LABORATORY

Title and Number: COSC 301 Construction Surveying. Sections 501, 502, 503, 504
Term: Fall 2017; August 28 through December 13
Equipment Room: FRAN 115
Recitation Location/Time: FRAN 102; 5:45 PM – 6:35 PM or as per schedule
Laboratory Web Address: http://COSC301.tamu.edu
Instructional Type and Method: Laboratory; Non-traditional; Internet Based

DESCRIPTION AND PREREQUISITES

Practical applications of surveying to the practice of construction project management; distance, grade and angular measurement; surveying equipment and its application to construction layout and control; surveying documentation and field work; introduction to other three dimensional measurement and positioning systems. Recitation-Laboratory (0-4). Credit 2; COSC Majors Only; Prerequisites: Admission to upper-level in Construction Science.

MINIMUM REQUIRED LEARNING OUTCOMES

University Student Learning Outcomes
• Master the depth of knowledge required for a degree
ACCE Student Learning Outcomes
• Understand distance and angular measurement
• Use surveying equipment for construction layout and control

ADDITIONAL LEARNING OUTCOMES AND OBJECTIVES

Laboratory Student Learning Objectives
• To acquaint students with sloped distance, site identification, measurements, nomenclature, sketching and record keeping.
• To acquaint students with horizontal distance, tool calibration, and AutoCAD drafting.
• To acquaint students with vertical distance, instrument calibration, closure, traversing, and topography.
• To develop in students an understanding of as-built measurements and processes within existing buildings.
• To acquaint students with angular measurements, calculations, and site layout and control.
• To enable students to demonstrate accuracy of measurements using modern technology and to accurately represent dimensional space.

INSTRUCTOR INFORMATION

Name: Dr. Kenneth C. Williamson III
Office Location: Room 116, Francis Hall
Office Hours: M from 4:00 PM to 5:30 PM - or by appointment
Office Number: 979.845.7052
Lab Number: 979.862.9156
E-mail Address: KcWilli@tamu.edu
REQUIRED TEXT


REQUIRED SOFTWARE

Microsoft Excel; AutoCAD; Adobe Acrobat or comparable PDF creator/editor.
NOTE: https://wikis.arch.tamu.edu/display/HELPDESK/Student+Software+Availability/

REQUIRED MATERIALS AND/OR EQUIPMENT

Individual:
1. Surveyors Field Book, Elan (E64-8x4); Orange Hardback Field Book; University Book Store, Orange hardback.
2. Drawing supplies, straight edges, engineering/architecture scales, binder clips; University Book Store.
3. i>clicker2 remote (ISBN: 1429280476); University Book Store or on-line at http://iclicker.com/purchase/

Crew:
1. Glo-Orange Stake Flags – 18” (100-Pack); Home Depot or Lowe's Home Improvement
2. 1 in. x 2 in. x 1-1/2 ft. Untreated Pine Grade Stakes (12-Pack); Home Depot or Lowe's Home Improvement

GRADING POLICIES

All electronic communications submitted to the e-mail address KcWilli@tamu.edu must include COSC301 and the Crew Number within the subject or it will not be responded to. All information, assignments, and uploads are to be accessed on the laboratory web site: http://COSC301.tamu.edu and students may need to install TAMU VPN from http://connect.tamu.edu for off-campus access. If a student/crew-instructor conference is requested, concerning the laboratory content and/or assigned activities, the student/crew will be required to bring their notes or supporting documentation to the conference. If the student/crew cannot schedule the conference during normal laboratory office hours, it is the student's/crew's responsibility to work with the instructor and/or lab teaching assistant in reaching an agreeable and efficient time for the conference. Students are encouraged to seek a meeting with either if you or your crew is experiencing activity difficulty.

