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Psyc 217 Sections 001 and 002  
 Winter 2013/2014  
 Version 1: 1 September 2013



# Research Methods in Psychology

## What is this Course About?

Modern psychology uses the tools of science to investigate behaviour. By successfully completing this course, you will be able to thoughtfully understand and contribute to these scientific investigations. Together, we will explore the foundations of the scientific method, the core experimental and non-experimental research designs psychologists most often use to test their hypotheses, and current issues in our science (e.g., replication, ethical practices). You will be able to apply your knowledge to collaboratively design your own research study, collect and briefly analyze data, and present your results in written and poster forms. You will be prepared to critically consume psychological claims made in the media, to engage effectively in future courses in psychology, and to pursue further research experience in the social sciences.

## Quick Facts About Class

**Classes are held Monday, Wednesday, Friday, 9-9:50am (Section 1), 10-10:50am (Section 2) in AERL Room 120. Attendance is expected and is necessary for success. To receive your clicker participation points and to work with your team, you must attend the section for which you are registered.** Please show respect for your fellow learners and leaders (e.g., arrive on time, leave after dismissed). Bring your i>clicker and 3 spare AAA batteries, pen, paper, and your readings. You may choose to bring a computer, but I discourage it because of its tendency to side-track the user's and others' attention (Fried, 2008; Sana, Weston, & Cepeda, 2013).

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## Meet your Leaders in Learning



**INSTRUCTOR** Dr. Catherine Rawn  
**Office:** Kenny 2523  
**Welcome to my drop-in office hours:** Tues 2-3, Wed 3:30-4:30, Fri 4-5. Some appointments can be made if necessary.  
**Email:** [cdrawn@psych.ubc.ca](mailto:cdrawn@psych.ubc.ca)  
**Please include "Psyc 217" in the**

**Subject line,** use professional tone and style, and use your UBC email account. **Before emailing, please check** with your class notes, syllabus, and classmates for an answer to your question. Although I try to respond as quickly as possible, expect at least a day for a reply (excluding evenings and weekends).

**Web:** [www.psych.ubc.ca/~cdrawn](http://www.psych.ubc.ca/~cdrawn), **Twitter:** @cdrawn

**TEACHING FELLOWS** TFs are here to help you learn and to help me to evaluate your learning. They will run lab sections, grade papers and exams, hold office hours for you, and respond to (brief!) questions sent via email. If you cannot make their scheduled office hours, email them to work out an alternative appointment time.

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## Course Goals

I designed this course carefully, with specific goals in mind. Together, these goals reflect 16 of the guidelines put forth by the American Psychological Association as key for the undergraduate psychology major (American Psychological Association, 2007; feel free to see me for details).

*If you are willing and able to meet the requirements, by the end of this course, you will be able to...*

1. describe basic characteristics of the science of psychology.
2. explain, compare, and contrast various research methods used by psychologists, including their key characteristics, strengths and limitations.
3. design and conduct a basic study to address a psychological question using appropriate research methods and creative operational definitions.
4. evaluate conclusions drawn by yourself and others from various research designs.
5. know and follow ethical guidelines in all aspects of scholarly work (e.g., literature search, research design, data collection, analysis, interpretation, reporting).
6. use critical thinking effectively (e.g., evaluate the quality of information from various sources; challenge claims that arise from untested assumptions).
7. begin to exhibit quantitative statistical literacy.
8. demonstrate effective technological, written communication, and oral communication skills in various formats and for various scholarly purposes.
9. exhibit the ability to collaborate effectively, including working within a team to complete projects in a reasonable time frame, and managing conflicts appropriately.
10. reflect on your research-related experiences and find meaning in them.

## Fitting this Course in Your Degree

Some students choose to delay taking this course and Psyc 218 until late in their psychology degrees. Before making that choice, consider that our course concepts provide a strong foundation for *all* subsequent coursework and research assistantships in Psychology, other behavioural sciences (e.g., marketing, economics, sociology), and for being an informed citizen. Moreover, there is lots of support available to you while taking this course (teammates, TFs, instructor). *So why delay?*

**Pre/Co-Requisites** *To take this course, you must have taken (or currently be taking):* Either (a) PSYC 100 or (b) all of PSYC 101 and PSYC 102. *This course is a Prerequisite for:*

Psyc 218 and 359 (Statistics), Psyc 349/449 (Honours), and some other courses.

