

*Eastern Kentucky University*  
**Psychology Department**  
 Syllabus for **PSY862-002: Statistics and Research Design II (CRN: 25226)**  
**3 Credit Hours**  
 MWF 11:15-12:05 Cammack 212  
 Spring 2016

Instructor: Yoshie Nakai Office: Cammack 108 Office Hours: MW 1:00pm-2:00pm, TTh 3:30pm-4:30pm, or by appointment Email: yoshie.nakai@eku.edu Phone: (859) 622-1110
Teaching Assistant: Shelby Williams Office Hours: T 8:45-9:45am & 12:15-1:15pm, Th 8:45-9:45am Email: shelby_williams150@mymail.eku.edu

**Catalog Course Description:** PSY 862 Statistics and Research Design II. (3) A.  
 Prerequisite: PSY 820 or equivalent with department approval. Principles and techniques of scientific observation, control, and analysis, specifically oriented to multivariate research in psychology. Evaluation of research designs and their implementation in professional settings.

**Last day to drop course without “W” on record:** January 24, 2016

**Deadline for online withdraw from class (no fee):** February 14, 2016

**Last day to withdraw from class (with fee):** April 10, 2016

**Required Textbook:** Tabachnick, B.G., & Fidell, L.S. (2013). *Using Multivariate Statistics (6<sup>th</sup> Edition)*. Upper Saddle River, NJ: Pearson.

Additional required readings will be available on Blackboard or provided in class.

### **Student Learning Outcomes**

At the end of this course students should be able to:

1. Recognize which analysis is appropriate given a specified hypothesis and data characteristics. (*Quizzes, Assignments, Exams*)
2. Conduct an appropriate statistical analysis using a statistical software. (*Quizzes, Assignments, Exams*)
3. Interpret an output of statistical analysis and write up the results. (*Quizzes, Assignments, Exams*)
4. Utilize a specific statistical analysis to provide an answer to a research question in their expertise area. (*Mini Research Proposal*)

### **Course Requirements:**

#### Exams

There will be five exams for this course. Students must take exams on the scheduled date and time. There will be no make-up exams provided for this course. Students can use the textbook, assigned readings, and their own notebook during the exam. Use of any other resources is prohibited. Considering a time limit, it is critical for students to master the materials before the exam and use the above resources as needed.

#### Quizzes

In-class quiz is scheduled at the end of each topic. For each statistical analysis technique introduced in class, students are expected to know the purpose and appropriate data characteristics, key terms, and how to conduct the analysis using a statistical software and

interpret the output. Students can use the textbook, assigned readings, and their own notebook during the exam. Use of any other resources is not allowed.

### Assignments

The assignments for this course will involve a variety of tasks and be of various levels of complexity. Follow specific instructions (including deadline) provided for each of the assignments. I do not accept late work.

### Mini Research Proposal

Students will write a brief research proposal that utilizes a mediation analysis. Students will select a proposal topic based on their interests and choose appropriate variables based on theories and previous research. The main components of the proposal includes introduction, brief literature review, and method (potential participants, measures, and analysis strategy).

### Notebook

Students will keep all course handouts and class notes in a 3-hole binder organized by course topics.

### **Evaluation Methods and Relative Weight of Each Course Requirement:**

40%	Exams
20%	Quizzes
20%	Assignments
15%	Mini Research Proposal
5%	Notebook

### **Final Grade**

The grading system for this course is:

A = 90-100 %, B = 80-89 %, C = 70-79 %, D = 60-69 %, F = < 60 %

**Student Progress:** Grades will be posted on Blackboard throughout the course.

**Attendance Policy:** Class attendance is mandatory. It is expected that students will come to class prepared to discuss about the topic based on the reading and other assignments. All students are responsible for information and assignment delivered during class time. In the case of an excused absence with proper documentation, extended deadlines or alternate activities will be provided for any graded activities. However, these accommodations do not always provide equivalent learning opportunities. An acceptable excuse is a doctor's excuse, a university excuse, or a catastrophic emergency resulting in unavoidable absence. Arrangements to complete alternate activities, such as another version of an exam, must be made within one week of returning to class; otherwise, a zero will be recorded.

**Official E-mail:** An official ECU e-mail is established for each registered student, each faculty member, and each staff member. All university communications sent via e-mail will be sent to this ECU e-mail address.

**Instructor Accessibility:** The best way to reach me is during the office hours or by emails. I will normally respond to your email within 36 hours Monday through Friday (except for weekends, holidays, and breaks).

