

## Graduate Psychometrics/Multivariate Statistics Psych 754/730/711/712

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This class will consist of auditing the undergraduate class Psych3MT3 (Thursdays, 7pm, MDCL 1102), and we will also meet as a group once a week (time to be determined) to tackle additional topics. If you have already taken this course as an undergraduate, you are exempt from auditing it, although you are strongly advised to refamiliarize yourself with the material.

There are two required textbooks:

- Kaplan & Sacuzzo, Psychological Testing: Principles, Applications and Issues.
- Tabachnick & Fidell's Using Multivariate Statistics. (For both of these, you can find older editions around for much cheaper, and it will be fine. Both of these books are excellent resources for you to have.)

Topics: The following are covered in the undergraduate class:

History of psychometrics  
Basic statistics Correlation Regression  
Reliability  
Validity  
Test Construction and Item analysis  
Test Administration  
Intelligence  
Other test applications  
Test bias and ethics

The graduate class will also learn how to do the relevant analyses for:

Reliability assessments  
Item analysis  
Correlation (simple, part and partial)  
Regression analyses (simple, multivariate, hierarchical, step-wise, logistical, multiple)  
Factor Analyses  
Introduction to other Multivariate techniques

I personally use SPSS to do multivariate statistics (and Excel to do simple things like item analyses). You may use any package you care to, but I can't support them).

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## **Assignments**

There will be five assignments on Reliability analyses; Item analyses; Multiple regression; Logistic regression; and Factor analyses (due dates to be determined). If you are unable to submit by the due date, please contact the instructor immediately.

If you are taking this as a quarter class, each of the above assignments is worth 20% of your grade. Assignments can be done in groups of two or three, with one assignment submitted for your group. Assignments can be done collaboratively with other groups, although the final write ups should be done separately for each group. You may also do these assignments individually if you prefer.

If you are taking this as a half course, each of those assignments will be worth 10% of your grade, and there will be an additional two larger papers to write, each worth 25% of your grade. One will be about the psychometric properties of various tests on a construct of your choosing, the other will be a critique of a particular test. These will be due at the very end of the semester (final date TBD). These papers are to be done strictly individually.

**Changes in course requirements:** Details of the course requirements may be subject to change. If requirements are altered, a revised course outline will be posted on the webpage and announced in class. The instructor reserves the right to assign grade cutoffs.

**Special Needs:** If you have special needs please contact the instructor so accommodations can be made.

**Academic Integrity Policy** Please be aware of the University Academic Integrity Policy. Cases of academic dishonesty include, but are not limited to: copying or the use of unauthorized aids in tests, examinations and laboratory reports; plagiarism, i.e., the submission of work that is not one's own; aiding and abetting another student's dishonesty giving false information for the purposes of gaining admission or credit; giving false information for the purposes of obtaining deferred examinations or extension of deadlines; and/or forging or falsifying McMaster University documents. Students who infringe on the resolutions of the University Academic Integrity policy will be treated according to the published policy.