**Considering Withdrawing?** If you wish to withdraw from this course without any record of the course on your transcript, you must do so before **September 17, 2013**. The latest withdrawal date is **October 11, 2013**, which leaves a standing of “W” on your transcript. Please note that a portion of this course is devoted to teamwork. Your team depends on you! If you are considering withdrawing after the second week of classes please see me, your instructor, to discuss options.

## Materials: What Do You Need?

1. **Cozby, P. C., & Rawn, C. D. (2013). *Methods in Behavioural Research* (Canadian Ed.). Toronto, ON: McGraw-Hill Ryerson.**
  - Focuses on the details of how to conduct research. Available new and used from the bookstore. Avoid earlier editions as there are substantial changes.
  - Yes, I am the second author. Please note I am donating all royalties from UBC sales to UBC scholarships.
2. **Cuttler, C. (2010). *Research Methods in Psychology*. Dubuque, IA: Kendall Hunt.**
  - This lab guide will help you and your teammates create a successful research project.
3. **Supplemental Readings.**
  - As listed on page 11 and in Our Course Schedule, 5 brief articles are required reading, and are available as links on our Connect website.
4. **Stanovich, K. E. (2013). *How to Think Straight about Psychology* (10th ed.). Boston, MA: Pearson.**
  - 3 chapters from this text are required; others are optional (see Our Course Schedule). The full text can be purchased from the bookstore, or rented from CourseSmart (\$23.99 for a 180 day rental). The 9<sup>th</sup> edition is acceptable to use.
5. **i>clicker Student Response System (shown right), available new and used from the bookstore.**
  - Please bring this tool to help you learn in every class.



**Financial Hardship:** If you are experiencing serious financial hardship and are unable to purchase some or all of the required materials, please see me, your instructor, as soon as possible. There are (limited) opportunities available for loans.

## Learning Appraisals (Overview)

The distribution of assessments in this course is as follows: 52% for exams, 40% for written and verbal communication related to the research process, and 8% for active participation in the research & learning process. Everyone will practice a variety of skills that will benefit them in future classes, in the workplace, and in their personal lives. These include: professional writing, public speaking, collaboration with others, and synthesis of a range of material (e.g., while studying for exams, working on the team project); see Course Goals, especially 8 and 9. The more you participate, the more you will get out of this course. Questions and constructive feedback are always welcome.

Please find details of each Learning Appraisal below, in the order they are listed in the following table.

Learning Appraisal	Points	Due Date(s)
Midterm Exams (2 x 11%)	22%	Wednesday September 25 and Monday November 4
Final exam	30%	Date set by registrar (Exam period: Dec 4-18)
Mini Communicating Psychology Assignment	5%	Recommended: October 9 Final deadline: scheduled start time for final exam or Friday December 6 (whichever is first)
Research Experience Component (REC)	5%	All components must be completed by the last day of classes (November 29)
Participation	3%	i>clicker continuous, peer evaluations
Collaborative Research Project	35%	
Team Oral Presentation (-3% if incomplete)		Friday October 11 (Lab 2)
Individual APA-style Report (25%)		Monday November 25, start of class
Team Poster Presentation (10%)		<b>Friday November 29, 5-6:30pm, East Atrium, LSI</b>
<b>Total</b>	<b>100%</b>	

## Learning Appraisals (Details)

### Midterm Examinations – 2 x 11%

In-class midterm exams will occur on Wednesday September 25 (covering readings and classes from the beginning of the term) and Monday November 4 (covering readings and classes since the first midterm). Questions may include a **mix of multiple choice, true/false, fill-in-the-blanks, and written answer questions** (about half a page of writing each). Tests will require thorough understanding of course material, including the **ability to apply and integrate concepts across units**. Each midterm will be out of 40-50 points.



### Final Examination – 30%

The final exam will be scheduled by the registrar, between December 4 and 18 (including Saturdays); do not book any trips for these dates. If you have 3 or more exams scheduled to *start and finish* within a 24 hour period you may request to write the second exam on a different day. You must give the instructor of the second exam one month notice.

The final exam will include a mix of multiple-choice, true/false, fill-in-the-blanks, and written answer questions. **Although the material covered after the**

**second midterm will be featured prominently, this is a cumulative exam.** Research shows greater long term retention with multiple testing opportunities (Roediger & Karpicke, 2006). Because this material is important for success in future courses, a cumulative final is most appropriate. More details will be provided on the last day of class.



