles and practices of the professional Land Surveyor.
2. Integrate the professionals' role and responsibilities of protecting the land rights, title, and interest of the public.
3. Perform the common land surveys using professionally acceptable metrology and geodesy principles and practices.
4. Create maps using professionally acceptable drafting, design, and cartographic principles and practices.
5. Develop prudent ethical judgement and critical thinking skills in making professional decisions.

### Related Careers

- Cartographers and Photogrammetrists
- Surveyors
- Surveying and Mapping Technicians

## Architecture, B.Arch

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### Requirements

The Bachelor of Architecture (B.Arch) is a five-year professional degree that prepares students for leadership in the profession of architecture and urban design. The program promotes a built environment that bolsters genuine communities through architecture that is durable, useful, beautiful, and human-scaled. Designed to meet the National Architectural Accreditation Board (NAAB) requirements, the degree is rooted in classical and traditional architecture with a holistic foundation in the craft of building, building technology, practice-based coursework, plan and document generation, building codes, specifications, digital parametric modeling, building information modeling, architectural visualization, digital fabrication, building envelope systems, structural systems, and sustainability.

The program is structured as a two-plus-three stackable credential, awarding an Associate of Science in Engineering Design Technology (Architectural Design & Drafting Track) after the first two years and a comprehensive professional B.Arch degree for the final three years. This allows students who do not wish to pursue licensure a two-year path into the profession. In their final three years, students engage in coursework which readies them to become licensed, practicing architects, projects managers, principals, owners, and community leaders in the profession. Students learn to design buildings in a historical and cultural context through coursework in history, theory,



culture, and community service. Concurrently, students engage in arts and science courses to expand critical thinking and understand current design and building technologies, making them ideal employees in architecture offices and related design & construction industries including civil, mechanical, and electrical engineering. Students acquire leadership skills through courses in professional practice, ethics, and architectural registration exam preparation. A total of at least 153 hours of coursework is required for the Bachelor of Architecture (B.Arch).

## Total Program Credits: 153

Matriculation Requirements			
1. Before being formally admitted into the Bachelor of Architecture (B-Arch) degree program, students must matriculate into the Architecture Cohort (the final 3 years of the program) by either completing the AS Engineering Design Technology (Architecture Design and Drafting Track) with a minimum grade of C or better in all courses, OR by completing matriculation requirements 2:			
2. Complete the following courses with a C grade or better.			
	PHYS 1010	Elementary Physics PP	3
or	PHYS 2010	College Physics I PP (3)	
	EGDT 1020	3D Architectural Modeling	3
	EGDT 1100	Architectural Drafting and Design	3
	EGDT 2100	Architecture Materials and Methods	3
	EGDT 2600	Applied Structures I - Statics (MATH 1050 is a prerequisite for this course)	3
	ARC 1010	Classical Architecture Workshop	4
	ARC 2110	Architecture Studio I	4
	ARC 2210	Architecture Studio II	3
	ARC 2220	Construction Documents and Specifications	3
All Architecture students must complete a Matriculation Application and Portfolio by the appointed deadline during the Spring semester prior to the Fall Bachelor Degree cohort to which the student desires to gain entry. Subsequently an official acceptance letter must be obtained from the Architecture Program Coordinator prior to taking any further Architecture courses. Part-time students may be admitted into the Architecture cohort and may be allowed to proceed through the program at their own pace. All transfer credits must be approved in writing by UVU and the B-ARCH Program Coordinator.			
General Education Requirements			36 Credits
	ENGL 1010	Introduction to Academic Writing CC	3
or	ENGL 1005	Literacies and Composition Across Contexts CC (5)	
	ENGL 2010	Intermediate Academic Writing CC	3
Complete the following:			4
	MATH 1050	College Algebra QL (4) (MATH 1050 is a prerequisite for many classes in the program core.)	
	MATH 1055	College Algebra with Preliminaries QL (5)	
Complete one of the following:			3
	HIST 1700	American Civilization AS (3)	
	HIST 1740	US Economic History AS (3)	
	HIST 2700	US History to 1877 AS (3)	
and	HIST 2710	US History since 1877 AS (3)	
	POLS 1000	American Heritage SS (3)	

