San José State University  
Department of Psychology  
Stat 115, Intermediate Statistics, Section 2, Fall 2012

Instructor: Sean Laraway, PhD
Office Location: DMH 311
Telephone: (408) 924-5679 (only available during office hours)
Email: sean.laraway@sjsu.edu
Office Hours: Wednesday, 2:00 - 4:00 p.m.
Class Days/Time: Tuesday & Thursday, 3:00 - 4:15 p.m.
Classroom: DMH 355
Prerequisites: Elementary Statistics (Stat 95 or equivalent)

Web Pages
We will use Desire 2 Learn (D2L) for posting course grades. You will automatically be given access to D2L upon your successful enrollment in the course.

https://sjsu.desire2learn.com/

We will use Piazza for course announcements, postings, questions, and discussions. You will receive an invitation to enroll in Piazza upon your successful enrollment in the course. Please follow the instructions to gain access to Piazza. Use Piazza to ask questions about the course structure, assignments, and material. Do not use email for these types of inquiries. Use email only for personal questions, such as those involving your grade, missing classes, etc. You are responsible for regularly checking the site for announcements, etc.

www.piazza.com

The best method of contacting me is via D2L email. Please allow 1-2 business days for a response. Email will be answered Monday-Thursday from 9 a.m.-5 p.m.

Course Description
Statistical analysis at the intermediate level; descriptive statistics, t-statistic, chi-square, analysis of variance, correlation and regression, and topics in experimental design; use of a statistical program, Statistical Package for Social Sciences (SPSS) for statistical analyses and interpretation. The major goal is to enable the student to use numerical
and graphical data in personal and professional judgments and in coping with public issues. We also will consider other topics, including experimental and non-experimental research designs, causation, effect size and strength of association measures, and confidence intervals.

Learning Outcomes

The major goal of this course is to provide students with the solid foundation in statistics, by introducing them to the various types of statistics used in psychology and other social sciences. Students will examine the logic and strategies of scientific research designs and will learn how to use appropriate inferential statistics to make sense out of data. At the end of the course, students should be able to understand the “what, when, and how” of statistics. That is, students will learn what statistics are available, when to use specific statistics, and how to interpret results.

Course learning outcomes (CLOs)
Upon successful completion of this course, students will be able:

1. To understand the logic of statistical concepts.
2. To use appropriate statistical methods to solve quantitative problems and test hypotheses.
3. To understand the logic and strategies of scientific research designs.
4. To understand the basic concepts of causal inference.
5. To conduct statistical analyses using SPSS and interpret statistical information presented in SPSS output.

Program Learning Outcomes (PLOs)
Upon successful completion of the psychology major requirements…

PLO1 – Knowledge Base of Psychology – Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

PLO2 – Research Methods in Psychology – Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations. Stat 115 meets this PLO.

PLO3 – Critical Thinking Skills in Psychology – Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes. Stat 115 meets this PLO.

PLO4 – Application of Psychology – Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

PLO5 – Values in Psychology – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society. Stat 115 meets this PLO.
Required Texts/Readings

Textbook

Other equipment / material requirements
1. Scientific calculator (must have square root and exponent buttons)
2. Computer, printer, internet and library access
3. Scantron (882) forms

Classroom Protocol

Etiquette
In an effort to create a classroom environment conducive to learning, I expect you to follow the following classroom etiquette:

1. Arrive for class on time. Arriving late disrupts other students and interferes with continuity of the lectures and class activities. If for any reason you cannot avoid being late, please enter the class through the least noticeable door and take a seat quietly. This will minimize disturbance of the lecture and the concentration of your fellow classmates. Do not come in late and enter into a conversation to catch up on information you missed or expect information you missed to be repeated. Leaving early is equally disruptive; please be considerate.
2. Be polite and respectful to other people in the class
3. Do not carry on conversations with others during class.
4. No cell phone use for text messaging, emailing, or calls during any class! If you anticipate an emergency call, please let me know in advance.
5. Turn off all cell phones, headphones, or any other devices that produce distraction before class.
6. Do not work on any other course material during class, including studying for other exams.
7. Do not bring the laptop to class. You do not need it for this course.
8. All professors should be addressed by his or her title (e.g., Dr. or Professor), not by “Hey” or use of other informal language. This is true for all classes, not just this one.

