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Email: tstickle@uvm.edu
Office Hours: by appointment

T.A.: Caitlin Wagner
Office: 310 John Dewey Hall
Email: caitlin.wagner@uvm.edu
Office Hours: Monday 2-3, Friday 12:50-3:50 (during lab), available by email and additional meetings are available by appointment.

Lecture: Thursday 1:00-4:00 (238 John Dewey Hall)
Lab: F 12:50-3:50 (128 John Dewey Hall)

Course Description:

This is the second part of a two-series course required of all graduate students in the psychology program. The class will provide a more detailed approach to advanced statistics. We will cover data analysis with an emphasis on understanding data and quantitative thinking, graphical data displays, building and testing theoretically-driven models, how distributions affect hypothesis testing, Multiple Regression, the General Linear Model, and some extensions of multiple regression are the primary emphasis. There is also coverage of a select number of additional topics. These statistical techniques are central to evaluating a variety of hypotheses in psychology and related fields.

Course Objectives:

After completing this course, you will be familiar with the basic theory and analyses underlying each of the topics noted in the course schedule. More specifically, you will be proficient in:

1. Organizing and describing data, including useful plotting and graphical data display.
2. Selecting data analytic approaches that best test for specific research questions.
3. Understanding the theoretical assumptions underlying specific analyses.
4. Organizing data and importing it into statistical programs.
5. Applying SPSS or SAS to perform the analyses covered in the course.

Meeting these objectives, however, does NOT mean that you will be an expert in all, or even any, of these statistical techniques. Expertise in statistics generally develops only after multiple, repeated applications to real-world problems (i.e., repeated analyses with data that you care
about such as the problems and data you will encounter in your theses and dissertations). The intent of this course is to provide you with a basic overview and introduction to some statistical techniques. You will most likely develop your own area of statistical expertise and training through subsequent coursework and especially through research projects.

**Course Materials (all books are available at the UVM bookstore):**

**Required:**
- A number of helpful SPSS guides, including the Base and Advanced Statistics User Manuals are available for free online and in PDF format here: [http://www-947.ibm.com/support/entry/portal/documentation/software/spss/spss_statistics](http://www-947.ibm.com/support/entry/portal/documentation/software/spss/spss_statistics)
- Additional handouts and readings will be available by email or handed out in class.
- A writable CD or flash drive is needed to save data sets and work throughout the semester.
- You will have access to lectures, slides, handouts, assignments, labs, and review materials.

**Optional:**

**Course Components:**

**General:**
- Attendance is required at all class meetings. The information presented and discussed is integrative and cumulative. Missing any aspect, therefore, leads to increased difficulty in understanding later material. *Students are expected to have read assigned material before it is discussed in class*; class lecture and class discussion presume that students have read all assigned material.
- Work must be complete and handed in on time.

1) **Lab Assignments (Applied)**
- There will be weekly lab assignments for most topics covered. They are designed to help you understand and integrate materials by working to solve problems using real data sets. These assignments will be available prior to the day when we cover them in lab, so that you may work on them beforehand. The intent of the labs is not for you to only “get the right answer,” but to develop statistical skills using SPSS or SAS in order to apply the ideas discussed in lecture.
- All lab assignments are due on the next lecture day (Thursdays) following that lab. The assignments will be graded using a “pass/fail” system. A pass is equivalent to 1 point, a fail is no points. If you don’t turn in a homework assignment, or if you turn it in late and unexcused, you will receive no credit. You must make a genuine effort to complete the work. NO credit will be awarded for poor and sloppy work. The only exceptions to this policy are if you are ill or have an emergency and are unable to get the assignment in on time. You must notify the instructor of illness or in advance if you must be away. For example, if you will be out of town at a conference or other professional activity, discuss it ahead of time with me and make arrangements to complete missed assignments.
2) Exams (Theoretical and applied)
   • Both theoretical and applied material will be covered on the exams, with an emphasis on
     the former.
   • In general, the exams will involve analyzing data using SPSS (or SAS if you prefer),
     interpreting the output, and applying the results to theoretical principles covered in the
     course.
   • The exams are in take home format.
   • Late exams will not be accepted.

