MATH335301, Statistics, 3cr., Summer 2014

Instructor: Marie Clote
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Office: Carney 256
Office Hours: Mondays and Thursdays 5:30-6:00 or by appointment. Telephone: 617 552 3118
Course webpage: on Canvas https://bostoncollege.instructure.com or access through agora, use your bc username and password.
Schedule: Mondays and Thursdays 6:00-9:15 Room: Fulton 115
Note: No class on Monday, May 12, class will meet on Friday, May 16.
No class on Memorial day weekend, class will meet on Friday, May 30.

Course Description MT35301 Statistics: Introduction to inferential statistics covering description of sample data, probability, binomial and normal distributions, random sampling, estimation, and hypothesis-testing. Specific topics are: introduction, frequency tables, frequency histograms, means and other measures of central tendency, variances, z-scores, an introduction to probability (sample spaces, frequency functions, independence, conditional probability, addition and multiplication rules), random variables, binomial distribution, mean, variance, and standard deviation of a probability distribution, the normal distribution, central limit theorem, normal approximation to the binomial, point and confidence intervals for means (small and large sample size cases) and proportions, and one and two sample hypothesis test for means and proportions.


MyStatLab (Required) MyStatLab access code comes bundled with the book or can be purchased separately along with an ebook at http://www.MyStatLab.com. This gives additional examples and explanations and datasets. Online assignments will be given for each class.

Examinations and Course grading There will be two quizzes, a midterm, and a comprehensive final, weighted as follows: online assignments 10%, quizzes 30%, midterm 30%, final 30%. Tentative dates are: Quiz 1-Monday, May 19, Midterm-Monday, June 02, Quiz 2: Thursday, June 12, Final: Thursday, June 19.

WCAS Grading System The undergraduate grading system consists of twelve categories: A (4.00), A- (3.67), excellent; B+ (3.33), B (3.00), B- (2.67), good; C+ (2.33), C (2.00), C- (1.67), satisfactory; D+ (1.33), D (1.00), D- (0.67), passing but unsatisfactory; F (0.00), failure; I (0.00), incomplete; F (0.00), course dropped without notifying office; W (0.00), official withdrawal from course. The graduate grading system is A (4.00), A- (3.67), Excellent; B+ (3.33), B (3.00), good; B- (2.67), C (2.00), passing but not for degree credit; F (0.00), failure.

Grade Reports. All students are required to log into the web through Agora to access their semester grades. Students must utilize their BC username and password to log on. If your username or password is not known, the Student Learning and Support Center in the O’Neill Library Computer Center will issue a new one. The SLSC requires a valid picture ID (a BC ID, driver’s license or passport) to obtain your password.
Course Objectives In successfully completing this course, students will:
1. Identify appropriate descriptive statistics for sample and population data, create frequency tables and histograms, demonstrated by class participation, completion of assignments, and in-class exam performance.
2. Compute simple and conditional probabilities for events under assumptions of the binomial and normal distributions, demonstrated by problem solving in class participation, completion of assignments, and in-class exam performance.
3. Compute point estimates and confidence intervals for population means and proportions under various assumptions, demonstrated by problem solving in class participation, completion of assignments, and in-class exam performance.
4. Set up and test hypotheses for population means and proportions in one- and two-sample contexts, demonstrated by problem solving in class participation, completion of assignments, and in-class exam performance.
5. Demonstrate an appreciation of statistics applied across cultural settings and learn the impact of culture, gender, and age in statistical analysis as demonstrated by response to examples used in class.
6. Demonstrate ethical appreciation of the importance of academic integrity pertaining to mastery of statistics as demonstrated by completing their work independently.

Important Policies
http://www.bc.edu/content/bc/schools/advstudies/guide/academicinteg.html

Scholarship and Academic Integrity
It is expected that students will produce original work and cite references appropriately. Failure to reference properly is plagiarism. Scholastic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on examinations or assignments, and submitting the same paper or substantially similar papers to meet the requirements of more than one course without seeking permission of all instructors concerned. Scholastic misconduct may also involve, but is not necessarily limited to, acts that violate the rights of other students, such as depriving another student of course materials or interfering with another student’s work.

Request for Accommodations
If you have a disability and will be requesting accommodations for this course, please register with either Dr. Kathy Duggan (dugganka@bc.edu), Associate Director, Connors Family Learning Center (learning disabilities or AHD) or Dean Paulette Durrett, (paulette.durrett@bc.edu), Assistant Dean for students with disabilities, (all other disabilities). Advance notice and appropriate documentation are required for accommodations. http://www.bc.edu/content/bc/libraries/help/tutoring/specialservices.html.

