PSYC*3250, Course Outline: Winter 2019

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: W19

Class Schedule and Location: MWF 10:30AM-11:20AM MACN 113

Instructor Information

Instructor Name: David Stanley
Instructor Email: dstanley@uoguelph.ca
Office location and office hours: See website profile.

GTA Information

GTA Name:
GTA Name:
GTA Name:

Course Content

Specific Learning Outcomes:

2 Literacy, Facet 2. Methodological Literacy: The ability to understand, evaluate, and design appropriate methodologies for rigorous psychological science

2 Literacy, Facet 3. Quantitative Literacy: Includes numeracy, and competence in working with numerical data

2 Literacy, Facet 4 Technological Literacy: The ability to select and use appropriate technology

2 Literacy, Facet 5 Visual Literacy: The ability to effectively find, interpret, evaluate, use, and create images and visual media and content.

4 Communicating, Facet 2 Written Communication: The ability to express one's ideas and summarize theory and research through a variety of writing styles (e.g., American Psychological Association [APA] style, term papers, posters

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

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.

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, justification, and your items. Construct definitions/items/justification 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, 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 (unless noted). Late in-class assignments will not be accepted and will receive a grade of zero.

Summary Table With Due Dates On Next Page

Week	Date	Lecture	Reading	Due / Comments
1	Jan. 7	Introduction to testing	Chapter 1: "Tests and Measurements"	
1	Jan. 9	Standards and Ethics	Chapter 3: "Testing and Society"	
1	Jan. 11	Catchup Assignment: Test reviews		Class assignment 1: Test reviews (2%)
2	Jan. 14	Basic concepts in measurement and statistics	Chapter 4: "Basic Concepts in Measurement and Statistics"	
2	Jan. 16	Scales, transformations, and norms	Chapter 5: "Scales, Transformations and Norms"	
2	Jan. 18	In class assignment: Scoring a personality measure		1. Project Group Registration Form In class assignment 2: Scoring a personality measure
3	Jan. 21	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.	2.

Week	Date	Lecture	Reading	Due / Comments
			Chapter 7 ("Test Development") pages 190-211	
3	Jan. 23	Construct definition and scale creation workshop	Chapter 11: "The Process of Test Development"	
3	Jan. 25	Scale creation workshop		
4	Jan. 28	Classical test theory and reliability	Chapter 6: "Reliability: The Consistency of Test Scores"	
4	Jan. 30	Using and interpreting information about test reliability	Chapter 7: "Using and Interpreting Information about Test Reliability" Stanley, D.J. & Spence, J.R. (2014). Expectations for replications: Are yours realistic? *Perspectives on Psychological Science*, 9, 305-318.	
4	Feb. 1	In class assignment: Reliability		In class assignment 3: Reliability
5	Feb. 4	Validity	Chapter 8: "Validity of Measurement: Content and Construct-Oriented Validation Strategies"	
5	Feb. 6	Validity continued	Chapter 9: "Validity for Decisions: Criterion-Related Validity"	
5	Feb. 8	Midterm Review		Construct definitions and items due in class. (3% of final, Measure Development Project)

Week	Date	Lecture	Reading	Due / Comments
6	Feb. 11	**Midterm 25%**		**Midterm 25%** Lectures, readings, and chapters 1,3,4,5,11,6,7,8,9, and Cohen and Swerdlik pages 190-211.
6	Feb. 13	Construct Definition Feedback Using R for analyses		R will be used for the final project. You learn how to install and use it in this class.
6	Feb. 15	Construct Definition Feedback In class assignment: Using R		In class assignment 4: Using R (2%)
7	Feb. 25	Item Analysis	Chapter 10 "Item Analysis"	
7	Feb. 27	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	Final item submission at the beginning of class. Be sure to used the posted template.
7	Mar. 1	In class assignment: Item analysis		In class assignment 5: Item analysis (2%)
8	Mar. 4	Data collection strategies. In class quiz		In class quiz (1%, Measure Development Project)
8	Mar. 6	Data collection strategies. In class quiz		In class quiz (1%, Measure Development Project)

Week	Date	Lecture	Reading	Due / Comments
8	Mar. 8	No class		
9	Mar. 11-15	Data analysis in class using R		
9	Mar. 18	Data analysis in class using R		
9	Mar. 20	Data analysis in class using R		
10	Mar. 22	Time to work on project		
11	Mar. 25	Personality testing	Chapter 17 "Personality Testing"	Measure Development Project Report (25%) due by 2:30pm
11	Mar. 27	Interest testing	Chapter 16 "Interest testing"	
11	Mar 29	In class assignment: Personality testing		In class assignment 6: Personality testing
12	April 1	Intelligence testing	Chapter 13: "Ability Testing: Individual Tests"	
12	April 3	Catch up day		
12	April 5	Q&A for Final Exam		

Grade Summary

Assignment or Test	**Due Date**	**Contribution to Final Mark (%)**	**Learning Outcomes Assessed**
Class assignment 1	**Jan. 17**	**2**	**2 Literacy, Facet 2**
In class assignment 2	**Jan 19.**	**2**	**2 Literacy, Facet 2, 3**
In class assignment 3	**Feb 1.**	**2**	**2 Literacy, Facet 2, 3**
In class assignment 4	**Feb 15**	**2**	**2 Literacy, Facet 2, 3, 4**
In class assignment 5	**Mar 1**	**2**	**2 Literacy, Facet 2, 3, 4**
In class assignment 6	**Mar 29**	**2**	**2 Literacy, Facet 2, 3**
Midterm	**Feb 11**	**25**	**2 Literacy, Facet 2, 3, 5**

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Project: Definitions	**Feb 8**	**3**	**2 Literacy, Facet 2 4 Communicating, Facet 2**
Quiz: Project	**Mar 4**	**1**	**2 Literacy, Facet 2**
Quiz: Project	**Mar 6**	**1**	**2 Literacy, Facet 2**
Project: Final	**Mar 25**	**25**	**2 Literacy, Facet 2, 3, 4, 5 4 Communicating, Facet 2**

Additional Notes (if required):
Midterm: 25%
Scale development project total: 30% (25% + 1% + 1% + 3%)
In class assignments: 10% (best 5 of 6)
Final Exam: 35%

Final examination date and time: See WebAdvisor
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.

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 latter than this will be loose 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 1:00 pm on the specified day (see above). If an assignment is handed at 1:15 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 1pm 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

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 Student Accessibility Services as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email accessibility@uoguelph.ca or the 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 March 8, 2019. For regulations and procedures for Dropping Courses, see the Schedule of Dates in the Academic Calendar.
Current Undergraduate Calendar