COURSE SYLLABUS

Instructor
- John Hannon, Associate Professor
- TEC 239, Bobby Chain Science & Tech
- 601-266-5550
- john.hannon@usm.edu

Office Hours
- Mondays/Wednesdays 10:00-12:00pm CST (in TEC Building)
- BEST by appointment at all times.

Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Last day to receive 100% refund</td>
<td>8/31/2016</td>
</tr>
<tr>
<td>Last day to make an add/drop course request or withdraw from the University and receive a grade of W</td>
<td>11/4/2016</td>
</tr>
<tr>
<td>LABOR DAY HOLIDAY</td>
<td>9/5/2016</td>
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<tr>
<td>Deadline for faculty to enter interim grades</td>
<td>10/7/2016</td>
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<tr>
<td>FALL BREAK</td>
<td>10/20/2016</td>
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<tr>
<td>THANKSGIVING HOLIDAYS</td>
<td>11/23/2016</td>
</tr>
<tr>
<td>Last day of full term</td>
<td>12/9/2016</td>
</tr>
<tr>
<td>Final faculty grade submission due</td>
<td>12/19/2016</td>
</tr>
</tbody>
</table>

See Academic Calendar: [http://www.usm.edu/registrar/fall-2016-full-term-academic-calendar](http://www.usm.edu/registrar/fall-2016-full-term-academic-calendar)

Prerequisites
- The catalog description is as follows: ‘Theory and practice in use of instruments for measuring distances, angles, etc., as applied in architectural and construction projects. Prerequisite: MAT 103. Corequisite: BCT 205L.

This requires that you have taken trigonometry previously with a grade of ‘C’ or better. It also requires that you enroll in the theory and laboratory sections simultaneously. IF you have not passed trigonometry, it is highly suggested that you drop this class and take it after the prerequisite is met.

Credit Hours
- 3 credit hours.

Course Description
Introductory sequence in plane surveying, including the measurement of distances, elevations, angles and directions. Principles and field use of traditional and modern surveying instruments are covered in lecture and practiced in lab. Fundamental surveying computations are also covered.
Course Overview
Surveying is a very important aspect of civil/construction engineering technology. It serves as the link between design (office) and construction (field) activities. All civil/construction technicians must be skilled and knowledgeable in modern as well as traditional surveying theory and methods.

Students will be exposed to basic surveying equipment theory – the steel tape and plumb bob, the level and level rod, and the total station. Students will learn to plot ground profiles and contours as well as do basic surveying computations using hand-held calculators, spreadsheets, and surveying software.

Course Major Topics
- Measurements: Errors and mistakes, accuracy and precision.
- Horizontal Distances: Pacing, taping and electronic distance measurement.
- Vertical Distances: Differential leveling, profiles, contours.
- Angles/Directions: Bearings, azimuths, declination, theodolite and total stations.
- Horizontal Control: Traverse surveys and computations.
- Construction Layout

Student Learning Outcomes
American Council of Construction Education (ACCE) Student Learning Outcomes (SLOs):

11. Apply basic surveying techniques for construction layout and control.

ETAC-ABET Criterion 3, General Criterion Student Outcomes:

a. an ability to select and apply the knowledge, techniques, skills, and modern tools of their disciplines to broadly-defined engineering technology activities.
b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies,
f. an ability to identify, analyze, and solve broadly-defined engineering technology problems,

ETAC-ABET Program Criteria For Construction Engineering Technology:

a-utilize techniques that are appropriate to administer and evaluate construction contracts, documents, and codes.
b-utilize measuring methods, hardware, and software that are appropriate for field, laboratory, and office processes related to construction;
d-apply fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering.
e-produce and utilize design, construction, and operations documents.

Course learning Outcomes
At the conclusion of the course, students will be able to:

1. Recognize, define and explain common surveying terms and symbols.
2. Compute accuracies for horizontal and vertical distance measurements.
3. Perform direction computations involving horizontal angles, azimuths, bearings.
4. Perform a loop traverse computations, including closure, adjustment, station co-ordinates, and enclosed area.
5. Plot elevation data as ground profiles and/or contour lines.
6. Apply learned survey techniques to construction stakeout.