It is expected that you will attend every lab meeting on time. Makeup assignments and exams are given for University excused absences only, or at the discretion of the instructor. If you add the laboratory late, all laboratory work prior to your add time and date and initial contact time and date with the instructor are treated as unexcused work that cannot be made up and a “0” grade recorded. This is a surveying, which means that you will be conducting activities outside and in the field. You must be watchful of the upcoming weather conditions. Due dates may be modified as a result of inclement weather. You must pay attention to the weather a week in advance because it may change your filed work date. Your crew may have to modify their field work time to avoid inclement unfavorable weather conditions. (Use this site for College Station: (http://www.wunderground.com/)

DO NOT TAKE EQUIPMENT INTO THE FIELD, UNDER ANY CONDITION, WHEN IT IS RAINING.

Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>&gt;990 to 1100 pts.</td>
</tr>
<tr>
<td>B</td>
<td>&gt;880 to &lt;989 pts.</td>
</tr>
<tr>
<td>C</td>
<td>&gt;770 to &lt;879 pts.</td>
</tr>
<tr>
<td>D</td>
<td>&gt;660 to &lt;769 pts.</td>
</tr>
<tr>
<td>F</td>
<td>&lt;660 pts.</td>
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</tbody>
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Major Assignments and Values

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>1. Field Assignments</td>
<td>630 pts.</td>
</tr>
<tr>
<td>2. Videos and Materials</td>
<td>100 pts.</td>
</tr>
<tr>
<td>3. Quizzes</td>
<td>100 pts.</td>
</tr>
<tr>
<td>4. Exam #1</td>
<td>135 pts.</td>
</tr>
<tr>
<td>5. Exam #2</td>
<td>135 pts.</td>
</tr>
</tbody>
</table>

Instructional Videos and Materials - There are instructional videos and materials that explain and illustrate the surveying field work that are not a part of the laboratory’s on-line video textbook. Students are required to view these materials using the provided menu links. All laboratory material links record individual student access and time data. Both PDF
documents and MP4 videos are recorded as being accessed and the length of time viewed. To receive credit, a student must access the PDF or video and watch it for its full length, which is posted beside the hyperlink as the required viewing time. All videos and instructional materials are required and must be accessed prior to the beginning of the recitation introducing the referenced activity. The recorded times from the laboratory database will provide access history used to determine the earned points that will be assigned to the total grade points earned. The Windows VLC Media Player program has the necessary codec to play this site’s videos, as well as, the Apple QuickTime program. The browsers that these videos can be watched are: Firefox, Internet Explorer and Safari. As appropriate within our industry, the written activity specification information sheet takes precedence over example or demonstration information provided in any supporting video or PDF.

Recitation – As provided in the semester schedule, I or a TA will conduct a recitation in FRAN 102. The recitation is a 50 minute class period especially in association with each activity, and for review and evaluation of the on-line laboratory activity materials. It is not an instructional lecture over the activity. The lecture is the on-line materials students read and study as an individual learner. During the recitation, the instructor will evaluate student learning and understandings, discuss the current activity task information, and demonstrate equipment usage appropriate for the activity at hand. That means that the student will have to have viewed and studied the on-line video text book, as well as, the on-line instructional videos and materials to be able to direct the instructor’s attention to specific activity areas on which they have questions and concerns. The student must be able to demonstrate effective knowledge of the surveying concepts presented, as well as, the activity task specifications. Furthermore, before the instructor can provide an effective and meaningful response or correction, the student must be able to reference where in the materials and specifications that the information and instructions provided were incomplete, incorrect or confusing.

Quizzes - During the course of instruction 10 learning quizzes will be given that covers the assigned readings and activities and 2 diagnostic quizzes. The intent of a learning quiz is to evaluate whether or not you have not only read the assigned material, but that you have assimilated the content of the readings and activity materials at a level that will make you an active participant in the course recitation and field activities. The diagnostic quizzes assist in the instruction design of the course and learner evaluation. The lowest two quiz scores of all 12 quizzes will be dropped.