3) Participation (Essential)
   • All students are expected to participate in group discussions, ask questions to clarify
     material, and contribute to helping others in the class learn the material. If you do not ask
     questions, I will assume that you understand the material. It is your contributions to the class
     that will best help everyone meet their learning goals, so please adopt a helpful and team-
     oriented approach to the class as much as possible.

Course Evaluation:
Lab Assignments 20%
Exams 60% (2 equally weighted exams)
Participation 20%

Grading Scale:
100% A+ 77-79% C+
95-99% A 74-76% C
90-94% A- 70-73% C-
87-89% B+ 60-69% D
84-86% B < 60% F
80-83% B-

Academic Integrity:
Students must be present and on time for all exams. There will be no make-up exams except for
University excused absences (e.g., medical emergencies, see the Student Handbook for more
details). You must bring documentation to support such an excused absence. There are no make
up labs. If you miss a lab you will miss very valuable information. Academic integrity is
fundamental to the process of learning and evaluating academic performance. Academic
dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the
following: cheating, plagiarism, tampering with academic records and examinations, falsifying
identity, and being an accessory to acts of academic dishonesty. Refer to the UVM academic
honesty policy for further information, including the consequences for acts of academic
dishonesty. The policy is online at: http://www.uvm.edu/~dosa/handbook/?Page=Academic.html

Religious Holidays:
Please notify the instructor if you must miss class or an exam because of a religious holiday. I try
to schedule exams around major religious holidays. If, however, I have failed to do so, notify me
in advance and a make-up exam will be arranged. Similarly, if you must miss class to observe a
religious holiday, notify me in advance and arrangements can be made to get lecture notes.

Disability Accommodations:
Students requiring special assistance due to a disability are asked to contact the instructor during
the first week of classes so that reasonable accommodation for the disability can be determined
and arranged. Disability documentation, testing, and accommodations are coordinated through
the ACCESS office on campus: http://www.uvm.edu/~access/.
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<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading/Assignment</th>
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<td>8/30</td>
<td>Review of Correlation and Simple Regression</td>
<td>Chapters 1 &amp; 2 – Keith</td>
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<td>Introduction to Multiple Regression</td>
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<td>8/31</td>
<td>Simple and multiple regression Lab</td>
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<td>9/6</td>
<td>Multiple Regression, more detail</td>
<td>Chapters 3-5 – Keith</td>
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<td>9/7</td>
<td>Simultaneous and hierarchical regression lab</td>
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<td>9/13</td>
<td>Multiple Regression, categorical variables, the GLM, ANCOVA</td>
<td>Chapter 6 – Keith</td>
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<td>9/14</td>
<td>Regression and GLM Lab</td>
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<td>9/20</td>
<td>No Class/Lab Cleaning and Screening Data do on your own</td>
<td>Tabachnick &amp; Fidell Chapter 4 – Cleaning up Your Act</td>
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<td>9/21</td>
<td>No Lab – Mary Fristad Workshop</td>
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<td>9/27</td>
<td>Moderation I</td>
<td>Chapters 7 &amp; 8 – Keith</td>
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<td>9/28</td>
<td>Interaction/moderation lab I</td>
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<td>Interactions with two continuous variables</td>
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<td>10/5</td>
<td>Interaction/moderation lab II</td>
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<td>10/19</td>
<td>Mediation Lab</td>
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<td>10/26</td>
<td>Regression diagnostics Lab</td>
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<td>11/1</td>
<td>Path analysis</td>
<td>Keith Chapters 10-11</td>
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<td>11/2</td>
<td>Path analysis lab using SPSS</td>
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<td>11/8</td>
<td>Path analysis</td>
<td>Keith Chapter 12</td>
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<td>11/9</td>
<td>Path analysis lab using Mplus</td>
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<td>11/16</td>
<td>Missing data lab using Mplus</td>
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<td>11/22-11/23</td>
<td>Thanksgiving Holiday</td>
<td>No class or Lab</td>
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<td>11/29</td>
<td>Review and Final Exam handed out</td>
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