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COURSE OUTLINE

SOC SCI 2UR3

Single Subject Research Design

Day of the Week: Mondays, 7-10pm

Location: KTH B124

**McMaster University
Faculty of Social Sciences**

Instructor: Erica Konrad, M.A., BCBA

Office: KTH 208

Extension: n/a

**Office Hours: By appointment via
In-person/phone**

Email: konradem@mcmaster.ca

Course Description:

This course presents an introductory examination to single subject design and its applications in the field of applied behaviour analysis.

Course Objectives:

Upon completion of this course, students will be able to:

1. Identify the features of different types of single subject design and their application.
2. Explain the differences between various types of single subject designs.
3. Explain how treatment effectiveness is determined through single subject designs.
4. Use and present a project on a single subject design

Developing Transferable Skills

You will work on developing academic skills that are transferable to your other university courses as well as to the workforce. These skills include:

- critical reading and thinking;
- communication (oral, written and visual);

- self and peer evaluation;
- research skills; and
- group work skills.

Required Textbooks:

Cooper, John O., Heron, Timothy E.Heward, William L.. (2007) *Applied behavior analysis* Upper Saddle River, N.J. : Pearson/Merrill-Prentice Hall,

Evaluation Components:

Assessment Activity	% of Grade	Date Due
Weekly Quizzes (X10)	20%	Weekly
Participation	10%	weekly
Graphing Assignment	10%	October 1, 2018
TCPS 2: Core Modules	10%	October 15, 2018
Behaviour Change Project	20%	Slides submitted to Avenue and presented in class on date student signs up for either: November 19 or 26, 2018
Final Exam (Cumulative)	30%	TBA

Quizzes (X10):

Content for the quizzes will be derived the readings for the upcoming lectures. Quizzes are not cumulative. Quizzes must be completed online, prior to lecture, each week.

Participation

The last portion of class will consist of a small group activity that will be taken up as a class. Each group will be requested to either hand in their activity if on paper with all group member names recorded or submit a photo of work on a whiteboard with all group member names recorded to the appropriate Avenue to Learn folder.

Graphing Assignment:

The purpose of this graphing assignment is for you to create a graph showing a functional relationship between a hypothetical independent and dependent variable of your choosing. The intervention you select to base your data on can be one used to increase or decrease behavior, it is up to you. Please demonstrate and label in your graph a change in trend, level and variability. Please refer to the article by Deochand, et al. (2015) on creating graphs.

TCPS 2: Core Modules:

The purpose of completing these modules is to provide students with a broad overview of conducting human subject research. The online tutorial is an introduction to the 2nd edition of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2). It consists of eight modules focusing on the guidance in TCPS 2 that is applicable to all research regardless of discipline or methodology. Students must provide proof of completion via Avenue to Learn folder. The modules can be accessed here: <http://tcps2core.ca/>

Behaviour Change Project:

This project will be completed individually. The purpose of this assignment is for students to gain experience in designing a study using single-case methodology. The project should use one of the following designs: withdrawal design, a variation of the multiple baseline design, changing criterion design, or a variation of the alternating treatments design.

You will serve as the subject for your project. You will choose a behaviour you wish to change using only reinforcement-based procedures and look into the literature for at least 3 peer-reviewed articles on the topic or strategy. You will outline: an operational definition, collect baseline data, provide intervention in accordance with the chosen single-subject design, and make 2 data-based revisions. Further details will be provided.

Final Exam (cumulative)

The final exam is cumulative and will include content covered in class and in the readings over the course of the semester.

COURSE SCHEDULE

Date	Topic/Readings
September 10	Selecting & Defining Target Behaviours (Chapter 3) Wolf M. M. (1978). Social validity: the case for subjective measurement or how applied behaviour analysis is finding its heart. <i>J. Appl. Behav. Anal.</i> 11, 203-210. 10.1901/jaba.1978.11-203
September 17	Measuring Behaviour (Chapter 4) Quiz 1 due Fiske K., Delmolino L., (2012). Use of Discontinuous Methods of Data Collection in Behavioral Intervention: Guidelines for Practitioners. <i>Behavior Analysis in Practice</i> , 5(2), 77-81.
September 24	Improving and Assessing the Quality of Behavioural Measurement (Chapter 5) Constructing and Interpreting Graphic Displays of Behavioural Data (Chapter 6) Quiz 2 due
October 1	Analyzing Behaviour Change: Basic Assumptions and Strategies (Chapter 7) Quiz 3 due Graphing Assignment due
October 8	Reading Week
October 15	No Class TCPS Modules Due Quiz 4 due
October 22	Reversal and Alternating Treatments Designs (Chapter 8)