i>clicker Quizzes

1. An i>clicker2 remote is required for in-class participation and questioning in this course. Instructions for using both remotes are on the back of the remote.
2. I will ask multiple choice and numeric/alphabetic questions in recitation. Please remember that it is your responsibility to come prepared to participate with a functioning remote every recitation.
3. i>clicker2 is a response system that allows you to respond to questions I pose during recitation, and you will be graded on that feedback and/or your in-class participation. In order to receive this credit, you will need to register your i>clicker2 remote online within the first week of class. While you can register online at any time, you must have come to class at least once and voted on at least one question in order to complete the registration process. Once you have voted on a question in my class, go to http://www.iclicker.com/registration. Complete the fields with your first name, last name, student ID, and remote ID. Your student ID should be your UIN. The remote ID is the series of numbers and sometimes letters found on the bottom of the back of your i>clicker2 remote. i>clicker2 will be used every recitation, and you are responsible for bringing your remote.
4. If you need technical support for i>clicker2, please contact (866) 209-5698 or via email support@iclicker.com from 9AM-11PM EST, M-F. The i>clicker website (www.iclicker.com) also has support documentation, video tutorials, and FAQs for students.
5. I consider bringing a fellow student’s i>clicker2 to class to be cheating and a violation of the University Honor Code. If you are caught with a remote other than your own or have votes in a class that you did not attend, you will forfeit all clicker points and may face additional disciplinary action.
6. If you have lost or broken your i>clicker2 remote, you will have to purchase another one. Please email me with your new Remote ID so that I can manually register your new remote.

Diagnostic Quizzes

During the semester two instructional design quizzes may be given for a total of 20 quiz points. The purpose of these quizzes is to study any links among spatial abilities, reasoning abilities, and grades in Construction Surveying
You will be requested to allow access the 13 existing scores in this laboratory. These include your scores on all 9 field activities, all readings scores, all quiz scores, exam 1, exam 2, final laboratory grade, overall GPA, and your SAT/ACT score.

**Field Work** - Students will conduct field survey activities during a dedicated four (4) hour laboratory. All recorded crew field data are scored against validated field measurements previously recorded by the instructor and the point values assigned varies by each activity. In addition to the fieldwork, each activity requires each crew to submit data and each crew member to produce individual working documents related to their crew’s field measurements. Each activity is worth a total of 70 grade points and the score presented represents the percentage of grade points earned. If your crew or individual submissions are late, you will receive a 20-point deduction on each and every submission that is past due. After 24 hours or 4 hours during the mini-mester, from the due date and time, no work will be accepted for submission, unless you have a university approved excusal.

**Field Data Collection** - There will be up to a possible 9 field activities that will require satisfactory completion to obtain a passing grade. All field activities will be conducted within survey crews of two to four members to which you will be assigned. Adequate time must be set aside to carry out the field work and produce any working documents that may be required.

**Data Analysis and Working Documents** - Your crew's activity data submission and your crew or individual product submissions are due at the times with the laboratory schedule. All laboratory field data analysis and assignment submissions are the responsibility of each student individually to upload to the website unless directed otherwise. Do not use another crew member’s data calculations or results for your field book data calculations or for producing your personal working document submissions, unless directed to do so within the activity information sheet. If one crew member does not show up for the lab’s field work the other crew members will conduct the field activity without them. That crew must record the crew member’s absence or participation times in their field books. The absent or late crew member is responsible to make up the field work on their own time and resources, and may not use the other crew members field data. If the absence is university excused, a Student Worker will assist them in collecting field data.

All working document submissions are graded using the following protocol. Each crew has from two to four members who must each create and submit their own set of working documents. Following the activity submission deadline, a student will publically draw one, two, or three numbers at the next immediate recitation. These numbers represent the four crew members alphabetically ranked and also represent the working documents that will then be graded for each of the activities. Students will not know whose work is to be graded prior to this drawing, and insures that there was no selection bias in whose work was to be graded. This makes each crew member responsible for verifying that their other crew members have done their work correctly; because they will likely be graded by another crew member’s work.

