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>Description</th>
<th>Date</th>
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<tbody>
<tr>
<td>Last day to receive 100% refund</td>
<td>8/31/2016</td>
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<tr>
<td>Last day to make an add/drop course request or withdraw from the University</td>
<td>11/4/2016</td>
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<tr>
<td>and receive a grade of W</td>
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<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>
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<tr>
<td>Last day of full term</td>
<td>12/9/2016</td>
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<tr>
<td>Final faculty grade submission due</td>
<td>12/19/2016</td>
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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 205.

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
• 1 credit hours.

Course Description
The survey laboratory consists of competencies required of the construction manager, not the field surveyor. Surveying data which is typically collected by field surveyors will be provided to students for manipulation of that data in software applications for management, quality control, and layout purposes.

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 learn to plot ground profiles and contours as well as do basic surveying computations using hand calculators and surveying software.

**Lab 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.

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

1. Compute accuracies for horizontal and vertical distance measurements.
2. Perform direction computations involving horizontal angles, azimuths, bearings.
3. Perform a loop traverse computations, including closure, adjustment, station co-ordinates, and enclosed area from survey field book data.
4. Plot elevation data as ground profiles and/or contour lines from survey field book data.
5. Determine construction layout measurements.
6. Create a mass haul diagram from survey data for planning and control.

**Instructional Strategies**
- 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**
BCT 205, Fall 2016
• 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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<tbody>
<tr>
<td>Provided Software Applications</td>
<td>Microsoft Office</td>
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<tr>
<td>Handheld Calculator or PC calculator application</td>
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</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.
• Students have access to Microsoft Office 365 and Autocad Civil 3D free of charge through the School of Construction:
  o Information on obtaining Office 365 can be found at this link: [https://www.usm.edu/itech/microsoft-office-365](https://www.usm.edu/itech/microsoft-office-365)
  o Information on obtaining Civil 3D through Autodesk website will be available on Blackboard.
• Microsoft Excel: Field notes and computations will be documented in part with use of a Microsoft Excel spreadsheets.
• Microsoft Office OneNote: For field notes. This application is offered for free through The School of Construction’s MSDNAA 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](http://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?ws=c7051878-e69b-e011-969d-0030487d8897&vsro=8&JSEnabled=1)
• AutoCAD Civil 3-D:
• The following table outlines the hardware and software requirements if you're running on a system installed with a 64-bit environment.

<table>
<thead>
<tr>
<th>System requirements for AutoCAD Civil 3D 2016</th>
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<tbody>
<tr>
<td><strong>Operating System</strong></td>
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<tr>
<td>Microsoft® Windows® 7 Enterprise</td>
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<tr>
<td>Microsoft Windows 7 Ultimate</td>
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<tr>
<td>Microsoft Windows 7 Professional</td>
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<tr>
<td>Microsoft Windows 7 Home Premium</td>
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<tr>
<td>Microsoft Windows 8/8.1</td>
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<tr>
<td>System requirements for AutoCAD Civil 3D 2016</td>
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<td>----------------------------------------------</td>
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<tr>
<td>Processor</td>
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<tr>
<td>Memory</td>
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<td></td>
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<tr>
<td>Display Resolution</td>
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<tr>
<td>Display Card</td>
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<td></td>
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<tr>
<td>Hard Disk</td>
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<td></td>
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<tr>
<td>Pointing Device</td>
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<tr>
<td>Media (DVD)</td>
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<tr>
<td>Browser</td>
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<tr>
<td>.NET Framework</td>
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Access to a 64-bit personal computer with the minimum specifications above will be required to complete most of the lab assignments. Most PCs purchased within the last several years will be 64-bit. If you are unsure about the specifications of your computer, open the command line window in Microsoft Windows and type ‘msinfo32’. If your machine is 32-bit, AutoCAD Civil 3D will not install and you will need to make arrangements to use another machine for the lab assignments (by the 5th week).

*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://bberm.edusupportcenter.com/ics/support/default.asp?deptID=8140](http://bberm.edusupportcenter.com/ics/support/default.asp?deptID=8140) and or Itech: [http://www.usm.edu/itech](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 in 1-2 week intervals starting in approximately week 5.
  Supplemental material outside of the text will be considered required reading.
• 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 Lab assignments will be located in separate folders in addition to the weekly folders for
  easy access.

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.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>% weight</th>
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<tr>
<td>1. Lab Assignments</td>
<td>100</td>
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</table>

There will be 5-6 assignments.
*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

**Voice Telephone:** (601) 266-5024 or (228) 214-3232  
**Fax:** (601) 266-6035

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.

**Lab Class Schedule***
The assignment schedule will be posted in the Blackboard shell (site) and will be delayed until the theory section of the course progresses through the first several unit/modules.

Assignments will include:

- Azimuth and Bearing adjustment tables using Excel.
- Mass Haul Diagrams using Excel and/or Civil 3D
- Traverse Adjustments using Civil 3D
- Construction Layout Exercise.

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