Instructor Information
Dr. Amy DiBattista 464 Nightingale Hall
da.dibattista@northeastern.edu (617) 373-5181
Office Hours: Mon. and Thurs., 10:30 – 11:30 a.m., Wed. 3:00 – 4:00 p.m.

Teaching Assistant (TA) Information
Yian Xu 435 Nightingale Hall
xu.yia@husky.neu.edu (617) 373-3077
Office Hour: Wed., 11:00 a.m. – 12:00 p.m.

Course Information
Class Meetings: Mon., Wed., and Thurs., 1:35 a.m. – 2:40 p.m.
330 Dodge Hall

Prerequisites: Foundations of Psychology Credit Hours: 4


(Strongly) recommended equipment: Basic scientific calculator
Computer with access to Microsoft Excel and SPSS

Course Description (adapted from Course Catalog)
This course offers an overview of descriptive and inferential statistics with a focus on psychological applications. The course content includes standard material in undergraduate statistics including distributions, central tendency, variability, z-scores, the normal distributions, correlation, regression, probability, hypothesis testing (using the $z$, $t$, $F$, and chi-squared statistics), and confidence intervals.

Learning Outcomes
In this course you will develop the following skills. My goal is that you will…

- Learn basic concepts in descriptive and inferential statistics;
- Learn how to those concepts to solve statistical problems in psychological science;
- Be able to analyze a data set given adequate background information and interpret the results of your analyses.

Course Format and Procedures
This statistics course will cover the theoretical and mathematical bases of statistics in psychological research. The format will include lecture, problem sets, demonstrations, with participation and discussion about course material encouraged. Developing an understanding of statistics is the point of this course. It will be critical that you understand which statistical technique to use, when, and why. Thus, I want you to spend the majority of your study time (for this course) focusing on the concepts behind the statistics. Please do not expect that your task will be simply plugging numbers into a calculator.
Expectations

- Attend class, arrive on time, and be attentive during class.
- Avoid behavior that could make others uncomfortable or disrupt learning.
- Treat class time as a professional environment, and remember that every student has the right to participate and listen in class.

Participation

- Participation will make this course more interesting for everyone and will help you and others by clarifying difficult concepts.
- Please feel welcome to engage in class discussions, and please show respect while others are asking questions or commenting.

Responsibilities

- All students are individually responsible for lecture material.
- In the event of an absence, obtain notes and announcements from a classmate. I will not recap entire lectures, although I will help you to understand missed material during office hours or individual meetings.

Notes Exchange

- You may participate in a notes exchange program with your classmates, on a strictly voluntary basis. A notes partner will be assigned to you after the first class period, with your permission. Details will be given in class.

Blackboard

- Lecture outlines, lecture slides, documents, homework assignments, and other printed materials referenced in class will be saved as electronic copies on Blackboard.
- Lecture outlines and slides will be brief, and attendance will be necessary to do well in the course.

Course Policies

This course strictly follows the College of Science Academic Course Policies, which is available at http://www.northeastern.edu/cos/wp-content/uploads/2014/11/Northeastern-COS-Policies-Template.pdf. In addition to these policies, please adhere to the following:

- Quizzes and the final exam must be completed during their scheduled class periods. No make-up quizzes or final exams will be given. A missed quiz will be given a score of 0. There are no exceptions. In the event of a medical or family emergency, please contact me.
- Homework assignments must be completed by their scheduled due dates.
  - Homework is due at the beginning of class, and no late homework will be accepted. This is necessary because we will review each homework in detail during class time. There are no exceptions. In the event of a medical or family emergency, please contact me.
- Due to the course’s focus on concepts, I do not expect you to memorize formulas. Therefore, all quizzes and the final exam will be open-book/open-notes. You may bring
your notes and book to class at these times, or you may write yourself a “cheat sheet,” of any length, containing formulas and guidelines.

- During class periods and other meetings, please silence the alerts on all electronic devices, or set them to vibrate. You are encouraged to take notes in the way that works best for you (including on your computer, tablet, etc.), but if anything you bring in interrupts the class, you will be asked to put it away.
- Please contact the instructor and TA by email. We will typically respond within one day on weekdays but may be delayed after 5 p.m. on weekdays, on weekends, and on university holidays.

**Evaluation and Grading**

Your final grade in the course will be calculated from the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework (based on 5 out of 6 assignments)*</td>
<td>30%</td>
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<tr>
<td>Quizzes (5)</td>
<td>50%</td>
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<tr>
<td>Cumulative Final Exam</td>
<td>20%</td>
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* If you turn in all six homeworks, your lowest homework grade will be dropped, and your homework average will be calculated using your five highest homework grades.