**Data Submission** - The crew must consult and agree upon what field data or calculated data is to be submitted on the laboratory website’s scoring page prior to submission for scoring. This is not an individual data submission, but it is a team submission approved by all team members as a collaborative and corrective effort. You are personally responsible for the score of the submitted data. By making the single submission you certify that you have reviewed each member’s work, that this is the end result of your team’s collaboration as a whole and that you will be individually graded on the crew’s score.

**Exams** - During the laboratory of instruction two exams will be scheduled and given that covers the assigned text book viewings, activities, and instructional materials. The intent of an exam is to evaluate whether or not you have learned the materials and activities at a level that will allow you to demonstrate understand and application of laboratory content.

**Software** - You will also be required to plot the results of many of your assignments in AutoCAD and report data in an Excel spreadsheet. So, make sure you have the AutoCAD and Excel software loaded. You must be able to submit activity materials in the required PDF format and correctly edited. Insure that you have a PDF editor.
CALENDAR OF MAJOR ACTIVITIES AND ASSIGNMENTS

All laboratory recitations will be held daily 8:00 AM as per the schedule on the laboratory web site in FRAN Room 102. The schedule on the course’s activity web page takes precedence over this calendar of events.

1. Prior to Week 1
   a. Materials - Due Monday 9/4/2017 @ 5:45 PM
   b. Purchase surveyors field book - Due Monday 9/4/2017 @ 5:45 PM
   c. Download and install required software - Due Monday 9/4/2017 @ 5:45 PM
   d. Purchase an i>clicker2 remote (ISBN: 1429280476) - Due Monday 9/4/2017 @ 5:45 PM

2. Introduction and Start Course Setup; Wednesday 9/30/2017 at 8:00 AM
   a. Making a PDF Document; Due Monday 9/4/2017 @ 5:30 PM
   b. Diagnostic Quiz 1; Due Monday 9/4/2017 @ 5:30 PM
   c. Equipment Inventory/Check-out; Due Friday 9/8/2017 @ 12:00 Noon

3. Start Activity I; Monday 9/4/2017 @ 6:45 PM and finish Monday 9/11/2017 @ 5:30 PM
4. Start Activity II; Monday 9/11/2017 @ 6:45 PM and finish Monday 9/18/2017 @ 5:30 PM
5. Start Activity III; Monday 9/18/2017 @ 6:45 PM and finish Monday 9/25/2017 @ 5:30 PM
   Activity Rework - As determined by crew membership.
6. Start Activity IV; Monday 9/25/2017 @ 6:45 PM and finish Monday 10/2/2017 @ 5:30 PM
7. Start Activity V; Monday 10/2/2017 @ 6:45 PM and finish Monday 10/9/2017 @ 5:30 PM
8. EXAM #1; 10/9/2017 at 5:45 PM
9. Start Rework; Monday 10/9/2017 @ 6:45 PM and finish Monday 10/16/2017 @ 5:30 PM
10. Start Activity VI on Monday, 10/16/2017 @ 6:45 PM and finish on Monday, 10/23/2017 @ 5:30 PM
11. Start Activity VII on Monday, 10/23/2017 @ 6:45 PM and finish on Monday, 10/30/2017 @ 5:30 PM
12. Group I, Start Activity VIII on Monday, 5/30/2017 @ 6:45 PM and finish on Monday, 11/6/2017 @ 5:30 PM
    a. Group II; Diagnostic Quiz 2; Due Monday 11/6/2017 @ 5:30 PM
13. Group II, Start Activity VIII on Monday, 11/6/2017 @ 6:45 PM and finish on Monday, 11/13/2017 @ 5:30 PM
    a. Group I; Diagnostic Quiz 2; Due Monday 11/13/2017 @ 5:30 PM
14. Start Activity IX; Monday 11/13/2017 @ 6:45 PM and finish Monday 11/20/2017 @ 5:30 PM
15. EXAM #2; 11/27/2017 at 5:45 PM
16. Rain Day; Equipment Inventory and Deficit Notification; Monday 12/4/2017 @ 9:00 AM and finish Friday 12/8/2017 @ 12:00 Noon

SPECIAL PROVISIONS

Americans with Disabilities Act (ADA) Policy Statement
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit http://disability.tamu.edu.

