

COURSE APPROVAL DOCUMENT
Southeast Missouri State University

Department: Psychology

Course No.: PY 557

Title of Course: Psychometrics

Date: 8/15/2015

Please check: **NEW**
 Revision

I. Catalog Description (Credit Hours of Course):

Consideration of assumptions and techniques in psychometrics, including assessment, reliability and validity, test construction, measurement theory, and scaling. (3 credit hours)

II. Co- or Prerequisite(s):

None

III. Purposes or Objectives of the Course (optional):

- 1) To provide a broad overview of techniques commonly employed in psychological assessment, including (but not limited to) personality testing and intelligence testing.
- 2) To familiarize students with how these techniques are applied in various research contexts, including instruction in distinguishing appropriate uses of each technique from inappropriate uses.
- 3) To help students develop numerous skills, including computation, critical analysis, integration, writing (particularly in APA style), and oral communication.

IV. Student Learning Outcomes (Minimum of 3):

- 1) Describe the concepts of reliability and validity and explain their importance to the field of psychological assessment.
- 2) Use quantitative skills to understand and analyze graphs used to depict results of assessments.
- 3) Use statistical software packages (e.g., SPSS) to analyze and graph scientific data.

V. Optional departmental/college requirements:

N/A

VI. Course Content or Outline (Indicate number of class hours per unit or section):

- A. Introduction to Psychological Assessment (3 class hours)
- B. Basic Components: Scales and Items (3 class hours)
- C. How Assessment Measures are Made (3 class hours)
- D. Statistics for Psychological Measurement (6 class hours)
- E. The Importance of Reliability (3 class hours)
- F. The Importance of Validity (3 class hours)
- G. Intelligence and Ability Assessment (6 class hours)
- H. Personality Assessment (6 class hours)
- I. Alternative Perspectives on Assessment (3 class hours)
- J. Best Practices in Assessment (3 class hours)
- K. Constructing Your Own Test or Questionnaire (6 class hours)

Please Attach copy of class syllabus and schedule as an example

Signature: _____
Chair

Date: _____

Signature: _____
Dean

Date: _____

PY 557 – PSYCHOMETRICS

Section 001
Southeast Missouri State University
Fall 2016

Professor: Jeremy D. Heider, Ph.D.
Class Location: SC 413
Meeting Times: MWF 10:00-10:50
Credit Hours: 3
Department: Psychology (SC 404)
Office Location: SC 414
Office Hours: TR 8:30-10:00; or by appointment
Phone Number: (573) 651-2437
E-mail: jheider@semo.edu

Texts & Materials:

Text:

Coaley, K. (2010). *An introduction to psychological assessment and psychometrics*. Thousand Oaks, CA: SAGE Publications Inc.

Required Readings:

Note. Other readings (e.g., book chapters, journal articles) will be assigned as the semester progresses.

Another note. A guiding principle in this (and any) course is to **READ EARLY and READ OFTEN**. You will maximize the benefits of class discussions by completing the assigned readings before we cover them in class, and you will be better prepared for assignments if you have read the material more than once. I also encourage you to ask questions, both to foster in-class discussion and to ensure that you have an understanding of what is covered in the textbook and discussions.

Course Description:

Bulletin Description:

Consideration of assumptions and techniques in psychometrics, including assessment, reliability and validity, test construction, measurement theory, and scaling.

Dr. J's Description (the real scoop!):

Measurement is fundamental to psychological research and application. However, measurement also represents one of the greatest obstacles that psychology faces, both in terms of daily practice and in terms of the reputation of the discipline. Many of the concepts in which we are interested such as moods, attitudes, and abilities are abstract and ambiguous; attempting to quantify them is what psychometrics is all about. The purpose of this course is to introduce you to the central concepts of psychological measurement. My objective is for each of you to gain a comprehensive understanding of the basic concepts of psychometrics, in terms of underlying theory as well as application.

Course Objectives:

- To provide a broad overview of techniques commonly employed in psychological assessment, including (but not limited to) personality testing and intelligence testing.
- To familiarize students with how these techniques are applied in various research contexts, including instruction in distinguishing appropriate uses of each technique from inappropriate uses.
- To help students develop numerous skills, including computation, critical analysis, integration, writing (particularly in APA style), and oral communication.