Students are expected to attend class and maintain a level of professional and courteous behavior in the classroom. Respect for the rights and opinions of others is expected. The free and open exchange of ideas is the cornerstone of higher education, but we must always remain respectful of others, even if we disagree strongly with them. Disagreement is acceptable, but discourteousness is not. Behavior that creates a threatening or harassing environment (either online or in class) will not be tolerated. Disruptions of class activities are a violation of the Student Code of Conduct will be reported to the Office of Judicial Affairs. In short, be cool to one another.

http://www.sjsu.edu/getinvolved/docs/StudentConductCode.pdf
Classes are comprised of lectures, in-class activities, question-and-answer periods, guest presentations, and films, if time allows. Attendance is expected and is critical for success in this course. If you miss a class, you are responsible for getting the information covered. It is vital that you complete all scheduled readings and assignments before each class. Do not talk, read non-class materials, text message, or sleep during class time. This policy is strictly enforced. **Students who fail to abide by classroom protocol may be excused from class.** Please arrive to class on time. If you need to leave early, please inform the instructor prior to the start of class.

**Consent for Recording of Class and Public Sharing of Instructor Material, Amends F06-2**

Whereas Common courtesy and professional behavior dictate that someone is notified when being recorded; and audio recording without consent in private settings is prohibited by California Penal code 630-635, and

Whereas Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval; and is already prohibited by California Civil Code 980 a(1), and

Whereas It is desirable to allow flexibility to faculty as to when and how consent is given for recording classes or publicly sharing course material; therefore be it

Resolved That the following items be included in the list of green sheet items recommended for consideration in the Appendix of University Policy F06-2.

“Common courtesy and professional behavior dictates that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. This permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”

“Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

Therefore, neither recording of class lectures or discussions nor distribution of course materials are allowed. Failure to follow this policy will result in immediate expulsion from the class, a grade of F in the course, and reporting the student to the University and proper authorities for further sanctions/punishment.

**Laptops**

In-class laptop use should be restricted to course-related activities (e.g., taking notes). Other activities (e.g., checking email, Facebook®, MySpace®) distract both the instructor and students and will not be tolerated. You will be asked to turn off your laptop if you are engaged in non-class activities and you may be asked to refrain from laptop use for the duration of the course if this behavior continues.
Cell phones and other electronic devices
Please be certain to turn off or put in silent mode (not vibrate mode as that is still audible and is distracting) all cell phones, pagers, and any other devices that produce a distraction prior to entering the classroom. DO NOT SEND TEXT MESSAGES DURING CLASS. You may be asked to leave if you are caught sending text messages. Make sure your phone is put away during class (place it in your pocket, purse, or bookbag). You may not use any electronic device during exams.

Late arrivals
If you must arrive late or leave early, please do so quietly and with a minimum of distraction. Repeated tardiness will not be tolerated. Please come to class on time. If you will be more than 15 minutes late, consider staying home.

I expect you to come to class prepared
“Prepared” means you have completed the readings and any assignments before class starts.

Check the course Piazza site regularly
I will make important course announcements, answer questions, and post readings on the Piazza site. If I become ill, I will inform you as soon as I can via Piazza. You should check the site before each class.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drop, academic renewal, etc. Refer to the current semester’s catalog policies section for any add/drop deadlines, policies, and procedures section and specific registration information. Please be aware of the Late drop policy is available. Students should be aware of the current deadlines and penalties for dropping classes.

Assignments and Grading Policy
Method of instruction
This course will use the classic lecture-discussion format as its primary form of instruction. In addition, this course may use films, web-based content, and in-class activities to supplement lectures. Power Point lecture material for each chapter will be made available online; I will attempt to post lecture notes prior to class. However, sometimes I may be unable to do so. Please remember that I post these notes as courtesy, and I appreciate your patience if notes are not up before class time.

Be advised that due to time constraints not all text material will be covered in lecture. This does not mean that such material is not important, nor does it mean that such material will not appear on exams. You are responsible for all text and lecture material. Students are encouraged to ask questions during class or via the course web site.
Exams
You will have four exams. Exams will comprise multiple-choice, short answer, and computation questions. Please bring a Scantron form, pencils, and a calculator to each exam. You will be allowed to use one page of notes (double-sided or two pages single-sided) and a calculator during exams.

Participation/Homework Assignments
You will be graded on your participation in and out of class. You must be present to receive credit for in-class assignments, unless you make other arrangements with me. Some assignments will be completed outside of class (i.e., homework). This is an upper-division course, so you should expect to spend at least 6-9 hrs/week outside of class reading, studying, and preparing for class.

Data Collection Project
You will complete a research project that will require you and your research team to design a quantitative research study, collect data, analyze those data using computer software (e.g., SPSS, Excel), and write a concise and correct summary of the results. For each project, you and your team will submit an original, written research report of your project. These reports must be at least 500 words in length (typed, double-spaced, 12-point font, 1” margins) and should include at least one graph (software generated). Projects must use correct grammar, punctuation, and statistical style (as described in the Publication Manual of the American Psychological Association, 6th ed.; we will review some of this in class). Teams may consist of 2-3 students and all team members will earn the same grade on the project. To accommodate diversity of student interests and backgrounds, teams will choose their own specific research topics. Note that topics must be approved before data collection begins to ensure successful data collection strategies. More information and project guidelines will be given in class.