Academic Integrity
Misconduct in research or scholarship includes fabrication, falsification, or plagiarism in proposing, performing, reviewing, or reporting research. It does not include honest error or honest differences in interpretations or judgments of data.

Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, is sufficient grounds to initiate an academic dishonesty case. For additional information please visit: http://aggiehonor.tamu.edu/.

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

Absences
Rules concerning excused absences may be found at http://student-rules.tamu.edu/rule07. In particular, except for absences due to religious obligations, the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible. By state law, if a student misses class due to an obligation of his or her religion, the absence is excused. A list of days of religious obligation for the coming semester may be found at http://student-rules.tamu.edu/append4. Any and all absences for medical reasons will require a medical excusal from the attending Medical Doctor (M.D.). Self-reported medical documentation will not suffice for an excused absence.

Disruptive Behavior
If a student's behavior in class is sufficiently disruptive to warrant immediate action, the instructor is entitled to remove a student on an interim basis, pending an informal hearing with the Head of the Department offering the laboratory. This hearing must take place within three working days of the student's removal. This rule and supporting information may be found at http://student-rules.tamu.edu/rule21.

Copyright
Dr. K. C. Williamson III reserves copyright to all materials used in this laboratory. This means all materials generated for this class, which includes but is not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy any material, unless expressly granted written permission.

Defacement of University Property
"It is unlawful for any person to damage or deface any of the buildings, statues, monuments, trees, shrubs, grasses, or flowers on the grounds of any state institutions of higher education (Texas Education Code Section 51.204)" The words damage or deface refer specifically to any and all actions, whether direct or indirect, that either diminish the value or mar the appearance of the physical environment.

Plagiarism
It is very important to read other people's work and to use their ideas in developing theses, professional papers, or otherwise completing academic requirements. This is called scholarship and is highly rewarded because it builds a cumulative body of knowledge. When other scholars share their ideas, they expect that others will give them credit when making use of their ideas. It is critically important for students to understand the rules for properly crediting other people's ideas when writing a thesis or professional paper or otherwise completing academic requirements.

If you use someone else's idea without using his or her specific words, this is called paraphrasing. When you paraphrase, you are expected to indicate the source of the idea (the author and publication date, but not a page number). This allows a reader to find the source of the ideas, verify that you have accurately represented them, and obtain additional information about those ideas if necessary.

If you use someone else's exact words, this is called quoting. When you quote, you are expected to enclose the words in quotation marks, and indicate the source of the quote (the author, publication date, and page number).

Plagiarism also applies to information found on the web; it is equally important to cite a web source and the rules above pertain. Consequently, if there are not quotation marks around the text and no source is cited, instructors will assume that you intend for them to conclude that any ideas, especially the specific words, that you presented in your work are your own.
Thus, if the idea or the exact words are taken from another source and you do not indicate the source of the idea, you are representing another person's ideas as if they were your own. This is called plagiarism and is a very serious offense.

**Cell Phones**

All cell phones must be turned to a “silence” mode and be stored away, which means not in public view while in a classroom. Failure to comply will result in your expulsion from the class and receive a ‘no attendance record for the day, in other words, the recorded absence is unexcused.

**Personal Laptop Requirement**

The College of Architecture requires all students to have a personal laptop. This laptop is required to perform classroom activities. You will need your laptop in this laboratory and you are required to bring an operational laptop to class every day. Faculty can add software requirements here if desired (anything out of the ordinary, but within reason). For additional information see [http://www.arch.tamu.edu/inside/services/information-technology-services/recommended-laptop-enrolled-students/](http://www.arch.tamu.edu/inside/services/information-technology-services/recommended-laptop-enrolled-students/)