Student Learning Outcomes (SLOs):

Students with a passing grade in this course should be able to:

- Describe the concepts of reliability and validity and explain their importance to the field of psychological assessment.
- Use quantitative skills to understand and analyze graphs used to depict results of assessments.

- Use statistical software packages (e.g., SPSS) to analyze and graph scientific data.

Course Requirements:

Discussion Questions:

For each course topic, we will have some class time devoted to discussion. In order to facilitate this discussion, you will be required to prepare a minimum of two discussion questions for each topic. You will e-mail your questions to me (jheider@semo.edu) the evening before class so I can compile them into one list that will be used to guide that day's discussion.

Notes. With limited exceptions, most course topics will include textbook chapters and supplemental journal articles. In those cases, at least one of your discussion questions should focus on the textbook chapter(s) and at least one question should focus on an article.

Individual Assessment Report and Feedback Session:

At the beginning of the semester you will be assigned two partners, one of whom will act as a peer assessor and the other as a peer assessee. Throughout the semester you will be giving/taking various assessments (interest, ability, and personality) with your partners. During the last week of classes and/or finals week you will be responsible for providing your peer assessee with both written and oral feedback that combines the results of these individual assessment instruments. These feedback sessions will be supervised and graded by me. You will receive a list of criteria by which the feedback reports and sessions will be graded ahead of time to help in your preparation. Your peer assessor will also provide you with feedback, which will be incorporated into their grade. Note that because your assessor and assessee are two different people, you will be involved in two separate feedback sessions (one in each role) during that time period.

Scale Development Paper and Presentation:

The other major assignment for this course will involve the development of your own self-report scale. Development of a psychometrically sound instrument involves a number of critical steps: investigating the literature, defining the construct of interest, generating potential items, compiling the items into a measure, distributing the measure to a sample of interest, evaluating the measure, revising the measure, and reporting the results. Each of these steps will be addressed throughout the duration of this project.

Because of the scope of this project, it will likely be best accomplished in small groups. This should result in approximately 3-4 separate scales being developed by the class. Your group's scale can address a topic of your choosing, so long as it has a clear connection to psychological assessment and it is approved by me. It will also be crucial to address the three key issues of scale development: reliability, validity (we'll talk about different types of validity), and factor structure.

Your scale development efforts will result in an APA-style empirical paper and a class presentation. The paper should include a title page, abstract page, an introduction, a method section (detailing characteristics of the sample and the item generation process), a results section (with reliability, validity, and factor structure information), a discussion section, a reference page, and at least one table or figure.

Note. I realize this is not an English class. However, good writing skills are fundamental and transcend course topic. Therefore, take the time to write, proofread, and edit your work. These papers can significantly help your course grade or they can hurt it if you do not take them seriously. There are many free resources if you do not feel confident about your writing. You could make an appointment to have me review a draft, make an appointment to meet with a writing tutor in the library, have a friend give you feedback, and so on.

Once your paper is graded, I will return it to you via e-mail as a file attachment. This file will include specific feedback regarding your grade, so please do not ask me questions about why you received a certain score unless you have already read my feedback. Also please note that in order to see my feedback in its entirety, *you must view the file on a computer/device that has Microsoft Word*. Most smartphones and tablets do not actually have Word; they merely have a "viewer" app that provides a brief preview of Word documents without actually having the features of the full program.

Class Participation:

As noted later in this syllabus (see p. 5), although class attendance is not mandatory, you are expected to attend every class meeting. But beyond mere class attendance, I expect students in my courses to *actively participate* in the learning process by asking questions, contributing to discussions, taking part in class activities and demonstrations, and so on. A small portion of your semester grade will come from the degree to which you fulfill these duties.

Grading Policy:

<i>Material</i>	<i>Possible Points</i>	<i>% of Total Points</i>
Discussion Questions:	30	10%
Individual Assessment Report:		
Written Feedback	75	25%
Oral Feedback	45	15%
Scale Development Project:		
Paper	75	25%
Presentation	45	15%
Class Participation:	30	10%
	300	100%

Grading Scale:

A	=	270-300 pts
B	=	240-269.5
C	=	210-239.5
D	=	180-209.5
F	=	179.5 or less

Note. These grade cutoffs are FIRM. In other words, I do not round grades. So if you end up with 269 points (or 268, or 267...), don't even bother asking me if I will round your grade up to an A. I won't.

