PSYC*3250, Course Outline: Fall 2015

General Information

Course Title: Psychological Measurement

Course Description:
This course is an introduction to the theory of psychological measurement and measurement procedures presently used in psychology. Coverage will include such topics as reliability, validity, factor analysis and test construction, and the measurement of ability, personality, and achievement. You will learn not only how to evaluate psychological tests and measures, but also construct and refine your own. This knowledge is essential for both future practitioners and researchers in the area of psychology.

Credit Weight: 0.50

Academic Department (or campus): Psychology

Semester Offering: F15

Class Schedule and Location: 10:30am, Monday, Wednesday, Friday in RICH Room 2520

Instructor Information

Instructor Name: Deborah Powell
Instructor Email: dpowell@uoguelph.ca (please include PSYC3250 in title of all emails). I will attempt to respond to emails within 24 hours, M-F, I may respond through an announcement in class if your question pertains to the whole class
Office location: MCKN 4005
Office Hours: Mondays 3:30pm – 4:30pm, and Wednesdays 11:30am – 12:30pm

Course Content

Specific Learning Outcomes:

1. Demonstrate understanding and application of key concepts in psychological measurement
2. Conduct research in a manner congruent with ethical regulations
3. Understand the use of numerical data.
4. Demonstrate ability to interpret data/scores.
5. Demonstrate a skill set in contemporary software programs and technological formats to serve a variety of functions (e.g., word processing, presentations, data analysis).
6. Write with appropriate vocabulary, proper referencing, and little grammatical, spelling or functional errors.

7. Write in a sophisticated manner clearly conveying the message of the writer to a target audience.

Lecture Content:

1. Tests and Measurements
2. Testing and Society
3. Basic Concepts in Measurement and Statistics
4. Scales, Transformations and Norms
5. The Process of Test Development
6. Reliability: The Consistency of Test Scores
7. Using and Interpreting Information about Test Reliability
8. Replication and Measurement Error
9. Validity of Measurement: Content and Construct-Oriented Validation Strategies
10. Validity for Decisions: Criterion-Related Validity
11. Personality Testing
12. Interest Testing
13. Ability Testing
14. Assessment of People with Disabilities

Course Assignments and Tests:

In terms of tests, exams, and assignments you are responsible for all material presented in lectures, the textbook and other readings.

It is important to attend lecture to ensure you receive announcements (relevant to grading and other course aspects) that may only be made in lecture. As well, not all of the lecture material is covered in the textbook.

Assignment or Test	**Due Date**	**Contribution to Final Mark (%)**	**Learning Outcomes Assessed**
In Class Assignments	Submitted through dropbox function on Courselink by 5pm on due date	**10%** (2% per assignment, best 5 out of 6 will be counted)	Understanding and application of key concepts, understand use of numerical data, demonstrate ability to interpret data/scores, demonstrate skill in software program
Construct Definition and Item	In hard copy at start of class on October 19	**3%**	Application of key concepts in construct and item development

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Data Collection	In class on Nov 2, and Nov 4	**2%**	Application of data collection knowledge, application of research ethics knowledge
Construct Development Paper	Due in hard copy to MacKinnon Extension 4005 by 5pm on November 20	**25%**	Application of key concepts, understand use of numerical data, Demonstrate a skill set in contemporary software programs, Write with appropriate vocabulary, proper referencing, and little grammatical, spelling or functional errors, Write in a sophisticated manner clearly conveying the message of the writer to a target audience.
Midterm Exam		**25%**	Understanding and application of key concepts
Final Exam		**35%**	Understanding and application of key concepts

1. Exams (25% Midterm, 35% Final)

Students will be required to write one in-class midterm exam, and one 2-hour final exam. Midterm exam questions may include multiple choice, short answer, and/or problem-solving. Final exam questions will be multiple choice.

2. Measure Development Project (total of 30%)

A major component of the course involves creating your own psychological measure. The purpose of this project is to give you hands-on experience creating a psychological questionnaire, analyzing psychometric data, and writing up psychometric findings. You will

work in groups of 3-5 people to create a questionnaire designed to measure a psychological construct of your choice. Data will be collected during class time with PSYC 3250 students acting as research participants. The final write-up is an individual assignment. The requirements and grading breakdown are outlined below.

Your scales must NOT (a) involve any personal, sensitive or incriminating topics or questions that could place participants at risk, (b) manipulate behavior of participants beyond the range of "normal" classroom activity or daily life, (c) involve any physically invasive contact with the research participants, or (d) involve deception.