	POLS 1100	American National Government AS (3)	
Complete the following:			
	PHIL 2050	Ethics and Values IH	3
	HLTH 1100	Personal Health and Wellness TE	2
or	EXSC 1097	Fitness for Life TE (2)	
	PHYS 1010	Elementary Physics PP	3
or	PHYS 2010	College Physics I PP (3)	
Biology (Recommended BIOL 1010 General Biology)			3
Humanities (Recommended ENGL 2100 Technical Communication HH)			3
Social/Behavioral Science (Recommended COMM 1050 Introduction to Speech Communication)			3
Physical Science (Recommended GEO 1010 Introduction to Geology)			3
Fine Arts (Recommended EGDT 1720 Architectural Rendering)			3
Discipline Core Requirements			102 Credits
	EGDT 1020	3D Architectural Modeling	3
	EGDT 1100	Architectural Drafting and Design	3
	EGDT 2100	Architecture Materials and Methods	3
	EGDT 2600	Applied Structures I - Statics (MATH 1050 is a prerequisite for this course)	3
	EGDT 2610	Applied Structures II - Strength of Materials	3
	ARC 1010	Classical Architecture Workshop	3
	ARC 2110	Architecture Studio I	4
	ARC 2210	Architecture Studio II	4
	ARC 2220	Construction Documents and Specifications	3
	ARC 3110	Architecture Studio III	6
	ARC 3120	Architectural Graphic Communication	3
	ARC 3130	Codes and Construction Law	3
	ARC 3210	Architecture Studio IV	6
	ARC 3220	Passive Environmental Systems	3
	ARC 3230	Global History of Architecture to 1700 WE	3
	ARC 4110	Architecture Studio V	6
	ARC 4120	Active Environmental Systems	3
	ARC 4130	Global History of Architecture Since 1700 WE	3
	ARC 4210	Architecture Studio VI	6
	ARC 4220	Building Envelope and Science	3
	ARC 4230	Capstone Project Research	3
	ARC 4510	Architecture Studio VII	6
	ARC 4520	Architectural Theory	3
	ARC 4530	Culture and Behavior in Architecture	3
	ARC 4540	Architecture Professional Practice	3
	ARC 4610	Architecture Studio VIII	7

## Architecture and Engineering Design

CMGT 405G	Global Sustainability and the Built Environment GI WE	3
Elective Requirements		15
Choose 15 credits from the following: (Some courses may have additional prereqs.)		15
ARC 459R	Special Topics in Architecture (1-6) (Strongly Recommended)	
EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
EGDT 1050	Introduction to 3D Printing and Fabrication PP (2)	
EGDT 1070	3 Dimensional Modeling Inventor (3.0)	
EGDT 1071	3 Dimensional Modeling--Solidworks (3.0)	
EGDT 1200	Mechanical Drafting and Design (3.0)	
EGDT 1300	Structural Drafting and Design (3.0)	
EGDT 1400	Surveying Applications and Field Techniques I (3.0)	
EGDT 1720	Architectural Rendering FF (3.0)	
EGDT 2300	Advanced Structural CAD (3)	
EGDT 2310	Structural Steel Modeling (3)	
EGDT 2400	Surveying Applications and Field Techniques II (3)	
ART 1810	Introduction to Interior Design (3)	
ART 1820	Interior Space Design (3)	
ART 1830	Residential Interior Design (3)	
ART 2815	Historical Architecture and Interior Design FF (3)	
ART 2825	Modern Architecture Interiors and Furnishings (3)	
ARTH 2710	Prehistoric Through Gothic Art History FF (3)	
ARTH 2720	Renaissance Through Contemporary Art History FF (3)	
ARTH 3010	History of Design and Visual Arts (3)	
ARTH 3015	Ancient Art of Egypt and the Near East (3)	
ARTH 3020	Classical Art and Architecture History (3)	
ARTH 3030	Medieval Art and Architecture History (3)	
ARTH 3040	Renaissance Art History (3)	
ARTH 3050	Baroque Art and Architecture History (3)	
ARTH 3060	Nineteenth-Century Art History (3)	
ARTH 3080	History of Architecture (3.0)	
ARTH 3100	History of American Art and Architecture (3.0)	
CAW 1100	Artistic Wood Design (3)	
CMGT 1190	Concrete and Framing Lab (3)	
CMGT 1010	Introduction to Construction Management (3)	
CMGT 1220	Finishing Lab (3)	