### Mini Communicating Psychology Assignment – 5%

This brief assignment offers you experience finding an empirical journal article using the university’s library system, identifying the major features of a study design, and communicating the most important findings in a compelling way. These skills provide the foundation for communicating about psychological research, and are relevant wherever you take your psychology degree. Your assignment should be no longer than 2 pages, and answer only the questions provided in the handout on *Connect*. To accommodate your schedule, the assignment due date is flexible. I recommend you complete it by October 9. The absolute final deadline is the scheduled start time of the final exam – *or Friday, December 6, whichever is sooner*. No exceptions will be made to the final deadline.



### Research Experience Component (REC) – 5%

The REC is worth 5% of every Psyc 217 student's course grade: **1 hour of participation or 1 article summary = 1% x 4, plus 1% for completing the online Tri-Council Policy Statement (TCPS) tutorial** (details given in Lab 1). The REC is designed to help you learn more about psychology and how research is conducted, and to provide you with first-hand experience with psychological research. This experience may make understanding research easier (Ceynar Rosell et al., 2006) and may help you decide whether research is a reasonable career option for you.

One way to meet the REC requirement is to spend **four hours participating in psychology studies** through the Department of Psychology's Human Subject Pool (HSP) system. You can locate and sign up for studies by going to <https://hsp.psych.ubc.ca>. If you don't already have a user account you will first need to request an HSP user account on that webpage. Once you have an account and have logged into it, you will be able to browse through all of the studies in which you can participate, sign up for studies and confirm your accumulated credits. The subject pool typically closes on the last day of class; I strongly urge you to participate *before* the last week to ensure appointments are available. Further instructions on how to use the HSP online system can be found at <http://www.psych.ubc.ca/resguide.psy> in the document entitled *Subject Pool Information for Participants*.

**As an alternative to participating in subject pool studies, you may choose to fulfill the REC by completing four library writing projects**, for which you read and summarize a research article; each article summary counts as one hour of research participation. You must select a research article (not a letter to the editor, commentary, or review paper) published since the year 2000 in the journal *Psychological Science*. Each summary should be about 500 of your own words and should summarize the purpose, method and results of the study. *NOTE: THE ARTICLE YOU CHOOSE FOR THE COMMUNICATING PSYCHOLOGY ASSIGNMENT CANNOT COUNT TOWARD THIS CREDIT. WE WILL BE CROSS-CHECKING THE ARTICLES.* If you choose this library option, you must consult the document entitled *Subject Pool Information for Participants* located at <http://www.psych.ubc.ca/resguide.psy> for details of the submission process. Note that these summaries must be submitted at least 10 days before the end of classes.



### Participation and Teammate Feedback – 3%

This course is designed to be experiential – involving group discussion, interactive activities including i>clicker questions, and class projects. Thus, the success of the class for everyone, including your own comprehension of the material, depends upon your active participation (Michael, 2006). Because of the size of our class, it is challenging to measure individual participation on an ongoing basis. Therefore, your class contribution will be graded on (1) your responses to i>clicker questions in class, and (2) your participation in peer evaluation of your teammates.

**3% FROM I>CLICKER QUESTIONS:** To earn maximum points, answer at least 75% of the i>clicker questions during a class period (and any one of those correctly), for at least 90% of the classes during the whole term.

**-1% deduction for failing to complete either of two PEER EVALUATIONS:** Constructive feedback is part of any successful team project. You have the opportunity to evaluate and offer constructive feedback to your research project teammates – and to receive the same from them. By taking a few minutes to complete the peer- and self-evaluations, you will promote effective teamwork while avoiding the penalty. Evaluations will be conducted twice: first, after Lab 2 (by Wednesday October 16) for *formative* purposes. That is, it is a chance for you to indicate what your teammates should keep doing well and what they need to work on. Occasionally, peer evaluations indicate a serious problem with a team member. *If such an issue arises, your team will be asked to meet with your instructor. If evidence indicates a team member is not contributing to the project, that person may not have access to the data from Lab 3, and that person's final report will consequently suffer.* The second, *summative* evaluation will occur at the end of the term, and may count toward your teammates' final team poster grade.

The software program we will use to conduct these evaluations is called iPeer, and has been used extensively at UBC, particularly in Commerce and Applied Science.