Instructional Strategies
- This class will be delivered by the traditional and online methods simultaneously. Physical in-class lectures will be captured on video and made available to online students via the course Learning
Management System (Blackboard). Both traditional and online sections will utilize the Blackboard Cross-listed website (course shell) to receive materials, instructions, and assessments from the instructor.

Course Communication
- The instructor will communicate with students via announcements, instructions, email, Collaborate application, and video lectures within the Blackboard course shell.
- Students will communicate with each other via email, Collaborate application, and threaded discussions within the Blackboard shell.
- All email sent to the instructor outside of the course Blackboard Shell must contain the following in the subject field: ‘BCT205’

Required Text (s) and Readings


Technology Requirements
These requirements will be discussed in class and appropriate time given for students to procure. With the exception of hardware, most of these tools can be acquired for little or no cost.

<table>
<thead>
<tr>
<th>Broadband Internet Connection</th>
<th>PC microphone</th>
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</thead>
<tbody>
<tr>
<td>Provided Software Applications</td>
<td>Microsoft Office</td>
</tr>
<tr>
<td>Handheld Calculator</td>
<td></td>
</tr>
</tbody>
</table>

- A broadband internet connection is required to view videos, access Trimble Business Center, and to consume delivery of the course in general. Please do not attempt with dial-up internet connection bandwidths.
- Internet Browser: A BlackBoard Website shell will be used as the course delivery and communication tool.
- Microsoft Excel: Field notes and computations will be documented in part with use of a Microsoft Excel compatible spreadsheet. Students which do not have access to a licensed version of Excel can download and use Apache Open Office at no charge at this link: http://www.openoffice.org/ provided that the work is saved in the format specified by the instructor (.xls or .xlsx).
- Microsoft Word: Or file format compatible word processor (Apache Open Office). Acceptable file formats are .doc and .docx. This application will be used for research paper assignments.
- Microsoft Office OneNote: For field notes. This application is offered for free through The School of Construction’s MSDNA license agreement with Microsoft and can be obtained at this link: http://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?ws=c7051878-e69b-e011-969d-0030487d8897&vsro=8&JSEnabled=1

*Special Note Concerning Technical Support:* Students are expected to be able to use and maintain a personal computer, keeping it free of viruses and malware, and have the ability to troubleshoot web browser issues, such as cookies and java versions. If these are skills which you have not obtained or are not willing to obtain during the delivery of the course, I suggest that you drop and wait for the face-to-face delivery of the course in a different term.

Please do not rely or depend upon the instructor for technical support. For Blackboard technical
support can be found at this link: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8140 and or Itch: http://www.usm.edu/itech. There will be times when students will need to notify the instructor of glitches/bugs in blackboard, or mistakes/oversights by the instructor in building the course. In such cases, please report the following at a minimum:

- Your operating system
- Which browser you are using (in many instances, changing browsers may solve your problem).
- Which version of Java you have installed.
- What processes you have conducted to troubleshoot the problem/issue.

**Class Procedures and Requirements**

- New content will be opened/delivered each week. Supplemental material outside of the text will be considered required reading. The text chapters utilized will be presented in the following sequence should you want to read ahead: See ‘Class Schedule’.
- Tests will be given at midterm and at the end of the course; The 2nd exam will be comprehensive unless announced otherwise.
- Please check the ‘Announcements’ at close periodic intervals. You may also want to enable messaging so that you are notified each time I make an announcement and open quizzes/exams/assignments.
- All tests and assignments will be located in separate folders in addition to the weekly folders for easy access. *Please note: quizzes and exams will be timed, questions randomized with no backtracking. These features are required in lieu of proctoring. I will attempt to establish a rhythm of opening and closing weekly quizzes (i.e. end of week opening and end of weekend closing), however you are responsible for knowing when assessments are due; this can be accomplished by checking your email and utilizing the Blackboard ‘due date’ calendar which is accessible in the most upper right corner of the Blackboard page next to your login name. Please also note that typically the exams and quizzes provide feedback for correct/incorrect answers when the due date has passed, therefore make-ups are not allowed, and the assessment disappears from view in Blackboard.