CMGT 1020	Construction Materials and Methods I (3)	
CMGT 2010	Construction Materials and Methods II (3)	
CMGT 2080	Principles of Construction Scheduling (3)	
CMGT 3030	Principles of Construction Estimating (3)	
CMGT 3140	Construction Real Estate (3)	
CMGT 3160	Building Information Modeling (3)	
CMGT 4010	Construction Contracts (3)	
DWDD 1400	Digital Design Essentials (3)	
DAGV 1300	Animation Essentials (3)	
and DAGV 130L	Animation Essentials Lab	
DAGV 1200	3D Modeling Essentials (3)	
DAGV 2210	3D Modeling and Animation (4)	

### Graduation Requirements:

1. Completion of a minimum of 153 semester credits required for the B.Arch degree; at least 40 credit hours must be upper-division courses.
2. Overall grade point average of 2.5 or above, with a minimum grade of C- in all Architecture courses and elective requirements.
3. Residency hours: Minimum of 45 credit hours of Architecture courses through course attendance at UVU, with at least 10 hours earned in the last 45 hours.
4. Completion of GE and specified departmental requirements. Students are responsible for completing all prerequisite courses.
5. Successful completion of at least one Global/Intercultural course.

### Architecture, B.Arch Careers

1. ARCHITECTURAL SOLUTIONS: Demonstrate the ability to integrate design solutions and utilize appropriate building materials, building systems, and sound construction practices.
2. BUILDING SYSTEMS KNOWLEDGE: Incorporate a wide range of technical skills and professional architectural knowledge during schematic design to demonstrate a comprehensive application of life safety, accessibility, and sustainability issues in making sound design decisions across varying scales and levels of complexity.
3. GRAPHIC DESIGN AND REPRESENTATION: Conceive of multifaceted two and three-dimensional graphic representation techniques using a wide variety of both traditional and digital methods, to describe the architectural design.
4. BUILDING DESIGN PRINCIPLES: The knowledge and the know how to apply design decisions through appropriate technical documentation to serve client's needs, create a pleasing aesthetic, create cost effective solutions, and become responsible stewards of the environment.
5. ARCHITECTURAL SOLUTIONS: Demonstrate the ability to integrate design solutions and utilize appropriate building materials, building systems, and sound construction practices.
6. PRACTICE OF ARCHITECTURE: Collaborate and lead teams of stakeholders throughout the design process.
7. Conceive, develop, and implement solutions to a wide range of design problems in the physical built environment.
8. Understand the ethics, legal requirements, financial and social responsibilities of professional practice.

### Related Careers

- Architectural and Engineering Managers

- Architects, Except Landscape and Naval
- Architecture Teachers, Postsecondary

## Surveying and Mapping, B.S.

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### Requirements

Surveying and Mapping is the study of geospatial measurement and representation including such disciplines as land surveying, photogrammetry, remote sensing (satellite imaging and laser scanning), geographic information systems (GIS), cartography, global positioning systems (GPS), and some parts of geography and civil engineering. Surveying and Mapping is a discipline which integrates acquisition, modeling, analysis, and management of geo-spatial reference data. Based on the scientific framework of geodesy, it uses terrestrial, marine, airborne, satellite-based sensors, and measurement systems and technologies to acquire spatial and other data.

The Land Surveying component of Surveying and Mapping includes investigation, analysis, and application of boundary/property laws and legal principles pertaining to specific public and private properties and is a regulated profession wherein a license to practice land surveying is issued by each state in an effort to protect the public and private interests in property boundaries.

Students in the Surveying and Mapping program may earn an Associate in Science in Surveying and Mapping which will help them be immediately employable as an entry level surveyor or GIS technician. Students may also earn a Bachelor of Science in Surveying and Mapping which will prepare them to successfully pass the national Fundamentals of Surveying (FS) exam which is a significant step towards surveying licensure.

The bachelor degree program has been developed around four core disciplines which build on an in-depth foundation of knowledge needed for the professional practice of surveying and GIS.

Surveying and Mapping program goals are to secure ABET/ASAC accreditation by Fall Semester 2017 and to continue to encourage student interest in obtaining graduate degrees in the field of Surveying and Mapping from other nationally ranked institutions.