- (1) Log in to [connect.ubc.ca](http://connect.ubc.ca) using your CWL.
- (2) Click on the link to iPeer.
- (3) Complete the peer evaluation for each of your teammates and yourself. There are 10 rating scale items and 3 open-ended responses.

Be honest and constructive in your evaluations. Keep in mind that your teammates will receive the feedback, but will not know which teammate said what.



## Collaborative Research Project – 25% Individual, 10% Team

The purpose of this project is to give you—and everyone who takes Psyc 217—an opportunity to apply what you are learning in class to a real research project. You will work in a team to generate and test a hypothesis about human behaviour, and you will report those results in professional written and poster formats. This project has been designed to incorporate as many elements as possible of the process in which psychological scientists engage to gain insight into human behaviour. You will receive guidance by your Teaching Fellow at each stage of the process. Lab Meetings will take place during class time, but in a smaller room, on **Fridays September 27, October 11, October 25, November 8, and November 15**. *Attendance at all Lab Meetings and the Poster Session (November 29, 5-6:30pm) is required. The first three lab meetings involve crucial teamwork and are therefore mandatory. You will lose 20% of your lab grade (i.e., 7% of your course grade) for each of these meetings that you miss (e.g., if you miss 2 of those first 3 meetings, you will lose 14% of your course grade, simply for not showing up to contribute to your team).* See the “Expectations” section for the procedure if you absolutely must miss one of these events.

### On Teamwork

The vast majority of research conducted in psychology is collaborative (Kliegl & Bates, 2011; Madigan, Johnson, & Linton, 1995). Reflecting this trend, you will work closely in teams of 5-6 on this project. Teams will be assigned immediately after the drop period in a way that promotes diversity and resources (Brickell, Porter, Reynolds, & Cosgrove, 1994). I encourage you to **work together in the spirit of collaboration**. I also know that **team work can sometimes be challenging**. To help you achieve excellence in your projects, each team will have a **private discussion thread on Connect** to collaborate with each other throughout the term. Using this thread provides a permanent record of your team collaborations, and might be helpful if a team dispute arises. You will also provide **feedback to your teammates** about their performance, and receive feedback on your performance (see “Participation” section). You are always welcome to **seek me and our TFs out for help and advice** on your team dynamics. If your team is having great challenges, there is a form on Connect that you can submit for a **formal request for mediation**. In the past, such mediation has led to positive team progress.

### Lab Structure

**LAB MEETING 1 – RESEARCH DESIGN (FRIDAY SEPTEMBER 27):** You will meet with your team in your lab break-out room to brainstorm a research question and design a brief, simple, minimal risk experiment to address the question (note: the experiment must not require more than 5 minutes of each participant’s time). Our Teaching Fellow will be present to assist and guide you. Come to the meeting prepared with some ideas so you can maximize your 50 minutes of time together. You will be able to start posting ideas in advance on Connect as soon as teams are established. *See Cuttler’s guide, Chapter 1, for further guidance and tips, as well as Appendix 1 for ideas.*

**LAB MEETING 2 – PROPOSAL PRESENTATION (FRIDAY OCTOBER 11):** Your team will give a 5 minute presentation of your proposed research question and design. During this presentation you should: i) state your research question and why it is interesting, ii) clearly describe the independent variable and how it will be manipulated, iii) clearly describe the dependent variable and how it will be measured, iv) discuss any controls you plan to implement, v) state your hypothesis. Each presentation will be followed by a 5 minute discussion period where your classmates and Teaching Fellow will ask questions and provide suggestions for improving your study design. Failing to present a proposal will result in all team members receiving a 3% deduction. *See Cuttler’s guide, Chapter 2, for further guidance and tips.*

**LAB MEETING 3 – DATA COLLECTION (FRIDAY OCTOBER 25):** You will collect data for your experiment using your classmates as participants. Your team must arrive to this meeting with all of the materials needed to conduct your experiment. This meeting is a one-time opportunity to collect data. *There will be no other time your team will be able to collect data for your experiment. Collecting data outside this lab meeting time and/or with individuals other than your 217 classmates and Teaching Fellows is not covered by our ethics approval certificate (H13-01648) and will result in a major deduction from your lab component grade.* While some team members are collecting data, you may participate in other teams’ studies. *See Cuttler’s guide, Chapter 3, for further guidance and tips.*