Attendance Policy (see http://www.semo.edu/pdf/old/2014_Bulletin.pdf, p. 19):

Students are expected to attend all classes and to complete all assignments for courses in which they are enrolled. An absence does not relieve the student of the responsibility to complete all assignments. If an absence is associated with a university-sanctioned activity, the instructor will provide an opportunity for assignment make-up. However, it is the instructor's decision to provide, or not to provide, make-up work related to absences for any other reason.

A student not present for class during the entire initial week of a scheduled course may be removed from the course roster unless the student notifies the instructor by the end of the first week of an intention to attend the class. Questions regarding the removal process should be directed to the Registrar.

In other words, class attendance is extremely important. You are expected to attend *every* scheduled class meeting (see course schedule on pp. 8-9), because lectures, class discussions, activities, demonstrations – and most importantly, **your participation** – are all valuable contributors to your learning. If you know you are going to be late to (or leave early from) class, please come anyway. I would rather have you present for part of class than to miss it completely.

Academic Honesty (see http://www.semo.edu/pdf/old/2014_Bulletin.pdf, pp. 20-23):

Academic honesty is one of the most important qualities influencing the character and vitality of an educational institution. Academic misconduct or dishonesty is inconsistent with membership in an academic community and cannot be accepted. Violations of academic honesty represent a serious breach of discipline and may be considered grounds for disciplinary action, including dismissal from the University.

Academic dishonesty is defined to include those acts which would deceive, cheat, or defraud so as to promote or enhance one's scholastic record. Knowingly or actively assisting any person in the commission of an above-mentioned act is also academic dishonesty.

Students are responsible for upholding the principles of academic honesty in accordance with the "University Statement of Student Rights" found in the student handbook. The University requires that all assignments submitted to faculty members by students be the work of the individual student submitting the work. An exception would be group projects assigned by the instructor. In this situation, the work must be that of the group. Academic dishonesty includes:

Plagiarism. In speaking or writing, plagiarism is the act of passing someone else's work off as one's own. In addition, plagiarism is defined as using the essential style and manner of expression of a source as if it were one's own. If there is any doubt, the student should consult his/her instructor or any manual of term paper or report writing. Violations of academic honesty include:

1. Presenting the exact words of a source without quotation marks;
2. Using another student's computer source code or algorithm or copying a laboratory report; or
3. Presenting information, judgments, ideas, or facts summarized from a source without giving credit.

Cheating. Cheating includes using or relying on the work of someone else in an inappropriate manner. It includes, but is not limited to, those activities where a student:

1. Obtains or attempts to obtain unauthorized knowledge of an examination's contents prior to the time of that examination.
2. Copies another student's work or intentionally allows others to copy assignments, examinations, source codes or designs;
3. Works in a group when she/he has been told to work individually;
4. Uses unauthorized reference material during an examination; or
5. Have someone else take an examination or takes the examination for another.

Translation? **DON'T CHEAT.**

Civility (see <http://www.semo.edu/pdf/stuconduct-code-conduct.pdf>):

Every student at Southeast is obligated at all times to assume responsibility for his/her actions, to respect constituted authority, to be truthful, and to respect the rights of others, as well as to respect private and public property. In their academic activities, students are expected to maintain high standards of honesty and integrity and abide by the University's Policy on Academic Honesty. Alleged violations of the Code of Student Conduct are adjudicated in accordance with the established procedures of the judicial system.

Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program. Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc.

I expect every student in my courses to be good community members by remembering to **CONSIDER THE NEEDS OF OTHERS**. This means a lot of things: (1) If others need help (e.g., asking to see your notes), then help them. (2) Don't be disruptive in class (e.g., via excessive talking); other people might actually want to pay attention. (3) **SILENCE YOUR CELL PHONES OR OTHER DEVICES THAT MAKE NOISE**. They are annoying. No one cares that you have a phone call, nor do they need to hear what witty song you have as a ringtone. (4) Please **SHOW RESPECT FOR OTHERS' IDEAS AND OPINIONS**. In this class we may occasionally discuss personal and/or sensitive issues that provoke strong feelings. Please be sensitive to the feelings of others in discussing these issues. Also remember that good

people can have differing opinions, and that part of the purpose of the class is to increase your familiarity with how others might think and feel about various issues related to psychology and life.