The program is operating under an annual cohort system starting in the fall semester of each year, so matriculation is required to ensure that each perspective student completes all required course prerequisites prior to entrance into a cohort.

### Total Program Credits: 121

Matriculation Requirements:	
1. Before being formally admitted into the BS Surveying and Mapping, students must matriculate into the Surveying and Mapping Cohort (the final 2 years of the program) by either completing an AS in Surveying and Mapping with a minimum grade of C or better, (except for MATH 1060 and/or its equivalents which must be a B or better) OR by completing AS in Engineering Design Technology- Civil Drafting and Design Track OR by completing matriculation requirements 2 and 3:	
2. Complete My Educator with an exam score of 80% or higher OR complete IM 2010 Business Computer Proficiency (3.0 credit hours) with B- or higher.	
3. Complete the following courses with a B grade or better:	
• SURV 1020 Introduction to Surveying and Mapping WE (1)	
• EGDT 1040 Fundamentals of Technical Engineering Drawing (3)	
• EGDT 1400 Surveying Applications and Field Techniques I (3)	
• MATH 1060 Trigonometry (3)	
• or EGDT 1600 Technical Math--Algebra (3)	

- and EGDT 1610 Technical Math--Geometry/Trig (3)
- MKTG 220G Written Business Communication GI WE (3)

4. All Surveying and Mapping students must complete a Matriculation Application by the appointed deadline during the Spring semester prior to the Fall bachelor degree cohort to which the student desires to gain entry. Subsequently official approval must be obtained from the Program Coordinator prior to taking any further Surveying and Mapping courses. Part-time students may be admitted into the Surveying and Mapping cohort and may be allowed to proceed through the program at their own pace.

5. All Surveying and Mapping, Bachelor of Science degree program students must have access to their own laptop computer which can be made available during classes and which meets the minimum hardware specifications as defined by current AutoCAD® hardware specifications prior to starting classes in the semester for which they are matriculating.

General Education Requirements:			35 Credits
	ENGL 1010	Introduction to Academic Writing CC	3
or	ENGL 1005	Literacies and Composition Across Contexts CC (5)	
	ENGL 2010	Intermediate Academic Writing CC (3)	3
Complete one of the following:			3
	MAT 1030	Quantitative Reasoning QL (3)	
	MAT 1035	Quantitative Reasoning with Integrated Algebra QL (6)	
	STAT 1040	Introduction to Statistics QL (3)	
	STAT 1045	Introduction to Statistics with Algebra QL (5)	
	MATH 1050	College Algebra QL (4)	
	MATH 1055	College Algebra with Preliminaries QL (5)	
Complete one of the following:			3
	HIST 1700	American Civilization AS (3)	
	HIST 1740	US Economic History AS (3)	
	HIST 2700	US History to 1877 AS (3)	
and	HIST 2710	US History since 1877 AS (3)	
	POLS 1000	American Heritage SS (3)	

## Architecture and Engineering Design

	<a href="#">POLS 1100</a>	American National Government AS (3)	
Complete the following:			
	<a href="#">PHIL 2050</a>	Ethics and Values IH	3
	<a href="#">HLTH 1100</a>	Personal Health and Wellness TE (2)	
or	<a href="#">EXSC 1097</a>	Fitness for Life TE	2
Distribution Courses:			
	Biology		3
	Physical Science		3
	Additional Biology or Physical Science		3
	Humanities		3
	Fine Arts		3
	Social/Behavioral Science		3
Discipline Core Requirements:			71 Credits
Surveying and Mapping Core			
	<a href="#">MATH 1060</a>	Trigonometry QL	3
or	<a href="#">EGDT 1600</a>	Technical Math Algebra (3)	
and	<a href="#">EGDT 1610</a>	Technical Math Geometry Trig (3)	
	<a href="#">SURV 1020</a>	Introduction to Surveying and Mapping WE	1
	<a href="#">EGDT 1040</a>	Fundamentals of Technical Engineering Drawing	3
	<a href="#">EGDT 1400</a>	Surveying Applications and Field Techniques I	3
	<a href="#">EGDT 2400</a>	Surveying Applications and Field Techniques II	3
	<a href="#">MKTG 220G</a>	Written Business Communication GI WE	3
	<a href="#">SURV 1220</a>	Remote Sensing and Photogrammetry	3
	<a href="#">SURV 2010</a>	Land History of America WE	3
	<a href="#">SURV 2310</a>	Surveying US Public Lands	3
	<a href="#">SURV 2320</a>	Property Descriptions	3

