## Course number 739 <br> I/O Research Methods Winter 2015

| Instructor: | Tom O'Neill | Lecture Location: | AD 051 |
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| Phone: | 403-220-5207 | Lecture Days/Time: | M 12-2:45 |
| Email: | toneill@ucalgary.ca |  |  |
| Office: | AD 264 |  |  |
| Office Hours: | By Appointment |  |  |

## Course Description and Goals

Goal is to prepare students to understand critical I/O-related research methods to prepare them for industry research, candidacies, and theses. Coverage includes reliability, validity, study design, methods of job analysis, synthetic validity, data quality tests, scale development, psychometrics, meta-analysis and validity generalization, general linear model and beyond, factor analysis, variance decomposition, multilevel research methods, social networks analysis, longitudinal data analysis and design, qualitative methods.

## Required Text

Article and text readings accessible through $U$ of $C$.

## Evaluation

Each student will complete two topic reviews. Topic reviews are 1 page summaries (not including references and recommended readings), Times NR, 10 pt font, 1-inch margins all around including leading the class discussion. Each topic review account for $25 \%$ of the students' grades.

A final exam will account for $50 \%$ of the students' grades. The final exam will contain questions drawn from the topic reviews and the accompanying readings. Students are allowed to access the topic reviews (i.e., 1-pagers) plus 1single-sided page of their own notes as reference during the exam. The format will be short answer.

## Grading Scale

| A+ | $96-100 \%$ | B+ | $80-84 \%$ | C+ | $67-71 \%$ | D+ | $54-58 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A | $90-95 \%$ | B | $76-79 \%$ | C | $63-66 \%$ | D | $50-53 \%$ |
| A- | $85-89 \%$ | B- | $72-75 \%$ | C- | $59-62 \%$ | F | $0-49 \%$ |

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades.

To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., $89.5 \%$ will be rounded up to $90 \%$ = A but $89.4 \%$ will be rounded down to $89 \%=$ A-).

## Schedule

| Date |  |
| :---: | :---: |
| M Jan 12 | - Introduction and overview <br> - Reliability, validity, and the predictive validity study |
| M Jan 19 | - Scale development (student led discussion) <br> - Methods of job analysis and synthetic validity |
| M Jan 26 | - Modern psychometrics including item response theory (student led discussion) <br> - Study design (student led discussion) |
| M Feb 2 | - Data quality tests (student led discussion) <br> - General linear model and beyond I (student led discussion) |
| M Feb 9 | - General linear model and beyond II (student led discussion) <br> - Factor analysis, common method variance estimated and managed with factor analysis, brief overview of multilevel factor analysis (student led discussion) |
| M Feb 23 | - Multi-trait multi-method matrices (student led discussion) <br> - Variance decomposition, g-theory (student led discussion) |
| M Mar 2 | - Formative and reflective measurement models (student led discussion) <br> - Multilevel research methods/theory (student led discussion) |
| M Mar 9 | - Linear mixed models (nested) (student led discussion) <br> - Linear mixed models (longitudinal) (student led discussion) |
| M Mar 16 | - Latent growth curve estimation (student led discussion) <br> - Latent profile analysis (student led discussion) |
| M Mar 23 | - Meta-analysis I (student led discussion) <br> - Meta-analysis II (student led discussion) |
| M Mar 30 | - Social networks analysis (student led discussion) <br> - Computational modeling (student led discussion) |
| M Apr 6 | - Qualitative methods (student led discussion) <br> - Anecdotes about applied research in organizations (if time) <br> - Exam review |
| M Apr 14 | - Final Exam |

## Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class; no reappraisal of term work is permitted after the 15 days. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed,
the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

## Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

## Academic Accommodation

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

## Absence From A Test/Exam

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48 -hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

## Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered except under exceptional circumstances. Students are advised to wait until the final examination schedule is posted before making any travel arrangements.

## Freedom of Information and Protection of Privacy (FOIP) Act

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or via the Department Office (Admin 275), or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIPsensitive information.

## Evacuation Assembly Point

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at http://www.ucalgary.ca/emergencyplan/assemblypoints
Please check this website and note the nearest assembly point for this course.

## Student Ombudsman's Office

The Office of the Student Ombuds provides independent, impartial and confidential support for students who require assistance and advice in addressing issues and concerns related to their academic careers. The office can be reached at 403-220-6420 or ombuds@ucalgary.ca
(http://www.su.ucalgary.ca/services/student-services/student-rights.html).

## Safewalk

The safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available $24 \mathrm{hrs} / \mathrm{day}, 365$ days a year.
Call 403-220-5333.

## Important Dates

The last day to drop this course with no "W" notation and still receive a tuition fee refund is January $\mathbf{2 3}{ }^{\text {rd }}, \mathbf{2 0 1 5}$. Last day for registration/change of registration is January $\mathbf{2 6}{ }^{\text {th }}, \mathbf{2 0 1 5}$. The last day to withdraw from this course is April $\mathbf{1 5}^{\text {th }}, 2015$.