**Class Attendance Policy**

- I have access to dates when students log-in to the Blackboard shell. If I notice that a student has not logged in or has an extended period of non-access, I will notify the registrar and Non-Attendance letters will be mailed out to your home address.

**Evaluation Criteria***

<table>
<thead>
<tr>
<th>Assessment</th>
<th>% weight</th>
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<tbody>
<tr>
<td>1. Quizzes</td>
<td>40</td>
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<tr>
<td>2. Tests</td>
<td>20</td>
</tr>
<tr>
<td>3. Exercises</td>
<td>40</td>
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</tbody>
</table>

*Quizzes/Tests will be not be proctored, time allotted for answering will require study.
*Theory and Lab sections will receive separate grades.

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = below 60%
Proctored Exams
• Will not be utilized.

Late Assignments or Projects
• Late work will be accepted. Catastrophic conditions which are documented (death in family, illness) are exceptions.

Academic Honesty
The following is from the USM Undergraduate Bulletin:

“When cheating is discovered, the faculty member may give the student an F on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the Dean of Students. In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct and may be grounds for probation, suspension, and/or expulsion. Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.”

Students must send the instructor an e-mail using the course web site e-mail stating that they understand USM’s academic honesty policy and also understand that if they do not uphold the standards of academic honesty, the instructor will enforce all applicable punishment.

ADA Syllabus Statement for the Hattiesburg Campus

If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address: The University of Southern Mississippi/Office for Disability Accommodations
118 College Drive # 8586/ Hattiesburg, MS 39406-0001/(601) 266-5024
Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.
<table>
<thead>
<tr>
<th>DATE</th>
<th>Unit</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Aug-16</td>
<td>Work/Assign</td>
<td>Orientation</td>
</tr>
<tr>
<td>29-Aug-16</td>
<td>LECT</td>
<td>1 Introduction</td>
</tr>
<tr>
<td>31-Aug-16</td>
<td>Work/Assign</td>
<td>2 Measurements and Computation</td>
</tr>
<tr>
<td>5-Sep-16</td>
<td>LECT</td>
<td>3 Basic Mathematics for Surveying</td>
</tr>
<tr>
<td>7-Sep-16</td>
<td>Work/Assign</td>
<td>4 Measuring Horizontal Distances</td>
</tr>
<tr>
<td>12-Sep-16</td>
<td>LECT</td>
<td>5 Measuring Vertical Distances</td>
</tr>
<tr>
<td>14-Sep-16</td>
<td>Work/Assign</td>
<td>6 Measuring Angles and Directions</td>
</tr>
<tr>
<td>19-Sep-16</td>
<td>LECT</td>
<td>7 Horizontal Control Surveys</td>
</tr>
<tr>
<td>21-Sep-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>26-Sep-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>28-Sep-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>3-Oct-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>5-Oct-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>10-Oct-16</td>
<td>LECT</td>
<td></td>
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<tr>
<td>12-Oct-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>17-Oct-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>19-Oct-16</td>
<td>Work/Assign</td>
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</tr>
<tr>
<td>24-Oct-16</td>
<td>LECT</td>
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<tr>
<td>26-Oct-16</td>
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</tr>
<tr>
<td>31-Oct-16</td>
<td>LECT</td>
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<tr>
<td>2-Nov-16</td>
<td>Work/Assign</td>
<td></td>
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<tr>
<td>7-Nov-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>9-Nov-16</td>
<td>Work/Assign</td>
<td></td>
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<tr>
<td>14-Nov-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>16-Nov-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>21-Nov-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>23-Nov-16</td>
<td>No Class</td>
<td></td>
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<tr>
<td>28-Nov-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>30-Nov-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>5-Dec-16</td>
<td>Work/Assign</td>
<td></td>
</tr>
<tr>
<td>7-Dec-16</td>
<td>LECT</td>
<td></td>
</tr>
<tr>
<td>Final Exam</td>
<td></td>
<td>Wednesday 12-14-2016</td>
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</tbody>
</table>

*Schedule may be revised if necessary. Students will be notified if this is the case.