		and Public Land Records	
	<a href="#">GIS 3600</a>	Introduction to Geographic Information Systems	4
	<a href="#">GIS 3620</a>	Advanced Geographic Information Systems	3
	<a href="#">SURV 3340</a>	Boundary Law	3
	<a href="#">SURV 3400</a>	Surveying Applications and Field Techniques III	3
	<a href="#">SURV 451R</a>	Surveying and Mapping Lecture Series	2
	<a href="#">SURV 455G</a>	Global Professional Ethics and Liabilities GI	3
	<a href="#">SURV 4930</a>	Senior Surveying and Mapping Capstone WE	4
Professional Focus Areas			
The following are suggested courses based on specific areas of professional/technical interest. You may choose all courses from one focus area or a combination of courses from both focus areas depending on personal goals.			21
Professional Surveying License Focus Area			
	<a href="#">SURV 2030</a>	Geodesy (3)	
	<a href="#">LEGL 3000</a>	Business Law (3)	
	<a href="#">SURV 3010</a>	Measurement Analysis and Adjustments (4)	
	<a href="#">SURV 3030</a>	Land Development Planning, Platting, and Mapping (3)	
	<a href="#">SURV 3210</a>	Advanced Photogrammetry (3)	
	<a href="#">SURV 3220</a>	Control Surveys (3)	
	<a href="#">SURV 3230</a>	Construction and Route Surveys (3)	
	<a href="#">SURV 4340</a>	Surveying Legal Principles (3)	
	<a href="#">SURV 4500</a>	Professional Services Practicum (3)	
	<a href="#">SURV 4700</a>	Fundamentals of Surveying Exam Prep (3)	
Civil Design and Mapping Focus Area			



	EGDT 1300	Structural Drafting (3)	
	EGDT 1060	MicroStation Infrastructure Design (3)	
	SURV 2030	Geodesy (3)	
	EGDT 2040	Piping Drafting (2)	
	EGDT 2500	3 Dimensional Modeling--Civil 3D (3)	
	CMGT 3010	Construction Materials Testing (3)	
	SURV 3220	Control Surveys (3)	
	SURV 3230	Construction and Route Surveys (3)	
	EGDT 3450	Civil Design Systems (3)	
	EGDT 3500	Advanced Civil Drafting and Design (3)	
	GIS 3630	Geographic Information Systems Application Development (3)	
Elective Requirements:			15 Credits
Approved Surveying and Mapping elective courses can be taken with the following prefixes: SURV, GIS, EGDT, ARC, ENGR, CIVE, PHYS, GEOG, CMGT, CS, ENST, MATH, or LEGL.			15

3. Advanced professionally by being given more responsibilities; or have successfully completed a graduate level degree.
4. Demonstrated professional development through continuing education or earning certifications or professional licensure.
5. Served in their professional organizations and/or local communities.

## Related Careers

- Cartographers and Photogrammetrists
- Surveyors
- Surveying and Mapping Technicians

## Graduation Requirements:

1. Completion of a minimum of 121 semester credits required for a BS degree; at least 40 credit hours must be upper-division courses.
2. Overall grade point average 2.5 or above with a minimum of 3.0 GPA in all Surveying and Mapping courses including Surveying and Mapping Core and Professional Focus Areas
3. Residency hours: Minimum of 30 credit hours of Surveying and Mapping courses through course attendance at UVU, with at least 10 hours earned in the last 45 hours.
4. Completion of GE and specified departmental requirements. Students are responsible for completing all prerequisite courses.
5. Successful completion of at least one Global/Intercultural course.
6. Taken the Fundamentals of Surveying (FS) exam offered by the National Council of Examiners for Engineering and Surveying (NCEES) if they have the Professional Surveying Focus

## Surveying and Mapping, B.S.

### Careers

1. Demonstrated critical thinking ability in performing surveying, mapping, or civil design duties and responsibilities at a professionally competent level and to communicate technical information effectively in a professional team environment.
2. Exercised prudent ethical judgement in professional decisions while protecting the land rights, title, and interest of the public.