2A Construct Definition and Scale items (3%). You are required to submit the scale that your group creates with a brief summary of the construct definition, domain specification, and justification. 2A Stage 1. Hand in your construct definition and your items. Construct definitions/items should be completed and submitted as a group (one paper per group). This will be graded for completeness and quality. Late submissions will receive a grade of zero. 2A Stage 2. Feedback from TA/Instructor to revise definitions/items. 2A Stage 3. Hand in final items for data collection. All items will be assembled into a booklet with one informed consent form.

2B Data Collection (2%). Data collection is essential to ensuring you have data to analyze for your final project. Data collection is anonymous and voluntary but strongly encouraged so that groups will have data to analyze. There is no penalty for not participating in data collection. A short quiz about data collection worth 1% will occur both of the data collection days (2%).

2C Measure Development Report (25%). You will **individually** write a scale-development style manuscript based on the scale you created and data you collected in class. This manuscript will include an introduction, methods, and results/discussion section. You will conduct a literature review outlining the importance, significance, and theoretical relevance of your psychological measure. Students will also conduct psychometric analysis on data collected from the class and present these results. Further details on the exact format of this paper will be provided in a separate handout. Although data is collected as a group, **reports must be written individually**.

3. In Class Assignments (2% x 5 = 10%)

There will be a total of 6 in-class assignments and you must complete 5 of them. If you complete all six (and you are strongly encouraged to complete them all), your grade will be calculated from your best 5 (i.e., you cannot get more than 10% total). This process is designed to take into account illness and all other extenuating circumstances for not participating in one of the in-class assignments. Each assignment is worth 2%. These must be submitted through Courselink dropbox. The final due date for each assignment is 5:00 pm the day the in-class assignment was handed out. Late in-class assignments will not be accepted and will receive a grade of zero.

Summary Table With Due Dates (may be subject to change)

Week	Date	Lecture	Reading	Due / Comments
1	Sept 11	Course Overview		
2	Sept 14	Introduction to testing	Chapter 1: "Tests and Measurements"	
2	Sept 16	Standards and Ethics in Testing	Chapter 3: "Testing and Society"	
2	Sept 18	In class assignment: Test reviews		In class assignment 1: Test reviews (2%)
2	Sept 21	Basic concepts in measurement and statistics	Chapter 4: "Basic Concepts in Measurement and Statistics"	
2	Sept 23	Scales, transformations and norms	Chapter 5: "Scales, Transformations and Norms"	
2	Sept 25	In class assignment: Scoring a personality measure		1. Project Group Registration Form 2. In class assignment 2: Scoring a personality measure (2%)
3	Sept 28	Test development	Cohen, R. J., & Swerdlik, M. E. (2005). *Psychological Testing and Assessment: An Introduction to Tests and Measurements* (6th ed.). Toronto, ON: McGraw Hill. Chapter 7 ("Test Development") pages 190-211	

3	Sept 30	Construct definition and scale creation workshop	Chapter 11: "The Process of Test Development"	The professor and TA's will help you to write your construct defintions
3	Oct 2	Scale creation workshop		The professor and TA's will help you with your item writing
4	Oct 5	Classical test theory and reliability	Chapter 6: "Reliability: The Consistency of Test Scores"	
4	Oct 7	Using and interpreting information about test reliability	Chapter 7: "Using and Interpreting Information about Test Reliability"	
4	Oct 9	In class assignment: Reliability		In class assignment 3: Reliability (2%)
	Oct 12	No class - Thanksgiving		
5	Oct 14	Validity	Chapter 8: "Validity of Measurement: Content and Construct-Oriented Validation Strategies"	
5	Oct 16	Validity continued	Chapter 9: "Validity for Decisions: Criterion-Related Validity"	
5	Oct 19	Midterm Review		Construct definitions and items due at start of class. (3% of final, Measure Development Project)
6	Oct 21	**Midterm 25%**		**Midterm 25%** Lectures, handouts, and chapters 1,3,4,5,11,6,7,8,9, and Cohen and Swerdlik pages 190-211.