**Academic Integrity**

This course strictly follows the University’s policy on academic honesty and integrity (attached). Please take a look at it, even if you have read it before. It is worth the review, as certain aspects of “common sense” honesty and integrity are operationalized there.
Northeastern University Academic Integrity Policy

http://www.northeastern.edu/osccr/academic-integrity-policy/

The Policy

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

The following is a broad overview, but not an all-encompassing definition, of what constitutes a violation of academic integrity.

Cheating
The University defines cheating as using or attempting to use unauthorized materials, information, or study aids in any academic exercise. When completing any academic assignment, a student shall rely on his or her own mastery of the subject.

Examples include, but are not limited to

- Unauthorized use of aids such as but not limited to notes, text, the Internet, cell phones, etc. to complete any academic assignment.
- Copying from another student’s academic work.
- Unauthorized communication during an examination.
- Handing in the same paper for more than one course without explicit permission from the instructor(s).
- Intentionally viewing a test before it is administered.
- Storing notes in a portable electronic device for use during an examination.

Fabrication
The University defines fabrication as falsification, misrepresentation, or invention of any information, data, or citation in an academic exercise.

Examples include, but are not limited to

- Inventing data, facts, or sources for an academic assignment.
- Altering the results of a lab experiment or survey.
- Citing a source in a bibliography that was not used.
- Stating an opinion as a scientifically proven fact.
Plagiarism
The University defines plagiarism as using as one’s own the words, ideas, data, code, or other original academic material of another without providing proper citation or attribution. Plagiarism can apply to any assignment, either final or drafted copies, and it can occur either accidentally or deliberately. Claiming that one has “forgotten” to document ideas or material taken from another source does not exempt one from plagiarizing.

The following sources require citation
- Word-for-word quotations from a source, including another student’s work.
- Paraphrasing (using the ideas of others in your own words).
- Unusual or controversial facts not widely recognized.
- Audio, video, digital, or live exchanges of ideas, dialogue, or information.
- Students unclear as to whether or not a source requires citation should speak with their professor or consult the Writing Center in 412 Holmes Hall.

Unauthorized Collaboration
The University defines unauthorized collaboration as instances when students submit individual academic works that are substantially similar to one another. While several students may have the same source material, any analysis, interpretation, or reporting of data required by an assignment must be each individual’s independent work unless the instructor has explicitly granted permission for group work.

Examples include, but are not limited to
- Submitting work that closely matches that of another student, even when the work is to be original to the student handing in the assignment.
- Sharing a take-home examination, case write-up, lab report, or any other assignment with a peer without express permission from the instructor.

Participation in Academically Dishonest Activities
The University defines participation in academically dishonest activities as any action taken by a student with the intention of gaining an unfair advantage over other students.

Examples include, but are not limited to
- Misrepresenting oneself or one’s circumstances to an instructor.
- Stealing an examination.
- Purchasing a pre-written paper.
- Selling, loaning, or otherwise distributing materials intended for the purpose of cheating, plagiarism, or other academically dishonest acts.
- Destroying, altering, stealing, or forging another student’s work, library materials, laboratory materials, academic records, course syllabi, or examination/course grades.
- Intentionally missing an examination or assignment deadline to gain an unfair advantage.
- Forging information or signatures on official University documents.

Facilitating Academic Dishonesty
The University defines facilitating academic dishonesty as intentionally or knowingly helping or contributing to the violation of any provision of this policy.
Examples include, but are not limited to
- Doing academic work for another student.
- Making available previously used academic work for another individual who intends to resubmit the work for credit.

Obligation to Uphold Academic Integrity
All members of the Northeastern University community have a role in upholding the Academic Integrity Policy. Any member of the community who witnesses a violation of this policy should report it to the appropriate faculty member or the Office of Student Conduct & Conflict Resolution (OSCCR). All instructors are required to refer to Northeastern’s Academic Integrity Policy in their course syllabi.

Options for Instructors Reporting Alleged Violations of the Academic Integrity Policy
A faculty member who suspects a student in his or her class, or working under his or her direction, of violating the Academic Integrity Policy can choose to:
- File official charges with the OSCCR, or
- Submit the complaint as an “information only” case to request that the incident be kept “on file” for the student.

