

**SPFA 640 Statistical Analysis and Design in Physical Activity  
Spring 2012**

Mondays 5:00 – 7:45 p.m.

Lois Rhame West Center Room 212 and 210 West Computer Lab

**Instructor**

Dr. Janet Wojcik

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Office hours: Mon and Wed: 1:00 to 2:00 p.m., Tues: 12:30 to 2:00 p.m., Thurs 10:00 a.m. to 11 a.m., Fri. by appointment. Other times are available by appointment.

**Catalog Description**

This course is an introduction to how scientific experiments should be designed in the areas of sport and physical activity. The most commonly used designs and their variations along with the resulting analysis will be covered.

**Assessment of Learning Outcomes and Performance Assessments:**

Course Objectives	Performance Assessment
Describe basic research concepts such as validity, reliability, sampling, randomization	Quizzes, exams, assignments
Describe examples of experimental research designs	SPSS assignments, quizzes, exams, assignments
Describe examples descriptive research and other non-experimental research	SPSS assignments, quizzes, exams, assignments
Demonstrate competency in basic statistical analyses	SPSS assignments, final paper rubric
Apply American Psychological Association (APA) manuscript formatting and reference style.	Final paper rubric
Demonstrate effective written communication skills	Final paper rubric
Demonstrate effective oral communication skills	Final presentation, Oral Communication rubric

**Teaching Methods:** lectures, readings, class discussion, online podcasts, in-class and take-home assignments

**Course Requirements**

**1. Required Texts:**

Cronk, B.C. (2012). *How to use SPSS: A step-by-step guide to analysis and interpretation (7th Ed.)*. Los Angeles: Pycszak Publishing.

Fraenkel, J.R., Wallen, N.E., & Hyun, H.H. (2012). *How to design and evaluate research in education (8<sup>th</sup> Ed.)*. New York: McGraw-Hill.

### Recommended Texts:

One of the following APA style manuals:

American Psychological Association (2009). *Publication manual of the American Psychological Association (6<sup>th</sup> Ed.)*. Washington, DC: authors.

American Psychological Association. (2009). *Concise rules of APA style*. Washington, DC: authors.

Supplemental materials could be any texts or journal articles or other readings related to research design or statistics.

## 2. Required Assignments

There will be three in-class exams, online or in-class quizzes, assignments, and one final presentation. Assignments should be turned in by the beginning of class. Each day late without an excused absence or other arrangements will result in lowering of the letter grade. Grades will be posted on Blackboard.

- 2 exams (100 points each, 40% of final grade) and 3-4 quizzes (5-10 points, lowest quiz grade dropped, 5% of final grade,): 45% of final grade
- Draft of project results section: 15% of final grade, initial draft (5%) and final paper (10% each)
- Article critiques and reviews: 10%
- SPSS data analyses assignments: 20%
- Final Presentation of Results section, 15 min, 10 minutes PowerPoint slides with 5 minutes for questions: 10%

### Grading (100% scale)

A = $\geq 90\%$	B = 80-89%	C = 70-79%	F = $<70\%$
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### Class Attendance and Participation

This course is taught as a hybrid course. Podcasts will be posted for all topics. Some classes will be held on campus. Attendance at all on-campus classes is expected and attendance in on-line discussions is expected unless there is illness or other special circumstances (i.e., traveling with an athletic team). Major illnesses or family emergencies should be documented through the Dean of Students Office. The instructor will also meet individually with students throughout the semester. It is your responsibility to contact the instructor regarding any missed material and assignments. **Our Department is going GREEN, so you will no longer receive a hard copy of the PowerPoint notes.** You must use your Winthrop email account to use Blackboard. Students are expected to be prepared to participate in class discussions. Any materials required for that day should be read prior to class. Periodic homework will be given, especially worksheets for statistical assignments. *Assignments turned in late will receive a lowering of the letter grade for every day late.*

### Cell Phone/Texting Policy

Students will receive ONE warning for checking cell phone/texting during class time. After that, it is going to be 2 points off your FINAL grade for each incident. Cell phones should be set to vibrate or off, especially if the vibrate ring is loud.

### Student Code of Conduct

Infractions of academic discipline are dealt with in accordance with the student Academic Conduct Policy, which is in the Student Conduct Code in the Winthrop Student Handbook online <http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf>. See also the COE Grad Student Handbook

<http://www.winthrop.edu/uploadedFiles/coe/graduate/COEgradorient.pdf> and the Graduate School Manual <http://www.winthrop.edu/graduateschool/default.aspx?id=4513>.

Each student must do his/her own individual work. Collaborative efforts are not permitted. Writing assistance may be obtained from The Writing Center and instructor only.

### Students with Disabilities

Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

### Syllabus Change Policy:

The syllabus could be subject to change due to special circumstances (inclement weather, campus emergency, etc). Students will be informed of any changes.

### CLASS TIMELINE

<i>Date</i>	<i>Day</i>	<i>Class Topic</i>	<i>SPSS/Assignments</i>
1/9	M	Class 1: Overview, class expectations, Using Blackboard, SPSS basics, Intro to Research (Ch. 1, FW&H)	
1/16	M	MLK, Jr. Holiday—NO CLASS	
1/23	M	Class 2: Sampling, Validity, Reliability, Instrumentation (Ch. 6-8, FW&H)	Intro to SPSS (Ch. 1-2, Cronk)
1/30	M	Class 3: Internal Validity, Descriptive and Inferential Statistics (Ch. 9-11, FW&H)	Ch. 3, Cronk
2/6	M	Class 4: Experimental Research and Designs (Ch. 13, FW&H)	Previous week's assignment due
2/13	M	Class 5: Correlation (Ch. 14, FW&H)	Ch. 5, Cronk, previous week's assignment due
2/20	M	Class 6: <b>Exam I</b>	
2/27	M	Class 6: <i>t</i> -tests and ANOVA	Ch. 6, Cronk, previous week's assignment due

3/5	M	Class 7: Nonparametric statistics	Ch. 7, Cronk, previous week's assignment due
3/12	M	SPRING BREAK—NO CLASS	
3/19	M	Class 9: Analyzing your own data, writing Results section	
3/26	M	Class 10: Survey Research, (Ch. 17 FW&H)	First draft of results due
4/2	M	Class 11: Qualitative, Historical, and Action Research (Ch. 14, 18, 19, 22, 24 FW&H)	
4/9	M	Class 12: Individual Meetings	Revise Results section
4/16	M	Class 13: Individual Meetings	Revise Results section
4/23	M	Class 14: <b>Exam II</b>	<b>FINAL RESULTS SECTION PAPERS DUE by WED 4/25 11:59 p.m.</b>
4/28	<b>SAT</b>	<b>FINAL EXAM/PRESENTATION, 11:30 a.m., Class Room West 212</b>	