	<p>Quiz 5 due</p> <p>Libby M. E, Weiss J. S, Bancroft S, Ahearn W. H. A., (2008). A Comparison of most-to-least and least-to-most prompting on the acquisition of solitary play skills. <i>Behavior Analysis in Practice</i>. 1:37–43.</p> <p>Tiger J.H., Hanley G.P., (2006). Using reinforcer pairing and fading to increase the milk consumption of a preschool child. <i>Journal of Applied Behaviour Analysis</i>. 39, 399–403</p>
October 29	<p>Multiple Baseline and Changing Criterion Designs (Chapter 9)</p> <p>Quiz 6 due</p> <p>Lerman D.C, Sansbury T, Hovanetz A, Wolever E, Garcia A, O'Brien E, et al. (2008). Using behavior analysis to examine the outcomes of unproven therapies: An evaluation of hyperbaric oxygen therapy for children with autism. <i>Behavior Analysis in Practice</i>. 2:1–9.</p> <p>De Luca RV, Holborn SW. (1992). Effects of a variable-ratio reinforcement schedule with changing criteria on exercise in obese and nonobese boys. <i>Journal of Applied Behavior Analysis</i>. 25(3):671–679.</p>
November 5	<p>Planning and Evaluating Applied Behaviour Analysis Research (Chapter 10)</p> <p>Quiz 7 due</p> <p>Stephenson K.M., Hanley G.P., Preschoolers' compliance with simple instructions: A descriptive and experimental evaluation. <i>Journal of Applied Behaviour Analysis</i>. 43, 229–247.</p>
November 12	<p>Functional Behaviour Assessment (Chapter 24)</p> <p>Quiz 8 due</p> <p>Iwata B. A, Dozier C. L. (2008). Clinical application of functional analysis methodology. <i>Behavior Analysis in Practice</i>. 1:3–9.</p>
November 19	<p>Behaviour Change Presentations</p> <p>Quiz 9 due</p>

November 26	Behaviour Change Presentations Quiz 10 due
December 3	Review
To be determine	Final Exam

Additional Supplementary Reading:

Carr J. E, Briggs A. M. (2010). Strategies for making regular contact with the scholarly literature. *Behavior Analysis in Practice*. 3, 13–18.

Deochand, N., Costello, M. S., & Fuqua, R. W. (2015). Phase-change lines, scale breaks, and trend lines using Excel 2013. *Journal of applied behavior analysis*.

Dixon M. R, Jackson J. W, Small S. L, Horner-King M. J, Mui Ker Lik N, Garcia Y, Rosales R. Creating single-subject design graphs in Microsoft Excel™ 2007. *Journal of Applied Behavior Analysis*. 2009; 42:277–293.

Hanley G. P. (2010). Toward effective and preferred programming: A case for the objective measurement of social validity with recipients of behavior-change programs. *Behavior Analysis in Practice*.3,13–21.

Martin G, Thompson K, Regehr K., (2004). Studies using single-subject designs in sport psychology: 30 years of research. *The Behavior Analyst*. 27, 263–280.

Vanselow, N. R., & Bourret, J. C. (2012). Online interactive tutorials for creating graphs with Excel 2007 or 2010. *Behavior analysis in practice*, 5(1), 40.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check his/her McMaster email

Assignment Submission Guidelines

Guidelines

Written Assignments: All written assignments are to be typed and double-spaced. Please include a title page with your name, student number and email address, the topic title of the assignment and the date submitted. Please submit a paper copy to the Instructor at the start of class on the due date as well as submit one file copy per group to the appropriate Dropbox in Avenue 2Learn.

Submitting Assignments Electronically: Individual assignments submitted electronically must include your last name in the filename: e.g. Smith_Assignment_5_Article_Assessments.rtf.

Late Submissions: All work is due on the date stated, at the beginning of class, unless other arrangements have been made in advance with the instructor. A late penalty of 5 percentage points per day will apply after the due date (weekends included).

Class Participation and Engagement: Class participation and engagement is an important component of this course (and of active learning). Therefore, we expect all students to be 'active' participants in this course. This means attending all classes, being actively involved in class activities and thoughtful discussion, and completing all assignments. The success of this course depends on you! Students who are most successful in this course fulfill these expectations, and engage in all aspects of the course!

Group Assignments: For all group assignments, ALL students in the group must be contributing members of that assignment. The expectation is that each student will be an active and respectful member of their group, and contribute to the assignment - in a fair and equitable way. Group work is sometimes challenging, but it can also be rewarding in a number of ways, including providing you with opportunities to develop valuable 'working-as-a-team' skills that will serve you well in this and other courses, as well as more broadly in your academic, professional, and personal life.

Policy for Returning Assignments/Posting Grades: In accordance with regulations set out by the Freedom of Information and Privacy Protection Act, the University will not allow the return of graded materials by placing them in boxes in departmental offices or classrooms so that students may retrieve their papers themselves; all tests and assignments must be returned directly to the student.

And since it is important for student learning and skills development that students receive feedback on their assignments as they progress through the course, you can expect to receive feedback (comments and a grade) on each of your examinations and the group assignment in a timely fashion. This will allow you the opportunity to see how you performed on each assignment and time to discuss any questions you might have with your instructor.

