Instructor: Dr. Christopher Hans
Email: hans@stat.osu.edu
Office: CH 327 (Cockins Hall)
Phone: 614.292.7157
Website: Carmen

Course Description
The course provides an introduction to probability and statistics targeted toward students studying mechanical engineering. Topics covered include probability, random variables, the normal and binomial distributions, confidence intervals for means, hypothesis tests for means, multi-factor experiments and experiments with blocking. A more detailed list of topics can be found on the sample schedule below. Students are responsible for all material covered in class, in the assigned readings and in homework problems.

Assumed Background Knowledge and Prerequisites
Calculus, integration, exponential function, finite and infinite sums, union and intersection of sets. Prerequisite courses are Math 1152 (153), 1161.xx, 1172 (254), or 1181.

Textbook
Principles of Statistics for Engineers and Scientists by William Navidi. The book is available on reserve in the 18th Avenue Library.

College of Arts and Sciences GE Statement:
Statistics 3450 is GE course in Data Analysis. The goals and expected learning outcomes are:

Goals: Students develop skills in drawing conclusions and critically evaluating results based on data.

Expected Learning Outcomes: Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas.

Enrollment
Course adds and section changes for Stat 3450 are processed as follows. If you have any questions, please contact Patty Shoults, 408 Cockins Hall, phone: 292-5194 or by email: shoults.1@osu.edu.

1. If the course is closed, please add yourself to the waitlist through BuckeyeLink. If space becomes available in the class before 5pm on Friday, August 23rd, you will be automatically added to the course. The waitlist is deleted at 5pm on Friday, August 23rd; if you have not been automatically added to the course by this time, you will need to follow the instructions in item (2) below.

2. The Department will begin to give students permission to add classes or do sections changes (provided that there are openings) on a first-come first-serve basis beginning at 7:30 am on August 28th. Please come to 408 Cockins Hall. You may attend the class the first week of the semester provided that you do not take a seat from someone already scheduled into the course.

3. The only exceptions to the above rules are for graduating seniors. Graduating seniors can be added to full sections of courses provided that documentation is provided. In some cases, we can accommodate work conflicts. See Patty Shoults in 408 Cockins Hall immediately to resolve any issues.
Exams
Two midterm exams will be given in class: the first is on Thursday, October 3 and the second is on Tuesday, November 5. One 8.5” × 11” sheet of paper with whatever handwritten facts, formulas or explanations you find helpful may be brought to each midterm exam (both sides of the paper may be used). The date and time of the final exam is TBA. Two 8.5” × 11” sheets of paper (same rules as above) may be brought to the final. The final exam will be cumulative, with a slight emphasis on those topics covered after the second midterm. A calculator should also be brought to all exams (no cell phone calculators or PDAs).

Homework
There will be approximately 10 graded homework assignments throughout the semester. The due dates for the assignments will be announced in class and on Carmen, and the assignments and solutions will be posted on Carmen. You must show your work for all homework problems; do not just write the final answer.

Each assignment will consist of two parts: assigned problems and suggested problems. Solutions will be provided for both the assigned problems and the suggested problems.

You will answer and turn in solutions for the assigned problems, and your work will be graded. Due to the size of the class, we may not be able to grade each of the assigned problems in detail. In this case, we will select several of the assigned problems to grade and spot check the others to make sure you attempted a solution. It will be your responsibility to compare your answers for those questions that are not graded in detail with the solution set to see if you understand the material.

You should not turn in solutions for the suggested problems. These can be used on your own for additional practice and to further your understanding of the material.

Homework will be collected in class on the due date. This is the only acceptable way to turn in homework (do not leave homework assignments under my office door or email electronic copies). Late homework will not be accepted (no excuses). I understand that illness and other unplanned emergencies often come up during the semester, and so I will drop your two lowest homework scores. I highly recommend that you save these “freebies” until you really need to use them.

Grading
The final course grade will be based on:

- Homework (excluding your two lowest scores) ................. 20%
- Midterm 1 (Thursday Oct. 3) ........................................... 25%
- Midterm 2 (Tuesday Nov. 5) ........................................... 25%
- Final Exam (Date TBA) ................................................. 30%

Final course grades will be assigned based on the following grading scale:

- B+ 87 – 89
- C+ 77 – 79
- D 60 – 69
- A 93 – 100
- B 83 – 86
- C 73 – 76
- F below 60
- A- 90 – 92
- B- 80 – 82
- C- 70 – 72

This grading scale is subject to adjustment if it appears necessary due to overall class performance. These adjustments will only raise a student’s grade, not lower it.

