Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Year: 2025
Course Prefix: EGDT
Course and Section #: 1400-601
Course Title: Surveying Applications and Field Techniques I
Credits: 3

Course Description

For people seeking a surveyor's license, civil engineering majors, Engineering Graphics and Design Technology majors, Construction Management majors, and anyone else wishing to learn fundamentals of surveying. Covers history of surveying, mathematics, field notes, measurement and computations, basic surveying instruments and equipment, leveling procedures, bearing computations, topography, mathematical traverse closures, area computations, and basic property surveying. Completers should be able to work in the job-entry phase of the surveying field.

Course Attributes

This course has the following attributes:

☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☒ Elective Core Requirements in Program
☒ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Tanner Beck

Student Learning Outcomes

1 Explain the history of surveying, the United States Public Land Survey system, basic surveying units of measure, and the State Plane Coordinate system;
2 Demonstrate proper handling, set-up and use, as well as maintenance of surveying equipment;
3 Perform basic horizontal distance measuring techniques using a surveyor's tape;
4 Demonstrate the proper completion of various forms of surveyor's field note sheets;
5 Demonstrate proper surveying procedures and safety to gather information and accomplish a topographic survey. The student will also produce the accompanying topographic map;
6 Demonstrate the proper set-up and use of an automatic level to accomplish a differential and profile leveling project;

7 Demonstrate the ability to carry out surveying mathematical computations, including bearing and azimuth calculations;
8 Demonstrate, using a total station, the proper techniques to complete a property traverse while demonstrating safe surveying techniques;
9 Demonstrate the ability to do a traverse mathematical closure using the Compass Rule Adjustment method and the accompanying area computation using the Double Meridian Distance method.

Course Materials and Texts

- Calculator capable of trig functions
- Drafting pencil
- Engineers Scale

Course Requirements

Course Assignments, Assessments, and Grading Policy
Attendance: Two classes each week. (13% of overall grade)
Assignments: A variety of field note assignments, and worksheets. (33% of overall grade)
Unit Exams: Three-unit exams taken on Canvas outside of class. Open note, but not open neighbor, browser, or AI. (14% of overall grade)
Final Exam: A comprehensive exam covering all course content (9% of overall grade)
Mapping Projects: Two final mapping projects combining skills and knowledge gained throughout the course. (26% of overall grade)
Papers: Two short papers including a personal biography and a safety reflection. (5% of overall grade)

Final grades are rounded to the nearest tenth and assigned the corresponding letter grade:

A = 93-100	B - = 80-82.9	D+ = 67-69.9
A - = 90-92.9	C+ = 77-79.9	D = 63-66.9
B+ = 87-89.9	C = 73-76.9	D - = 60-62.9
B = 83-86.9	C - = 70-72.9	F = 0-59.9

Required or Recommended Reading Assignments
There is no textbook required for this course. Readings will be minimal and provided by the instructor.

General Description of the Subject Matter of Each Lecture or Discussion
Unit 1: Surveying Procedures
- Types of measurement
- Units of measurement
- Equipment usage
- Field note procedures

Unit 2: Topographic Mapping
- Calculating and interpreting contours
- Topographic mapping methods
- Mapping procedures

Unit 3: Closed Traverse, Public Land Survey System, & State Plane Coordinates
- Bearing calculations
- Traverse adjustments
- Area computations
- Public Land Survey System
- State Plane Coordinates

Required Course Syllabus Statements

Generative AI
Recognizing the increasing prevalence of Artificial Intelligence (AI) in professional industries, it is essential for students to understand its potential as a valuable tool. Accordingly, students are encouraged to incorporate AI ethically and constructively in non-exam assignments within this class. The use of AI during exams is strictly prohibited. Upholding academic integrity, students must avoid plagiarism, adhering to class and school policies. Additionally, it is incumbent upon students to verify the accuracy of information obtained from AI sources. This conscientious approach not only ensures compliance with academic standards but also equips students with skills that will enhance their value to future employers.

Using Remote Testing Software
☐ This course does not use remote testing software.

☒ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities
Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the

community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.
To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.