An instructor who believes that a student made an unintentional mistake and who does not want to file an official complaint may submit an “information only” complaint. The faculty member will speak with the student suspected of violating the policy before sending forward a complaint. OSCCR will inform the student via e-mail when it receives an “information only” complaint. This correspondence will provide the student with resources to avoid potential future violations as well as notice that another “information only” complaint for an Academic Integrity violation may result in an official charge and meeting with a member of the OSCCR staff. When an “information only” complaint is received by OSCCR for a student who already has one or more “information only” complaints on file, OSCCR reserves the right to determine whether there are sufficient facts in the new complaint to support a charge of an Academic Integrity violation. The Director of OSCCR will review all complaints submitted against a student to determine whether sufficient evidence for a violation of the Academic Integrity Policy exists. If the Director determines that the evidence is sufficient, the case will be assigned to a staff member within the OSCCR. The staff member will assign the case to an Administrative Hearing or to the Student Conduct Board as appropriate.

Sanctions
Hearing Officers and the Student Conduct Board have discretion to impose sanctions for a Responsible finding of an Academic Integrity violation that range in severity from a written warning to expulsion and include an action taken by the student to help rebuild trust within the community.

Hearing officers will take the following into consideration when determining appropriate sanctions for violations of the Academic Integrity policy:
- Nature of the violation(s)
- Severity of the damage, injury, or harm resulting therefrom
- Student’s past disciplinary record
- Mitigating circumstances
- Aggravating circumstances
Appeals
Students may appeal the disciplinary actions of an Academic Integrity violation on the three grounds identified in the Code of Student Conduct. The Appeals Process outlined in the Code of Student Conduct will be used for such appeals. Please refer to the Code of Student Conduct for a complete description and explanation of the Appeals Process.

Grading Authority
OSCCR does not have authority over assignment or course grades. Therefore, a student who violates Northeastern University’s Academic Integrity Policy may also be subject to academic penalties at the discretion of the instructor in the course. This can result in, but is not restricted to, the student failing the course. A student with questions about the Academic Appeals process should contact the academic advisor to review that process.
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<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>TEXT CHAPTER</th>
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<td>Course introduction, organization</td>
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<td>Thurs., 9/8</td>
<td>Introduction to statistics</td>
<td>1, Appendix A</td>
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<td>Mon., 9/12</td>
<td>Tables and graphs</td>
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<td>Homework 1 due; Homework 1 review Review for Quiz 1</td>
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<td>Mon., 9/26</td>
<td>Quiz 1</td>
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<td>Normal distribution and z-scores</td>
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<td>Correlation and regression Excel and SPSS calculations for correlation and regression</td>
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<td>Homework 3 due; Homework 3 review Review for Quiz 3</td>
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<td>Wed., 10/19</td>
<td>Quiz 3</td>
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<td>Populations and samples Probability</td>
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<td>Mon., 10/24</td>
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<td>Wed., 10/26 &amp; Thurs., 10/27</td>
<td>Introduction to hypothesis testing z-test</td>
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<td>Mon., 10/31</td>
<td>Confidence intervals</td>
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<td>Wed., 11/2</td>
<td><strong>Homework 4 due; Homework 4 review</strong></td>
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<td><strong>Quiz 4</strong></td>
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<tr>
<td>Mon., 11/7</td>
<td><em>t</em>-test for one sample</td>
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<td>Wed., 11/9</td>
<td><em>t</em>-test for two independent samples</td>
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<td>Thurs., 11/10</td>
<td><em>t</em>-test for two related samples Excel and SPSS calculations for <em>t</em>-tests</td>
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<td>Mon., 11/14</td>
<td><strong>Homework 5 due; Homework 5 review</strong></td>
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<td>Review for Quiz 5</td>
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<td>Wed., 11/16</td>
<td><strong>Quiz 5</strong></td>
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<td>Thurs., 11/17</td>
<td>One-way ANOVA (recorded lecture) (Prof. D. at conference.)</td>
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<td>Mon., 11/21</td>
<td>One-way ANOVA, continued (in class)</td>
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<td>Wed., 11/23</td>
<td>Thanksgiving Recess: NO CLASSES</td>
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<td>Thurs., 11/24</td>
<td>One-way ANOVA, continued Excel and SPSS calculations for ANOVA</td>
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<td>Mon., 11/28</td>
<td>Two-way ANOVA</td>
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<td>Wed., 11/30 &amp;</td>
<td>Chi-squared test</td>
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<td>Thurs., 12/1</td>
<td>Excel and SPSS calculations for chi-squared tests</td>
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<tr>
<td>Mon., 12/5</td>
<td><strong>Homework 6 due; Homework 6 review</strong></td>
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<tr>
<td>Wed., 12/7</td>
<td>Final exam review LAST DAY OF FALL CLASSES</td>
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<tr>
<td>Thurs., 12/8</td>
<td>READING DAY</td>
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<td>Fri., 12/9 –</td>
<td>FINALS WEEK</td>
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<tr>
<td>Fri., 12/16</td>
<td><strong>Final Exam: date, time, location TBD</strong></td>
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