Accommodations for Students with Disabilities:

Southeast Missouri State University and Disability Support Services remain committed to making every reasonable educational accommodation for students with disabilities. Many services and accommodations which aid a student's educational experience are available for students with various types of disabilities. It is the student's responsibility to contact Disability Support Services to become registered as a student with a disability in order to have accommodations implemented. Accommodations are implemented on a case by case basis. For more information visit the following site: <http://www.semo.edu/ds/index.htm> or contact Disability Support Services at 573-651-2273.

Technology:

As noted above, some of your assignments will be written in Microsoft Word and submitted electronically. Southeast provides you with access to both Word and the internet via on-campus computer labs, so all students should have no problems using these technologies for our course.

Unlike some instructors, I **DO** allow the use of portable electronic devices in my classroom (e.g., phones, tablets, laptops, etc.). However, I fully expect these devices to be silenced (see previous section on "Civility") and primarily used for class-related purposes. For example, if you want to use Google to find a certain fact that might contribute to a class discussion, I encourage you to do so. On the other hand, texting your BFF about Katy Perry's latest hairstyle is discouraged. I'm not saying I will take your device away in such circumstances, but please know that whenever you use a device for non-class purposes, you are only hurting yourself by missing out on potentially important class-related information.

This course will utilize the **Moodle** online system to facilitate learning and communication. The Moodle page for this class will be used to post course documents such as the course syllabus and lecture notes, and you will also be able to check your grades using this system.

Note: I highly recommend printing out the lecture notes and bringing them to class – your printouts will make a handy place to take additional notes. However, don't make the mistake of thinking that having access to my PowerPoint notes will serve as a substitute for class attendance. It won't!!! We will discuss a great deal of information above and beyond what is presented in the slides, so if you make a habit of missing class I can guarantee you will be at a serious disadvantage when it comes time for the exams and other assignments.

To log into Moodle, go to <http://learning.semo.edu>. This will take you to the login page (your user name and password are the same ones you use to log into the mySoutheast portal).

Questions/Comments:

Questions, comments or requests regarding this course should be taken to the instructor. Unresolved issues involving this class may be taken to Dr. Leslee Pollina, Chair of the Department of Psychology (573-651-2835 or lpollina@semo.edu).

Course Calendar:

Note. This proposed schedule is tentative; changes may be made as necessary. If changes are made, they will only be announced in class – so make sure you attend regularly!

Week 1 (8/22, 8/24, 8/26):

Introduction to Psychological Assessment (Coaley, Ch 1)

Week 2 (8/29, 8/31, 9/2):

Basic Components: Scales and Items (Coaley, Ch 2)

NO CLASS MONDAY, 9/5 (LABOR DAY)

Week 3 (9/7, 9/9):

How Assessment Measures are Made (Coaley, Ch 3)

Week 4 (9/12, 9/14, 9/16):

Statistics for Psychological Assessment (Coaley, Ch 4)

Week 5 (9/19, 9/21, 9/23):

Statistics for Psychological Assessment cont'd

Week 6 (9/26, 9/28, 9/30):

The Importance of Reliability (Coaley, Ch 5)

Week 7 (10/3, 10/5, 10/7):

The Importance of Validity (Coaley, Ch 6)

Week 8 (10/10, 10/12, 10/14):

Intelligence and Ability Assessment (Coaley, Ch 7)

Week 9 (10/17, 10/19, 10/21):

Intelligence and Ability Assessment cont'd

Week 10 (10/24, 10/26, 10/28):

Personality Assessment (Coaley, Ch 8)

Week 11 (10/31, 11/2, 11/4):

Personality Assessment cont'd

Week 12 (11/7, 11/9, 11/11):

Alternative Perspectives on Assessment (Coaley, Ch 9)

Week 13 (11/14, 11/16, 11/18):

Best Practices in Assessment (Coaley, Ch 10)

NO CLASS MONDAY, 11/21, WEDNESDAY, 11/23, OR FRIDAY, 11/25 (FALL/THANKSGIVING BREAK)

Week 14 (11/28, 11/30, 12/2):

Constructing Your Own Test or Questionnaire (Coaley, Ch 11)

Week 15 (12/5, 12/7, 12/9):

Constructing Your Own Test or Questionnaire cont'd

FINAL EXAM MEETING: MONDAY, 12/12, 10:00-12:00 (regular classroom)