Instructor: M. Russo, 269 SH, 353-2295, mary-russo@uiowa.edu

Classes: 9:30A - 11:15A MTWTh 14SH

Office Hours: 11:30 to 12:15 MTWTh, or by appointment. Students seeking office-hour help are expected to have excellent attendance in the lectures.

Approved GE: Quantitative or Formal Reasoning. Courses approved in this area have as their primary purpose the development of the analytical powers of the student as they might be exercised in the presentation and evaluation of mathematical or other formal symbolic systems.

Course Objectives: This course takes a conceptual approach to the major ideas of probability & statistics. Topics include descriptive statistics, correlation & regression, elements of probability, chance error, expectation, standard error, sampling, confidence intervals & hypothesis tests. You need to be comfortable with math at the level of elementary algebra (e.g., equation of a straight line, plotting points, taking powers & roots, percentages).

Prerequisite: 3 years of high school math or MATH:0100 (22M:001)

Classroom Decorum: Please arrive on-time & do not leave early. Emailing, face-booking, twittering, web-surfing, newspaper reading, conversing, etc. are distracting behaviors, & are violations of classroom decorum.

Text: Statistics, 4th edition by Freedman, Pisani, and Purves. This is an excellent book with many good examples & exercises. Coverage: chapters 3-5, 8-10, 12-21, 23-24, & 26-27 (20 chapters). The pace is roughly one chapter per day. The book is available in the University bookstore.

Additional course materials will be posted in ICON content. Students are required to print out these materials & bring to class, as needed.

Independent Tutors: for a list of independent tutors, go to http://www.stat.uiowa.edu/private-tutors

Attendance: Attendance is mandatory. Illness/injury is a legitimate reason to miss class; feeling a little under the weather is not. There are only 22 classes, two of which are reserved for exams, so it is important that you do
not miss them. **Excessive absences invariably result in poor test/quiz scores & a low course grade.**

**Advice:** Main rule: do not fall behind! The material is cumulative. Most students need a minimum of three hours of study after each class (not including class time) to successfully learn the course material. Some students may need more. If you don’t put in the time, you won’t learn. Your goal should be to understand the concepts, rather than to merely memorize facts and formulas. Come to office hours to get your problems sorted out promptly. Read the text carefully. Keep up with the lectures. Don’t read the textbook casually as you would a novel. Do the exercises and if you get stuck, look for similar worked exercises & examples. Work problems by yourself or in small groups. Working exercises is the main way to assess your understanding and to solidify concepts. You cannot learn how to solve problems by merely watching your instructor do them; you must solve problems on your own. When you do not understand something, ask questions. Be a participant, not a spectator.

**Homework:** You are encouraged to work with others on homework problems; however, you should first attempt them on your own. You are required to write the solutions **NEATLY & ON YOUR OWN, RATHER THAN COPYING THE WORK OF OTHERS.** Do not merely write down answers, but show clearly your methods of solution. Submit homework on 8.5x11 paper. Be sure to include your name & assignment number on each page. HW submitted after class on the day due will receive a 25% penalty. HW submitted one class period late will receive a 50% penalty. HW submitted more than 24 hours late will not be accepted.

**Exams and Quizzes:** Quizzes and exams are closed book. You may have one sheet of 8.5 X 11 paper with notes on one side for the exams. **Do not** wear caps or hats during the exams or quizzes. **Do not** use electronic devices (tablet, netbook, cellphone, & the like) other than a stand-alone calculator (TI 86 or lower) during exams & quizzes.

There will be 5 quizzes and two exams. See the schedule on the next page.

Make-ups: except in rare cases, there will not be make-ups for quizzes or exams. The lowest quiz grade will be dropped. Thus, if you must be away on a quiz day, that quiz will count as your low one.

**Grades:** Grades will be based on the percent of points earned on homework, quizzes & exams:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
<td>due dates TBA</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
<td>lowest dropped, missed quiz = 0</td>
</tr>
<tr>
<td>Midterm</td>
<td>30%</td>
<td>2 hours, location TBA</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
<td>somewhat cumulative - strong emphasis on the material of the 2nd half. 2 hours, location TBA</td>
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Example of a grade computation: Suppose that Sally scores 175/200 on HW, has quiz scores of 10/12, 7/12, 6/12*, 8/12, 11/12 & exam scores of 76/100 on the midterm, 90/100 on the final (*note: 6/12 is dropped)

Final% = (175/200)20% + (36/48)20% + (76/100)30% + (90/100)30% = 82.3%

As a rough guide:
A = 90% to 100%  B = 80% to 89%  C = 70% to 79%  D = 60% to 69%

plus & minus grades will be given only in extraordinary cases.

