EDF 6472 – U01 (85990)
Introduction to Data Analysis in Educational Research
Fall 2013
Monday 5:00-7:40 PM
Graham Center 283B

Instructor: Haiying Long, Ph. D.
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E-mail: haiying.long@fiu.edu
Office hours: Mon. 1:00pm-4:00pm or by appointment

Course Description

This course deals with the application of descriptive and inferential statistical techniques in the organizing of data and the testing of simple hypothesis. Students will also learn techniques of reporting out of information and conclusions based on these data. The course work will be primarily practical, but will also include some theoretical concepts necessary for understanding many of the topics that will be covered. The SPSS for Windows statistical computer package will be used for most calculations, so the course will emphasize the ability to choose, carry out, and interpret the results of appropriate procedures rather than simple computation.

Course Objectives:

- When presented with raw data and a particular question to answer from this data in terms of frequency distributions and measures of central tendency and dispersion, students will be able to choose and carry out the appropriate statistical technique for organizing the data to answer the question.
- When presented with raw data and a particular question to answer from this data in terms of correlation and prediction, students will be able to choose and carry out the appropriate statistical technique for answering this question.
- Students will correctly interpret descriptive statistics and be able to make appropriate recommendations for practice from these results.

Required Textbook:
(http://www.uvm.edu/~dhowell/methods8/)

Recommended Materials
Statistical Package for the Social Sciences (SPSS) (Version 16.0 or higher). Chicago: SPSS Corporation.
Statistical Software:
SPSS software is used to calculate and analyze data and there are two ways to access to SPSS through FIU.
1) Purchasing SPSS through FIU: http://it.fiu.edu/software/
2) Free access to SPSS through FIU eLabs: http://it.fiu.edu/about/eservices.shtml

Grading Policy

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentage</th>
<th>Grading Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPSS Assignments/Project</td>
<td>30</td>
<td>A = 93 or higher, A- = 90-92</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>35</td>
<td>B+ = 87-89, B = 84-86, B- = 80-83</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35</td>
<td>C+ = 77-79, C = 74-76, C- = 70-73</td>
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<tr>
<td>Total</td>
<td>100</td>
<td>D+ = 67-69, D = 64-66, D- = 60-63</td>
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<td></td>
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<td>F = 59 or less</td>
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</table>

Course Requirements:
- Complete all after-class exercises.
- Assignments (choose one): Ph. D. students should complete the second one. MS and EDD students can choose either one based on your own needs. Students who complete the second one will get 5 bonus points.
  1) Complete three SPSS assignments
  2) Quantitative project
Each student should prepare his/her own research topic and a dataset for the design assignment. The research project should be a minimum 10 pages (not including references) and a minimum 7 references, written in APA style. The topic should be your research interest based on any two or more statistical methods (descriptive statistics, correlation, regression, reliability statistics, or t-test) and the data can be either your empirical data, data provided in class, or simulated data.
You are allowed to collaborate with other students (a maximum 3 people per team).
Submission of your project to a scholarly journal or a professional conference is strongly recommended. Upon providing any evidence of submission, 10 extra bonus points will be assigned.
Your final report should consist of the following:
  - Introduction with Research Questions
  - Conceptual Framework (Literature Review)
  - Methods
  - Results
  - Discussion with Conclusion
  - References

Resources for National Data:
Free national data are available upon your request from the website of the National Center for Education Statistics, http://www.nces.ed.gov/pubsearch/surveylist.asp.
Instructor will provide help and constructive feedback when needed.
Complete two open-book and take home exams.

- These are individual works and you cannot discuss the exams and relevant information with anyone else.
- You can ask the instructor any questions regarding the items in the exams and the instructor will choose to or not to answer your questions based on her judgment.
- You can refer to any materials available, but should not copy the materials.

**Course Policies**

I assume that all the students read the following policies and understand them. I will strictly follow these rules in my class and there are very few exceptions to them.

**Open Door Policy:** Open, direct, explicit communication is something I believe to be primarily important in teaching. Most problems in teaching are caused by the lack of effective communication. Asking questions when you are confused is not only a legitimate right of students but also an important factor ensuring your success for this course. Therefore, if you have any questions, concerns, or comments during the semester, please meet with me during my office hours or contact me to arrange a meeting.

**Attendance Policy:** Attendance and punctuality at all class sessions are expected and required. You are allowed two excused absences from class. Any conditions must be reported to the professor on the same day of the absence via e-mail for future’s reference. If you miss a class, you are responsible for any materials covered or assignments due during the class period. If you have to arrive later or leave earlier the class, you should notify the instructor; otherwise, they will be counted as unexcused absences. Any absences after two times will cause your grade to be lowered by one grade (e.g. from A to A-).