Make-up Exams
A make-up exam will only be given if you contact me prior to missing the exam in question and/or you have a documented excuse. A cumulative make-up exam will replace one missing exam score (items will be chosen at random from previous exams). This exam will occur immediately following the Final Exam, so you should be prepared to take both.

Assessment of student learning outcomes
The learning objectives will be assessed via participation assignments, homework, exam questions, and the project. These assessment items will involve solving verbal and symbolic quantitative problems, including those that involve real-world situations.
Grading

Your grade will result from the total number of points that you earn during the semester. Points will be assigned as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>How Many?</th>
<th>Points</th>
<th>Total</th>
<th>Percent of Final Grade</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>TBA</td>
<td>TBA</td>
<td>20</td>
<td>20%</td>
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<tr>
<td>Project</td>
<td>1</td>
<td>20</td>
<td>20</td>
<td>20%</td>
</tr>
<tr>
<td>Exams</td>
<td>4</td>
<td>15</td>
<td>60</td>
<td>60%</td>
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<tr>
<td>TOTAL</td>
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<td>100</td>
<td>100%</td>
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Grading scale:

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<tr>
<th>Points earned</th>
<th>Percent</th>
<th>Letter Grade</th>
<th>Points earned</th>
<th>Percent</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 98</td>
<td>≥ 98</td>
<td>A+</td>
<td>73</td>
<td>73</td>
<td>C</td>
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<td>93</td>
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<td>70</td>
<td>70</td>
<td>C-</td>
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<tr>
<td>90</td>
<td>90</td>
<td>A-</td>
<td>68</td>
<td>68</td>
<td>D+</td>
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<tr>
<td>88</td>
<td>88</td>
<td>B+</td>
<td>63</td>
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<td>80</td>
<td>B-</td>
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<td>F</td>
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<td>78</td>
<td>78</td>
<td>C+</td>
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Department of Psychology Writing Policy

The quality of your writing is graded in this class. You will lose points if I cannot understand what you are trying to say. If you are not comfortable writing, you should seek additional assistance (see below). Whenever referencing something you have read, you are expected to provide a complete, APA-style reference. It is assumed that you know, understand, and can properly apply APA-style. If not, it is your responsibility to familiarize yourself with this style guide. Never reference a web site or web source, ever. If you find a good article referred to on the web, get it, read it, and use that original source.

Important!! The Department of Psychology has adopted the policy that designated written assignments will be returned ungraded for substantial errors in grammar, punctuation, spelling, clarity, conciseness, and validity of content. Papers returned will suffer a minimum penalty of 10% on the final grade on rewritten work. The revised paper must be returned within a maximum of seven calendar days and submitted with a copy of the original work. This policy is in effect for all courses 100W and above and by instructor discretion for courses under 100.

Unless otherwise noted, all written assignments must be typed, double-spaced, with 1" margins, and use a standard font (i.e., Arial, Times New Roman, or Helvetica) of size 12. Your name, the semester of the course, and the course name must appear in the upper right corner. Multiple pages must be sequentially numbered and stabled in the upper left corner. Assignments will not be accepted and will be considered “late” until they are consistent with the above policy.
University Policies

Academic integrity

Students should read the University’s Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the University’s integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. Visit the Student Conduct and Ethical Development website.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. At SJSU plagiarism is the act of representing the work of another as one’s own (without giving appropriate credit) regardless of how that work was obtained, and submitting it to fulfill academic requirements. Plagiarism at SJSU includes but is not limited to:

1. The act of incorporating the ideas, words, sentences, paragraphs, or parts thereof, or the specific substances of another’s work, without giving appropriate credit, and representing the product as one’s own work;
2. And, representing another’s artistic/scholarly works such as musical compositions, computer programs, photographs, painting, drawing, sculptures, or similar works as one’s own.

The following URL will take you to the SJSU library’s plagiarism tutorial. If you have not yet completed this, it is worth your while to do so.

For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include in your assignment any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Policy F06-1 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital
and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Learning Assistance Resource Center
The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The LARC website is located at http://www.sjsu.edu/larc/.

SJSU Writing Center
The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. Visit the Writing Center website for more information.

Peer Mentor Center
The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop-in basis, no reservation required. Visit the Peer Mentor Center website for more information.

Student Technology Resources
Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Computers are also available in the Martin Luther King Library.

Tips to help you succeed in Stat 115
1. Attend all classes and take good notes; Type and compile your notes soon after class
2. Start studying now for each exam; form a study group with fellow students
3. Read assigned readings before each class; read each chapter at least twice
4. Practice working through the formulas with different data sets, such as sports statistics
5. Regularly review previous material to prepare for exams
6. Ask questions in class and in office hours
7. Make flashcards for important concepts and terms
8. Try to apply statistics to your everyday life and interests - in such areas as sports, finance, business, childrearing, medicine, law, and entertainment.