<table>
<thead>
<tr>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
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<tbody>
<tr>
<td>1</td>
<td>quiz #1 correlation &amp; its properties</td>
<td>2</td>
<td>predicting y given x, percentile prediction</td>
</tr>
<tr>
<td>8</td>
<td>quiz #2 probability &amp; conditional prob, multiplication rule, independence</td>
<td>9</td>
<td>complementation rule, addition rule, mutually exclusive events</td>
</tr>
<tr>
<td>15</td>
<td>Midterm Exam 2 hours time/place TBA</td>
<td>16</td>
<td>box models &amp; expected sum of draws</td>
</tr>
<tr>
<td>22</td>
<td>quiz #4 expected %, SE of %, use of normal curve to estimate probs for %</td>
<td>23</td>
<td>confidence intervals for percentages</td>
</tr>
<tr>
<td>29</td>
<td>hypothesis testing, confidence intervals for small samples using the t-curve</td>
<td>30</td>
<td>confidence intervals and hypothesis testing</td>
</tr>
<tr>
<td>31</td>
<td>2-sample tests for the difference of 2 averages, &amp; 2 percentages</td>
<td>1</td>
<td>FINAL exam 2 hours time/place TBA</td>
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27 normal curve problems, equation of a line
10 probability problems, binomial probabilities
11 more quiz #3 probability problems, the law of averages
18 use of nc to estimate probs for sums, keeping track of edges, sampling vocab
24 estimating prob for sample averages, conf intervals for pop averages
25 quiz #5 measurement error & confidence intervals, intro to hypothesis testing

**Communication:** students should use only their university of Iowa email address when communicating with me via email. HW may not be submitted electronically.

**Important dates:**
- **Monday June 24** Registration Day
- **Tuesday June 25** Opening of Classes
- **Tuesday June 25** Withdrawal of entire registration–student held to 10% of tuition and mandatory fees through 6/28
- **Tuesday June 25** $30 late registration charge in effect through 7/1
- **Monday July 1** Withdrawal of entire registration–student held to 50% of tuition and mandatory fees through 7/5
- **Monday July 1** Last day for to late register or add courses; add or change S-U, P-N, audit status; drop without a W; drop or add courses without a fee
- **Monday July 1** Last day to drop individual courses in order to reduce tuition and fee assessment
- **Tuesday July 2** $60 late registration charge in effect through 7/8
- **Tuesday July 2** $12 charge for each course added or dropped effective today
- **Thursday July 4** University Holiday - No Classes, Offices Closed
- **Monday July 8** Withdrawal of entire registration–student held to 100% of tuition and mandatory fees
- **Wednesday July 10** $100 late registration charge begins today
- **Tuesday July 23** Last day for undergraduates to drop courses or withdraw entire registration
- **Friday July 26** Last day for undergraduates to file second-grade-only option
- **Thursday August 1** Close of Classes

Course policies are governed by the College of Liberal Arts and Sciences. University policies regarding Student Rights and Responsibilities can be found at [http://www.clas.uiowa.edu/students/academic_handbook/](http://www.clas.uiowa.edu/students/academic_handbook/)

**Special Arrangements:** I would like to hear from anyone who has a disability which may require some modification of seating, testing or other class requirements so that appropriate arrangements may be made. Please see me about this as soon as possible.

**Department:** Statistics & Actuarial Science, 241 SH, 335-0712.
Department Chair – L. Tierney, 241 SH, 335-0712, luke-tierney@uiowa.edu
Teaching Policies & Resources

Administrative Home
The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at http://clas.uiowa.edu/students/handbook.

Electronic Communication
University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences (Operations Manual, III.15.2, k.11).

Accommodations for Disabilities
A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Honesty
All CLAS students have, in essence, agreed to the College's Code of Academic Honesty: "I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled (CLAS Academic Policies Handbook).

CLAS Final Examination Policies
The final examination schedule for each class is announced around the fifth week of the semester by the Registrar. Final exams are offered only during the official final examination period. No exams of any kind are allowed during the last week of classes. All students should plan on being at the UI through the final examination period. Once the Registrar has announced the dates and times of each final exam, the complete schedule will be published on the Registrar's web site.

Making a Suggestion or a Complaint
Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident (CLAS Academic Policies Handbook).

Understanding Sexual Harassment
Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather
In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Department of Public Safety website.