**Email Policy:** Please be sure to check your FIU email account as frequently as possible because all of the messages regarding this course will be sent to your FIU email. Please allow 24 hours for me to respond to your emails (more time is needed at weekends).

**Syllabus Changes:** To ensure that this class meets the needs of both you and myself, I reserve the right to amend or change the course syllabus at any time during the semester. I will notify you in advance if any changes to the syllabus occur.

**Reading & Assignments:** All the textbook contents and supplementary materials should be read before class. Instructor will not give time for reading in class. Assignments should be completed on time. Late submissions will lose one point per day.

**Use of Electronic Devices Policies:** In an effort to create a professional classroom environment, all cell phones must be silenced during class times. Texting or other uses of the cell phones are not allowed during class unless in emergency. Laptops, ipads, and other electronic devices can only be used for class purposes.

**Make-Up Exam:** Opportunities for make-up exams and/or assignments are limited to documented medical emergencies.
**Religious Observances:** If you need to be absent from class because of religious observances, you will not be penalized. But you must notify at least one week in advance. You are responsible for any materials covered during the excused absence, but will be permitted a reasonable amount of time to make up any work missed.

**Academic Misconduct:** Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook. *Any kind of misconduct will not be tolerated in this course.*

Misconduct includes: *Cheating* – The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. *Plagiarism* – The use and appropriation of another’s work without any indication of the source and the representation of such work as the student’s own. Any students who fail to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism. ([http://www.fiu.edu/~sccr/standards_of_conduct.htm](http://www.fiu.edu/~sccr/standards_of_conduct.htm))

**Disability Resource Center** ([http://drc.fiu.edu/](http://drc.fiu.edu/)): The Disability Resource Center’s mission is to provide FIU students with disabilities the necessary supports to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and need assistance or instructional accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center (GC) 190.

**EPS Code of Professional Decorum:** The following expectations constitute the Code of Professional Decorum governing conduct in the Department of Leadership & Professional Studies. These expectations are essential to the department's goal of providing students with a quality education in an environment conducive to learning. Students and faculty in the department of EPS shall: a) be respectful of the learning environment; b) be respectful of all individuals in class; c) have a professional commitment to learning; and d) have professional integrity.
## Tentative Class Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Reading in <em>Howell</em></th>
<th>Reading in <em>G &amp; S</em></th>
<th>Assignments and Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 26</td>
<td>Introduction Chapter 1</td>
<td>Lessons 1-4</td>
<td></td>
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<tr>
<td>Sept. 2</td>
<td><em>Happy Labor Day</em></td>
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<tr>
<td>Sept. 9</td>
<td>Chapter 2 (2.1, 2.2, 2.4, 2.5)</td>
<td>Lesson 20.</td>
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<tr>
<td>Sept. 16</td>
<td>Chapter 2 (2.6-2.11)</td>
<td>Lesson 21.</td>
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<tr>
<td>Sept. 23</td>
<td>Chapter 3: Normal Distribution &amp; z score</td>
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<td>SPSS assignment 1</td>
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<tr>
<td>Sept. 30</td>
<td>Chapter 5 (5.1, 5.2, 5.6, 5.8)</td>
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<td>Oct. 7</td>
<td>Chapter 4: (4.1-4.7) Null hypothesis</td>
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<td>Midterm exam</td>
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<tr>
<td>Oct. 14</td>
<td>Chapter 7: One-sample t-test</td>
<td>Lesson 22.</td>
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<tr>
<td>Oct. 21</td>
<td>Chapters 7: Independent sample &amp; Paired sample t-test</td>
<td>Lessons 23 &amp; 24</td>
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<tr>
<td>Oct. 28</td>
<td>Chapter 8: Power</td>
<td></td>
<td>SPSS assignment 2</td>
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<tr>
<td>Nov. 4</td>
<td>Chapter 9: Correlation</td>
<td>Lessons 31 &amp; 32</td>
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<tr>
<td>Nov. 11</td>
<td>Chapter 9: Regression</td>
<td>Lesson 33</td>
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<tr>
<td>Nov. 18</td>
<td><em>Happy Veterans’ Day</em></td>
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<tr>
<td>Nov. 25</td>
<td>Review</td>
<td></td>
<td>SPSS assignment 3/Project</td>
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<tr>
<td>Dec. 2</td>
<td>Final Week</td>
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<td>Final exam</td>
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