

# **ETEC 4369-1 Surveying**

## **SPRING 2018**

Department	Agricultural Sciences and Engineering Technology
Course Number & Title	ETEC 4369-1 Surveying
Credit	3 Hours
Class Meeting Location	Harry L. Westmoreland Engineering Technology Laboratory (WETL) 101
Time	Tuesday, 1PM – 5PM
Instructor	Dr. Min Jae Suh
Office	Pirkle 420 C
Phone	936-294-1228
Email	mjs068@shsu.edu
Office hours	Tue, 8am-1pm & Wed, 10am-3pm or by appointments via email

*It is my intention to provide a pleasant learning environment for this course. I firmly believe that students and instructors should enjoy both learning and teaching.*

### **COURSE DESCRIPTION**

This course provides an introduction to fundamental surveying methods, operations, procedures, and equipment required for a construction site. Laboratory topics include surveying fieldwork, Total Stations, and GIS.

### **COURSE GOALS**

On successful completion of ETEC 4369-04, the students will be able to:

- Estimate distances by way of measuring by hand and by pacing.
- Conduct a basic, small scale triangulated chain survey using only two tapes and three ranging poles.
- Transfer the elevation/find the difference in elevation between two points using a leveling instrument and rod.
- Create a topographical map using a leveling instrument and a tape measure.
- Create a topographical map using a laser level and a tape measure.
- Demonstrate the proper way to set up over a point and level a total station.
- Use a total station to:
  - Measure horizontal and vertical angles.
  - Use Electronic Distance Measurement (EDM) function in a total station to measure horizontal, vertical and slope distances.
  - Use above skills to run a traverse and to make a topographical map of an area.
  - Determine the position and height of an inaccessible point by triangulation using a total station.
  - Layout points along the centerline of horizontal and vertical curves.
  - Understand usage of Global Positioning Systems (GPS) and Geographic Information Systems (GIS) in surveying.
  - Choose a location and set control points for a building from benchmark and property corners.
  - Set up and use batter boards.
  - Become aware of common construction site surveying mistakes and how to avoid them.

### **REQUIRED TEXTBOOK**

- Elementary Surveying: An Introduction to Geomatics 14<sup>th</sup> Edition (2015), Charles D. Ghilani and Paul R. Wolf, Pearson Education Inc., ISBN-13: 978-0-13-375888-7

### **OTHER COURSE MATERIALS**

- Scientific calculator.
- Basic drafting tools (engineers scale, straight edge, & protractor)
- Safety vest
- Field book and 3H or 4H pencil
- Computation note pad

### **CLASS FORMAT**

- Lectures and laboratory sessions

### **COURSE GRADING**

Score	
<b>90 and up: A</b>	<b>Excellent, keep up the good work!</b>
80-89: B	You're doing well.
70-79: C	Average work.
60-69: D	You need to improve.
<b>Below 60</b>	<b>You are failing!</b>

  

Contents	Scores	
Participation = P	10 points	
Assignment = A	20 points	
In-Class Exercise = IE	20 points	<b>100(FS) = 10(P) + 20(A) + 20(IE) + 20(FP) + 30(FE)</b>
Field Practice = FP	20 points	
Final Exam = FE	30 points	

#### **Note:**

- Please see the provided course schedule for important submission dates.
- Class exercises, Assignment, and Final report are due at the beginning of the class period on the due date.
- Attendance is part of your grade. **(1 point will be deducted from your attendance score due to an unacceptable absence.)**
- Without an approved excuse or prior arrangements, late submissions are not accepted and makeup opportunities are not given.
- Professionalism and 4 point rule: When you lose 4 points of your participation points, you will fail this course.
- Extensions are generally not granted except very special cases.
- Your work is your responsibility. **ALWAYS BACK UP ALL YOUR WORKS!** Technical issues are not an acceptable excuse.
- **Students are required to do original work on all graded work** and to exhibit high ethical standards. They are expected to obtain all necessary equipment, texts, etc. for classes and labs. Work or other conflicts that affect the student's progress must be approved by the instructor in advance of the scheduled conflict.

- The instructor reserves the right, acting within the policies and procedures of Sam Houston State University, to make changes in the course content or instructional techniques without notice or obligation.

### **ASSIGNMENTS**

One individual assignment will be distributed in the beginning of this course. The due date will be identified. Students are expected to submit all assignments on time. To be fair to all students in class, late submission is not accepted.

### **IN-CLASS EXERCISES**

There will be a few in-class exercises in this course. Details about the exercises will be given as we proceed in this class. The in-class exercises will be helpful to fully understand and appreciate the theory discussed in Elementary Surveying.

### **FIELD PRACTICES**

The field practices will be held in this course. Based on the knowledge of this course, students will have field practices using a total station with teammates. Details about the practices will be given as we proceed in this class.

### **FINAL EXAM**

TBD (Refer to a university calendar or a university final exam schedule.)

### **PARTICIPATION**

You are expected to actively participate in class. 10 points of your final score will be assigned to this component of the course. Those who participate fully in class get 5 points and those who do not participate lose these points (1 absence without a reasonable excuse = -1 points).

### **ACADEMIC HONESTY**

The University expects all students to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

### **DEPARTMENT OF AGRICULTURAL SCIENCES AND ENGINEERING TECHNOLOGY ATTENDANCE POLICIES**

1. Regular and punctual attendance is expected of each student in the Department of Agricultural Sciences at Sam Houston State University.
2. Each faculty member will keep a written record of student attendance.
3. If a student misses four or more classes (**2 or more classes in our specific course because our classes are 2 hour classes**), the student's grade will be reduced by one letter grade. Additional penalties may be assessed at the discretion of the instructor.

4. Three unexcused or unjustified tardiness or early departures are considered as one absence.
5. Excused absences must be documented by the student with a letter of confirmation from the sponsoring student organization, professor or doctor. Exemptions will include participation in departmental activities when prior approval is attained from the Department Chair.
6. No exams or assignments will be given at alternative times unless arrangements are made with the professor/instructor before the scheduled activity occurs.

### **MISSED WORK DUE TO EXCUSED OR UNEXCUSED ABENCES**

If you miss a class (excused or without an excuse), it is your full responsibility to find out what was assigned in the class and perform it. The work has to be submitted on time.

### **STUDENTS WITH DISABILITIES POLICY**

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail [disability@shsu.edu](mailto:disability@shsu.edu)). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see: <http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>

### **RELIGIOUS DAYS POLICY**

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

### **CELLULAR PHONE AND OTHER ELECTRONIC DEVICES POLICY**

SHSU's Academic Policy Statement 100728 will be strictly followed in this course. The policy is available on Blackboard for your review. We will go over the policy in class.

### **USE OF TOBACCO AND TOBACCO PRODUCTS**

Sam Houston State University is a tobacco free campus and all tobacco products are prohibited in all buildings and outdoor public areas on campus. This policy will be strictly followed in this course.