Attendance
Class attendance is an important component of learning. Students are expected to attend all classes and to arrive by the beginning of and remain for the entire class period. When an occasion occurs that prevents a student from attending class, it is the student’s obligation to inform the instructor of the conflict before the class meets. The student is still expected to meet all assignment deadlines. If a student knows that he or she will be absent on a particular day, the student is responsible for seeing the instructor beforehand to obtain the assignments for that day. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate's notes and handouts and turning in any assignments due.

Course Assignments (readings, exercises and/or experiences) Class will meet twice weekly for 3 hours. In addition, students are expected to spend about 6-8 hours a week reading for the class and completing the assignments. The assignments and reading assignments will be given in class and on the course website on Blackboard Vista.
Schedule: The following schedule is subject to change. The class website will reflect the current schedule along with weekly assignments.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
<th>Exams</th>
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<tbody>
<tr>
<td>Th. May 15</td>
<td>Summarizing and graphing data, measures of center</td>
<td>1.1-2.3, 3.1-3.2</td>
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<tr>
<td>F. May 16</td>
<td>Measures of variation and position, probabilities, addition rule</td>
<td>3.3, 3.4, 4.1, 4.2, 4.3</td>
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<tr>
<td>M. May 19</td>
<td>Multiplication rule, conditional probability, random variables</td>
<td>4.4, 4.5, 5.1, 5.2</td>
<td>Quiz 1</td>
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<tr>
<td>Th. May 22</td>
<td>Binomial distribution, moments for binomial distribution, normal distribution</td>
<td>5.3, 5.4, 6.1, 6.2</td>
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<tr>
<td>Th. May 29</td>
<td>Sampling distributions, central limit theorem, normal approximation to binomial</td>
<td>6.3, 6.4, 6.5, 6.6, 6.6</td>
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<tr>
<td>F. May 30</td>
<td>Point estimates and confidence intervals for a population mean and for a population proportion</td>
<td>7.1-7.4</td>
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<td>M. June 02</td>
<td>Catch-up, review, and mid-term</td>
<td></td>
<td>Mid-term</td>
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<tr>
<td>Th. June 05</td>
<td>Introduction to hypothesis testing, type I and II errors, hypothesis test for a proportion, hypothesis test for a proportion,.</td>
<td>8.1, 8.2,8.3</td>
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<td>M. June 09</td>
<td>Hypothesis testing for a mean: Z and t tests.</td>
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<td>8.4</td>
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<tr>
<td>Th. June 12</td>
<td>Confidence intervals and hypothesis testing about 2 proportions, about 2 means: independent samples</td>
<td>9.1, 9.2, 9.3</td>
<td>Quiz 2</td>
</tr>
<tr>
<td>M. June 16</td>
<td>Confidence intervals and hypothesis testing about 2 proportions, about 2 means: independent and dependent samples.</td>
<td>9.3, 9.4</td>
<td></td>
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<tr>
<td>Th. June 19</td>
<td>Review and final</td>
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<td>Final</td>
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Boston College Mission Statement

Strengthened by more than a century and a half of dedication to academic excellence, Boston College commits itself to the highest standards of teaching and research in undergraduate, graduate and professional programs and to the pursuit of a just society through its own accomplishments, the work of its faculty and staff, and the achievements of its graduates. It seeks both to advance its place among the nation's finest universities and to bring to the company of its distinguished peers and to contemporary society the richness of the Catholic intellectual ideal of a mutually illuminating relationship between religious faith and free intellectual inquiry.

Boston College draws inspiration for its academic societal mission from its distinctive religious tradition. As a Catholic and Jesuit university, it is rooted in a world view that encounters God in all creation and through all human activity, especially in the search for truth in every discipline, in the desire to learn, and in the call to live justly together. In this spirit, the University regards the contribution of different religious traditions and value systems as essential to the fullness of its intellectual life and to the continuous development of its distinctive intellectual heritage.
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2. Under Register, click Student.
3. Enter your instructor's course ID: clote35636, and click Continue.
4. Sign in with an existing Pearson account or create an account:
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   · If you do not have a Pearson account, click Create. Write down your new Pearson username and password to help you remember them.
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   · Use the access code that came with your textbook or that you purchased separately from the bookstore.
   · Buy access using a credit card or PayPal.
   · If available, get 14 days of temporary access. (Look for a link near the bottom of the page.)
6. Click Go To Your Course on the Confirmation page. Under MyLab & Mastering New Design on the left, click MATH335301 Statistics- Professor Clote to start your work.

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Additional Information

See Students > Get Started on the website for detailed instructions on registering with an access code, credit card, PayPal, or temporary access.

Students can also register at http://www.MyStatLab.com