The following possibilities exist for return of graded materials:

1. direct return of materials to students in class;
2. return of materials to students during office hours;
3. submit/grade/return papers electronically.

Arrangements will be finalized for the return of assignments from the options listed above by the instructor during the first class.

Grades for examinations and the group assignment will be posted in Avenue2Learn. Final grades for the course will be posted on Mosaic.

UNIVERSITY POLICY ON ACADEMIC DISHONESTY:

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

A NOTE ABOUT THE USE OF AVENUE TO LEARN IN THIS COURSE:

In this course we will be using Avenue to Learn for the online components of the course. Students should be aware that when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation, may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

A NOTE ABOUT THE USE OF TURNITIN.COM IN THIS COURSE

In this course we may be using a web-based service (Turnitin.com) to reveal plagiarism. If announced by the Instructor, students will be expected to submit their work electronically to

Turnitin.com as well as in hard copy so that it can be checked for plagiarism. Students who do not wish to submit their work to Turnitin.com must still submit a hard copy of their work to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com policy, please go to www.mcmaster.ca/academicintegrity

FACULTY OF SOCIAL SCIENCES E-MAIL COMMUNICATION POLICY

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including to TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Requests for Relief for Missed Academic Term Work

The University recognizes that students periodically require relief from academic work for medical or other personal situations. This academic regulation aims to manage these requests by taking into account the needs and obligations of students, instructors and administrators. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course. Any concerns regarding the granting of relief should be directed to the respective Faculty Office. Requests for relief should be made with a commitment to academic integrity in mind. Requests that deviate from this commitment will be handled under the Academic Integrity Policy and Student Code of Conduct, where appropriate.

1. Relief for missed academic work worth less than 25% of the final grade resulting from medical or personal situations lasting up to three calendar days:

- o Use the McMaster Student Absence Form (MSAF) on-line self-reporting tool. No further documentation is required.
- o Students may submit requests for relief using the MSAF once per term.
- o An automated email will be sent to the course instructor, who will determine the appropriate relief. Students must immediately follow up with their instructors. Failure to do so may negate the opportunity for relief.
- o The MSAF cannot be used to meet a religious obligation or to celebrate an important religious holiday.
- o The MSAF cannot be used for academic work that has already been completed/ attempted.
- o An MSAF applies only to work that is due within the period for which the MSAF applies, i.e. the 3-day period that is specified in the MSAF; however, all work due in that period can be covered by one MSAF.
- o The MSAF cannot be used to apply for relief for any final examination or its equivalent. See *Petitions for Special Consideration* above.

2. For medical or personal situations lasting more than three calendar days, and/or for missed academic work worth 25% or more of the final grade, and/or for any request for relief in a term where the MSAF has been used previously in that term:

- o Students must report to their Faculty Office to discuss their situation and will be required to provide appropriate **supporting documentation** (see *Documentation Requirements* below).
- o If warranted, the Faculty Office will approve the absence, and the instructor will determine appropriate relief.

Documentation Requirements

If the reason for a request for relief is medical, the approved *McMaster University Medical Form* covering the relevant dates must be submitted. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed work and the doctor must verify the duration of the illness.

If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within three working days.

In some circumstances, students may be advised to submit a Petition for Special Consideration (Form A) seeking relief for missed academic work. In deciding whether or not to grant a petition, adequacy of the supporting documentation, including the timing in relation to the due date of the missed work and the degree of the student's incapacitation, may be taken into account. Failure to do so may negate the opportunity for relief.

If the petition is approved, the Faculty Office will notify the instructor(s) recommending relief. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.

Access Copyright Regulations:

McMaster University holds a licensing agreement with Access Copyright, the Canadian Copyright Licensing Agency. Information on current regulations for copying for education purposes can be found at the following website: <http://www.copyright.mcmaster.ca/>

Student Accessibility Services (SAS) formerly Centre for Student Development (CSD):

If you have an accommodation letter from SAS, you are required to provide a copy of that letter to your instructor. Please be sure that you arrange academic accommodations through SAS as early as possible in order that the instructor can receive the accommodation letter as early as possible in the term.

What are my responsibilities as a student registered at SAS? Students are responsible to identify themselves to Student Accessibility Services on an annual and regular basis in order to receive accommodations and services. Students are responsible for:

- meeting their SAS Program Coordinator prior to, or at the start of each academic term (September, January and summer sessions);
- providing their SAS Program Coordinator with relevant and professional medical or psychological documentation;
- notifying their SAS Program Coordinator if courses are dropped or added, or if accommodations require a change;
- meeting with individual course instructors to discuss specific needs in relation to the course and their disability; and
- providing the course instructor with their accommodation letter from SAS.

For more information, see the SAS website: <http://sas.mcmaster.ca/>