Study Rooms and Help Hours
Our TAs hold office hours every day of the week in the Mathematics and Statistics Learning Center in Cockins Hall room 134 starting on Wednesday, August 28th. The hours during which Stat 3450 TAs will be available is posted at http://mslc.osu.edu/courses/stat/3450

Academic Misconduct
Please help maintain an academic environment of mutual respect and fair treatment. You are expected to produce original and independent work on the exams. Although students are often encouraged to work together on homework assignments, all students must submit their own work in their own words. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term academic misconduct includes all forms of student academic misconduct wherever committed; illustrated by, but not limited
to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all
instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). Academic misconduct
will not be tolerated and will be dealt with procedurally in accordance with university policy, which
can be found at [http://oaa.osu.edu/coam.html](http://oaa.osu.edu/coam.html) The Code of Student Conduct is available at [http://studentaffairs.osu.edu/csc/](http://studentaffairs.osu.edu/csc/)

Communication Devices
Cell phones, PDAs and other communication devices must be either turned off or put on vibrate during
class. Please refrain from texting during class as a courtesy to those sitting around you. All electronic
devices other than a calculator must be shut off and put away during examinations.

Instructor Availability
I am happy to answer questions during office hours and over email (I will do my best to respond to emails
in a timely manner). I teach another class immediately following our 3:00-3:55 class time and so will not
be able to answer any questions after class; however, on most days I should be able to arrive to class early
enough to answer any questions you might have before class starts.

Advice
1. A tentative lecture schedule is given later in this syllabus. Please give a first reading to scheduled text
   sections before the lecture that covers that material.
2. The course moves rather quickly. If you are having difficulty, please get help as soon as possible.
   Homework assignments can be very difficult if you wait until the last minute before trying any problems.
3. It is important that you provide sufficient detail in writing up solutions to the problems for grading.
   It is also important that your solutions be presented neatly in a clear, easy to read and follow format.
   No credit will be given for work that is too sloppy or difficult to read.
4. You may wish to photocopy your homework before turning it in around exam time. Graded assignments
due immediately before an exam might not be returned before the exam (however solutions will be
   provided so that you can compare your work with them).
5. If you have a regrade request on any homework assignment or midterm, you must put your request
   in writing and turn it in, along with your original paper, within one week of the date the paper was
   first returned to class. If you are absent the day a graded paper is first returned to the class, it is your
   responsibility to come to me to get it in less than a week if you want to have a regrade option available
   to you.

Addressing Issues of Differing Abilities
All students who feel they may need accommodations based on the impact of a disability
should contact the instructor privately to discuss their specific needs. Students with docu-
mented disabilities must also contact the Office of Disability Services (ODS) in 150 Pomerene
Hall (phone: 292-3307) to coordinate reasonable accommodations for the course. ODS forms
must be given to the instructor as early in the semester as possible.

Drop Date
The last day to drop the course without a ‘W’ appearing on your record is Friday, September 13.

Receiving an ‘I’ for the Course
You cannot receive an incomplete for the course unless 70% of the work in the course has been completed.
Extemating circumstances will be handled on a case-by-case basis.

Syllabus Version
8/21/13: Original
**Schedule**

The *tentative* lecture schedule is:

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading</th>
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<tbody>
<tr>
<td><strong>R Aug. 22</strong></td>
<td>1.1-3</td>
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<tr>
<td><strong>T Aug. 27</strong></td>
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<tr>
<td><strong>R Aug. 29</strong></td>
<td>3.2</td>
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<tr>
<td><strong>T Sep. 3</strong></td>
<td>3.3</td>
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<tr>
<td><strong>R Sep. 5</strong></td>
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<tr>
<td><strong>T Sep. 10</strong></td>
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<tr>
<td><strong>R Sep. 12</strong></td>
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<td><strong>T Sep. 17</strong></td>
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<td><strong>R Sep. 19</strong></td>
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<tr>
<td><strong>T Sep. 24</strong></td>
<td>4.3</td>
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<tr>
<td><strong>R Sep. 26</strong></td>
<td>4.3, 4.7</td>
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<tr>
<td><strong>T Oct. 1</strong></td>
<td>4.8</td>
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<tr>
<td><strong>R Oct. 3</strong></td>
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<td><strong>T Oct. 8</strong></td>
<td>5.1-2</td>
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<tr>
<td><strong>R Oct. 10</strong></td>
<td>5.2</td>
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<td><strong>T Oct. 15</strong></td>
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<td><strong>R Oct. 17</strong></td>
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<td><strong>T Oct. 29</strong></td>
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<td><strong>R Oct. 31</strong></td>
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<td><strong>T Nov. 5</strong></td>
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<td><strong>R Nov. 7</strong></td>
<td>7.1, 7.3</td>
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<tr>
<td><strong>T Nov. 12</strong></td>
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<tr>
<td><strong>R Nov. 14</strong></td>
<td>9.3</td>
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<td><strong>T Nov. 19</strong></td>
<td>9.4</td>
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<tr>
<td><strong>R Nov. 21</strong></td>
<td>9.5</td>
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<tr>
<td><strong>T Nov. 26</strong></td>
<td>suppl. notes</td>
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<tr>
<td><strong>R Nov. 28</strong></td>
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<tr>
<td><strong>T Dec. 3</strong></td>
<td>suppl. notes</td>
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</tbody>
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**Midterm 1**

- CI for mean (normal pop., known variance)  
  Date and time TBA

**Midterm 2**

- Two-sample t-tests (including pooled variance)  
  Date and time TBA

**Final Exam**

- Date and time TBA