6	Oct 23	Pick up your construct definition feedback and make any required changes to your scale		TAs and professor will be available to answer questions about your construct definition and items
6	Oct 26	Item Analysis	Chapter 10 "Item Analysis"	
7	Oct 28	Item Analysis	*Cohen, R. J., & Swerdlik, M. E. (2005). *Psychological Testing and Assessment: An Introduction to Tests and Measurements* (6th ed.). Toronto, ON: McGraw Hill. Chapter 7 ("Test Development") pages 211-225 (available on Courselink)	Final item submission at the beginning of class. Be sure to use the posted template.
7	Oct 30	Item analysis		In class assignment 4 – Item Analysis (2%)
7	Nov 2	Data collection strategies. In class quiz		In class quiz (1%, Measure Development Project)
8	Nov. 4	Data collection strategies. In class quiz		In class quiz (1%, Measure Development Project)
8	Nov. 6	Entering data		Pick up your data and enter into excel (I am available to help with this)
9	Nov 9	Data analysis in class using R	Make sure R is installed on your laptop	
9	Nov 11	Data analysis in class using R		

9	Nov 13	Data analysis in class using SPSS		In class assignment 5: using R (2%)
10	Nov. 16	Time to work on project		
	Nov 18	Time to work on project		
	Nov 20	Time to work on project		Final Project Due by 5pm on Nov 20 (hard copy to MacKinnon Extension 4005)
11	Nov. 23	Personality testing	Chapter 17 "Personality Testing"	
11	Nov. 25	Interest testing	Chapter 16 "Interest testing"	
11	Nov 27	In class assignment: Personality testing		In class assignment 6: Personality testing (2%)
12	Nov. 30	Intelligence testing	Chapter 13: "Ability Testing: Individual Tests"	
	Dec 2	Assessment of People with Disabilities	Cohen and Swerdlik Ch. 15: "The Assessment of People with Disabilities" (Available on Courslink)	
12	Dec 4	Q&A for Final Exam		
Final exam period	Dec 9 8:30am – 10:30am	Final Exam		

Midterm: 25%
Scale development project total: 30%
In class assignments: 10% (best 5 of 6)
Final examination date and time: 08:30AM - 10:30AM (2015/12/09)
Final exam weighting: 35%
Final Examination regulations are detailed at: Examination Regulations

Course Resources

Required Texts:
Murphy, K., & Davidshofer, C. (2005). Psychological testing: Principles and applications (6th Ed). Upper Sadddle River, NJ: Prentice Hall.

Additional required readings will be posted on CourseLink

Other Resources:

We will use the free open-source statistical software R for data analysis.

I suggest also downloading and using R via the free R-Studio interface.

Research Ethics

In this course, you will be conducting research with human participants. It is therefore required that you become familiar with human research ethics and the ethics review process here at the University of Guelph. Notably, your projects must NOT (a) involve any personal, sensitive or incriminating topics or questions that could place participants at risk, (b) manipulate behavior of participants beyond the range of "normal" classroom activity or daily life, (c) involve any physically invasive contact with research participants, or (d) involve deception.

Please visit the following link for more information:

http://www.uoguelph.ca/research/policies/Adobe/C6_Human_Participants.pdf

Course Policies

Grading Policies

Only 5 of the 6 in-class assignments will be counted for a maximum of 10%. Late in-class assignments will receive a grade of zero.

Construct definitions and items (3%) must be submitted on time (both Stage 1 and Stage 3; see above). Late submission at either stage will result in a grade of zero on this component of the Measure Development Project.

The final Measurement Development Project must be submitted *in paper form* by the specified date and time. Submissions submitted later than this will lose 10% (i.e., 2.5% of the final course grade) per day. Weekends count as two days. Thus, the final measurement project is due at 5:00 pm on the specified day (see above). If an assignment is handed at 5:15 pm on the due day (i.e., 15 minutes late) the maximum grade is 22.5 out of 25. The late penalty would increase to 20% (i.e., 5% of the final course grade) at 5pm the following day.

Undergraduate Grading Procedures

Course Policy on Group Work:

Measure development items/definitions will be completed in groups. Measure development reports must be written individually. Exams must be completed on an individual basis.

Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

University Policies

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:
Academic Consideration, Appeals and Petitions

In-class assignments. As noted above, only 5 of the 6 in-class assignments will be counted. This is to take into account all possible reasons for missing one of the in-class assignments (illness, etc). Consequently, medical notes will only be considered if more than one in-class assignment is missed.

Data collection quizzes. If a student is unable to write a data collection quiz due to a documented illness an alternative assignment may be provided. For example, students who do not write a data collection quiz may write a 750-word essay reflecting on the quality implications of the measurement used in an academic article (including needed changes for a replication study) provided by the instructor. An alternative assignment such as this would count toward one missed data collection quiz.

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:
Academic Misconduct Policy

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: Student Accessibility Services Website

Course Evaluation Information

Please refer to the Course and Instructor Evaluation Website **.**

Drop date

The last date to drop one-semester courses, without academic penalty, is Friday November 6. For regulations and procedures for Dropping Courses, see the Academic Calendar: Current Undergraduate Calendar