**Academic Integrity:**

Students found guilty of an academic honesty violation will receive a 0 on the assignment in question. Violations could also result in a 0 in the course and/or a referral to the Academic Council. Students are advised that ECU's Academic Integrity policy will strictly be enforced in this course. The Academic Integrity policy is available at [www.academicintegrity.ecu.edu](http://www.academicintegrity.ecu.edu). Questions regarding the policy may be directed to the Office of Academic Integrity.

Students are advised that in addition to the standards set forth in the University Academic Integrity Policy, members of this class are expected to uphold the professional and ethical standards described in the Psychology Graduate Student Handbooks. Cases of academic dishonesty among graduate students in psychology will also be viewed as issues of professional ethics and suitability for the profession. As such, they will be considered by the faculty in the broader context of eligibility for the degree.

**Students with Disabilities:**

A student with a "disability" may be an individual with a physical or mental impairment that substantially limits one or more major life activities such as learning, seeing or hearing. Additionally, pregnancy accompanied by related medical conditions that causes a similar substantial limitation may also be considered a disability under the ADA.

If you are registered with the Office of Services for Individuals with Disabilities, please obtain your accommodation letters from the OSID and present them to the course instructor to discuss any academic accommodations you need. If you believe you need accommodation and are not registered with the OSID, please contact the office in the Whitlock Building Room 361 by email at [disserv@ecu.edu](mailto:disserv@ecu.edu) or by telephone at (859) 622-2933. Upon individual request, this syllabus can be made available in an alternative format.

**Title IX Statement**

ECU is committed to a respectful and inclusive environment and thus prohibits discrimination, harassment, or violence of any kind. It also requires faculty members to report any information that may indicate that discrimination, harassment, or violence has affected any member of the University community. If you share information that indicates that you have witnessed or experienced such behavior, I will have to provide that information to University officials - consider this in choosing what information you post. If you would like to obtain confidential help from someone who does not have to report the information, please go to [www.titleix.ecu.edu](http://www.titleix.ecu.edu) for resources.

**Standards for Written Assignments:**

Students in all psychology courses are expected to use correct grammar, spelling and composition in written assignments. These elements of writing will be taken into consideration in grading all out-of-class writing assignments. If you would like free help with your writing, you may visit the Noel Studio in the Library ([www.studio.ecu.edu](http://www.studio.ecu.edu)).

**Course Schedule & Reading Assignments (Subject to change)**

		Topic	Quiz & Proposal
Jan	20 W	<b>Syllabus &amp; Overview</b>	
	22 F	<b>Introduction to multivariate statistics</b> T&F Ch.1 & 2	
	25 M	<b>Review of univariate and bivariate statistics</b> T&F Ch. 3	
	27 W	<b>Data cleaning</b>	
	29 F	T&F Ch. 4	
Feb	1 M	<b>Multiple regression</b>	
	3 W	T&F Ch. 5	
	5 F		Quiz
	8 M	<b>Mediation</b>	
	10 W	Fairchild & McQuillin (2010) – Section on mediation	
	12 F	MacKinnon (2008) Ch. 3	Quiz
	15 M	Research proposal workshop	
	17 W	<b>Exam 1</b>	
	19 F	<b>Moderation</b>	
	22 M	Fairchild & McQuillin (2010) – Section on moderation	Proposal topic due
	24 W		Quiz
	26 F	<b>Canonical correlation</b>	
	29 M	T&F Ch. 12	
Mar	2 W		Quiz
	4 F	Research incubator	
	7 M	<b>Exam 2</b>	
	9 W	<b>Analysis of Covariance</b>	
	11 F	T&F Ch. 6	
	14-18	<i>NO CLASS - Spring Break</i>	
	21 M	<b>Analysis of Covariance</b> T&F Ch. 6	Quiz
	23 W	<b>Multivariate Analysis of Variance and Covariance</b> T&F Ch. 7	Proposal background and hypothesis due
	25 F		
	28 M		Quiz
	30 W	Research incubator	
Apr	1 F	<b>Exam 3</b>	
	4 M	<b>Discriminant analysis</b>	
	6 W	T&F Ch. 9	
	8 F		Quiz
	11 M	<b>Logistic regression</b>	
	13 W	T&F Ch.10	Final proposal due
	15 F		Quiz
	18 M	Research incubator	
	20 W	<b>Exam 4</b>	
	22 F	<b>Factor analysis</b>	
	25 M	T&F Ch. 13	

	27 W		Quiz
	29 F	<b>Structural Equation Modeling</b> T&F Ch. 14	
May	2 M		
	4 W		Quiz
	6 F	Research incubator	
		Wednesday, 5/11 10:30am <b>Exam 5</b>	Notebook due

In case of inclement weather or other emergency class cancellations, please check the course Blackboard site for announcement.