**LAB MEETING 4 – DATA SUMMARY (FRIDAY NOVEMBER 8):** Your TF will help you learn how to meaningfully summarize your data as well as how to use Microsoft Excel to calculate descriptive statistics and create graphs, in preparation for your final report and poster session. You should come to this meeting prepared with a plan for summarizing your data that you can discuss with your TF. *See Cuttler’s guide, Chapter 4, for further guidance and tips, and Appendix 2 for examples.*

**LAB MEETING 5 – WRITING AN APA STYLE RESEARCH REPORT (FRIDAY NOVEMBER 15):** Your TF will help you learn how to write an APA style research report. You may wish to come prepared with a rough draft of your paper as well as specific questions and challenges you are having with its preparation. See *Cuttler's guide, Chapter 5, for further guidance and tips.*

### Communicating your Results

After conducting research and generating conclusions, psychological scientists (like all scholars) need to communicate their methods and findings to the scientific community. For your research projects, we consider our class to be a scientific community; also, we consider all sections of Psyc 217 as our common scientific community. You will be asked to communicate your research findings in written form (one APA Style Report per person), and in poster form (one per team) to be presented at the *Psychology 217 Research Methods Poster Session.*

**POSTER SESSION (10%): NOVEMBER 29, 5-6:30PM, EAST ATRIUM OF UBC LIFE SCIENCES INSTITUTE (2350 Health Sciences Mall)** Approximately 600 students, 12 Teaching Fellows, and 6 Instructors from across all 7 sections of Psychology 217 will meet to share and learn about each others' research projects. You will prepare, as a team, a poster that summarizes your research project's hypothesis, method, results, and conclusions. This kind of presentation is common at professional scientific conferences; all of us on the teaching team have presented our research at this kind of poster session. During the poster session, you will be asked to evaluate approximately five of your peers' posters (from a different section). Your own poster will be evaluated by five peers (the average of these five ratings will equal 3% of your grade), as well as a Teaching Fellow (whose rating will comprise the other 7%). More details about how to prepare for the poster and presentation, as well as how to evaluate others' posters will be provided later in the term. NOTE: TO ACCOMMODATE ALL SECTIONS, THE POSTER SESSION IS IN THE EVENING ON FRIDAY NOVEMBER 29. IT IS A MANDATORY COURSE EVENT; MARK YOUR CALENDAR NOW.

**INDIVIDUAL RESEARCH REPORT (25%): FORMAT, SUBMISSION (MONDAY NOVEMBER 25) AND GRADING** The most important step in the research communication process for researchers is to clearly document their research and the contribution it makes to understanding human behaviour in a written manuscript. These written manuscripts are then reviewed by their peers, and (hopefully!) published in a journal. This individual report is designed to give you experience with a part of this process.

Reports are to be prepared independently; each team member must prepare a report separately from other team members. Evidence of collaboration or team work in writing the reports will result in major deductions from your lab component grade and in severe cases may result in a grade of zero on the lab component.

**Format:** Your report must be written using APA style and must include the following sections: Abstract, Introduction, Method, Results (including at least one graph or table), Discussion and References (at least 2). See Appendix A of your Cozby and Rawn text, the Publication Manual of the American Psychological Association (6<sup>th</sup> ed.), and *Cuttler's guide* (Chapter 5), for guidance in writing APA style reports.

Reports must be between 5 and 7 double spaced 8.5 x 11 inch pages (approximately 1500-1700 words). This page limit does NOT include a cover page, references, graphs, tables or appendices. You must use 12 point **Arial, Times New Roman, or Calibri** font and margins must be set to 1 inch all around. Your paper should integrate into the introduction section (e.g., to set up a foundation for your hypothesis) at least 2 references to related empirical journal articles. Articles can also be used in the discussion section to help put results into context.

**Submission:** Reports are due on Monday November 25. A hard copy must be submitted (at the start of class) AND an identical copy must be submitted online to TurnItIn (by 11:59pm). If you fail to do either (submit it in person or to TurnItIn) on the deadline, your report will be considered late. You will lose 10% for each day the report is late. See "Submitting Written Assignments" section on Page 7 for details about submitting work to TurnItIn.

**Grading:** The lab report is worth 25% of your grade. You will be graded on the following: Abstract and Introduction (5%), Method and Experimental Design (5%), Results and Figures (5%), Discussion (5%), proper use of APA format and writing style (5%). Read *Cuttler* Chapter 5 and attend Lab 5 for details about each section.