**Note on the schedule**

This course will follow this schedule to the extent possible. The timing and specific nature of topics and activities may change. You are responsible for being informed of any changes made to the class syllabus. Such changes will be clearly stated in class.

**Acknowledgment**

This syllabus incorporates materials developed by Dr. Megumi Hosoda, Dr. Ron Rogers, Dr. Susan Snycerski, and the SJSU Center for Faculty Development’s Accessible Syllabus Template. I have been granted permission by the authors to use these materials in whole or in part. I thank them for the use of their materials.

**Note on SPSS**

I will describe how to use SPSS to conduct many of the analyses discussed in class. Information on using SPSS is available online. I will offer help on using SPSS and interpreting SPSS results during class and in office hours. You can obtain access to SPSS by: (1) buying the software from the Help Desk in Clark Hall (RECOMMENDED); (2) visiting the Statistics Laboratory in DMH 350 during office hours; or (3) visiting the King Library or Clark Hall, both of which have SPSS installed on some computers.

**Senate Policy S12-3 on student work expectations**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course-related activities including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

The credit hour is defined as "the amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

(1) One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester

(2) A credit hour is assumed to be a 50-minute (not 60-minute) period.

As an example, the expectation of work for a 3-credit course is 150-minutes of direct faculty instruction and a minimum of six hours of out-of-class student work each week.
## Stat 115 Intermediate Statistics Fall 2012 Course Schedule

(Note that this schedule is tentative and may change with fair warning)

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<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics, Readings, Exams</th>
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<tbody>
<tr>
<td>1</td>
<td>8-23</td>
<td>Introduction to Stat 115</td>
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<tr>
<td></td>
<td></td>
<td>Writing APA-style Results sections</td>
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<tr>
<td>2</td>
<td>8-28</td>
<td>Statistics Review; Ch. 1-2</td>
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<td></td>
<td>8-30</td>
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<tr>
<td>3</td>
<td>9-04</td>
<td>Frequency Distributions</td>
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<td></td>
<td>9-06</td>
<td>Central Tendency; Ch. 3</td>
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<tr>
<td>4</td>
<td>9-11</td>
<td>Variability, Introduction to SPSS; Ch. 4, Notes</td>
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<td>9-13</td>
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<tr>
<td>5</td>
<td>9-18</td>
<td>The Normal Distribution &amp; z-scores; Ch. 5</td>
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<td>9-20</td>
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<tr>
<td>6</td>
<td>9-25</td>
<td>*Exam 1 (Ch. 1-5; Graphing notes)</td>
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<tr>
<td></td>
<td>9-27</td>
<td>Probability; Ch. 6</td>
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<tr>
<td>7</td>
<td>10-02</td>
<td>Distribution of Sample Means; Ch. 7</td>
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<tr>
<td></td>
<td>10-04</td>
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<td>8</td>
<td>10-09</td>
<td>Introduction to Hypothesis Testing &amp; Power; Ch. 8, Cohen (1992)</td>
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<td>10-11</td>
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<tr>
<td>9</td>
<td>10-16</td>
<td>Introduction to the $t$ statistic; Ch. 9</td>
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<td>10-18</td>
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<tr>
<td>10</td>
<td>10-23</td>
<td>*Exam 2 (Ch. 6-9, Cohen, 1992)</td>
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<tr>
<td></td>
<td>10-25</td>
<td>The $t$ test for Two Independent Samples; Ch. 10</td>
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<tr>
<td>11</td>
<td>10-30</td>
<td>The $t$ test for Two Related Samples; Ch. 11</td>
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<td>11-01</td>
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<tr>
<td>12</td>
<td>11-06</td>
<td>Introduction to Analysis of Variance &amp; Multiple Comparisons Tests; Ch. 12</td>
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<td>11-08</td>
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<tr>
<td>13</td>
<td>11-13</td>
<td>Two-Factor ANOVA; Ch. 14</td>
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<td>11-15</td>
<td>Data Collection Project due</td>
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<td>14</td>
<td>11-20</td>
<td>*Exam 3 (Ch. 10-14)</td>
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<td></td>
<td>11-22</td>
<td>Thanksgiving Holiday: NO CLASS</td>
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<td>15</td>
<td>11-27</td>
<td>Correlation &amp; Regression; Ch. 15-16</td>
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<td>11-29</td>
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<tr>
<td>16</td>
<td>12-04</td>
<td>Chi-Square Tests; Ch. 17</td>
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<td>12-06</td>
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<tr>
<td>Final</td>
<td>12-13</td>
<td>*Exam 4 (Ch. 15-17); DMH 355, 2:45-5:00 p.m.</td>
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