## Tips for Success

### Submitting Written Assignments

1. Submit a **hard copy** at the start of the class period in which it is due, and
2. Submit an **electronic copy** on TurnItIn by 11:59pm on the due date. Go to [turnitin.com](http://turnitin.com), create an account, enter our course ID (**Section 1: 6753174, Section 2: 6753183**) and password (research), and upload the same assignment, but *without identifying information on it*.

The hard copy is considered the master copy and is what will be graded; the electronic copy must match it. The purpose of the online copy is so that we can use TurnItIn to cross-check your paper with an enormous database of websites, past submissions, and published works. To learn more about TurnItIn and UBC's policies about it, see <http://vpacademic.ubc.ca/academic-integrity/turnitin-at-ubc/>.

### Learning Tools to Investigate



We encourage you to take responsibility for your learning and check out what these resources might have to offer you.

**TIME MANAGEMENT** Tools for managing your courses, <http://www.arc.sbc.edu/timeschedule.html>, papers, <http://assignmentcalculator.library.ubc.ca>, and mastering many other aspects of academic life <http://learningcommons.ubc.ca/student-toolkits/>

**LEARNING COMMONS** is UBC's online hub for study and research support. This interactive website provides you with a wealth of academic resources, from tutoring and workshops to study groups and online technology tools. It also offers plenty of information on a variety of academic topics, and links to nearly all of the academic resources offered at UBC. Make the Learning Commons your first stop for all things academic! <http://learningcommons.ubc.ca>

**WRITING SKILLS** The UBC Writing Centre ([www.writingcentre.ubc.ca](http://www.writingcentre.ubc.ca)) also has tutoring services, including an [Online Writer's Workshop](#). Also, Purdue University offers an amazing collection of information about writing, including using APA style, at their Online Writing Lab (OWL), available at <http://owl.english.purdue.edu/owl> (APA style specifics at <http://owl.english.purdue.edu/owl/section/2/10/>).

**PHYSICAL OR LEARNING DISABILITIES** Our teaching team and UBC generally is committed to equal opportunity in education for all students, including those with documented physical disabilities or learning disabilities. If

you have a disability that affects your learning in the classroom or your performance on tests or exams, please **contact Access & Diversity** in Brock Hall 1203, 1874 East Mall, Contact: 604.822.5844, [www.students.ubc.ca/access](http://www.students.ubc.ca/access).

### A Note About Reading

Reading the text outside of class is essential for success in this course. This class will involve some lectures along with demonstrations, exercises, and discussions. However, **in class lessons cannot cover all the material in the textbooks**; rather, the **goals of lessons** are to (1) highlight the more significant aspects of the readings, (2) discuss topics not well-covered by the readings in more detail, (3) pull together broad themes to make better sense of the readings, and (4) engage you in discussions, demonstrations, and interactive events designed to help make key material meaningful and memorable. Not all the material presented in the readings will be discussed in class, and vice versa. Thus, both a careful reading of text chapters and consistent class attendance are highly recommended. **My strong suggestion is to read each assigned reading before we discuss it in class** so that you know what questions you want to ask and are best able to participate.



### A Note About Studying

A recent literature review classified study techniques as having high, moderate, or low utility for remembering and using information (Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013). If you don't already, consider using some of these research-based strategies to study for this and other courses:

- ✓ **Practice tests**, including self- tests
- ✓ **Distributed practice** to spread out study over time (rather than cramming)
- ✓ **Elaborative interrogation** (explain why a concept is true)
- ✓ **Self-explanation** (explain how new information relates to what you already know)
- ✓ **Interleaved practice** that mixes around different material (rather than studying all of unit 1, then all of unit 2, sequentially, for example)

This literature review also revealed *low* utility for the following techniques. Researchers suggested *avoiding them* in favour of spending time more effectively on the strategies listed above. Read the article for more tips.

- x Summarizing
- x Highlighting/underlining
- x Keyword mnemonics and mental imagery to link with verbal material
- x Re-reading the text after having read it once

## Expectations and Policies

### What We Expect From You

**PARTICIPATION** This course is designed to be experiential, involving pair and small group discussions, large group discussions, class activities and writing, i>clicker questions, and regular feedback (see Michael, 2006 for a review of active learning's effectiveness). Although some class time will be devoted to a traditional lecture format, the success of the class depends upon your active participation. Note that we will ask you to do only those activities that we believe will help you learn.

**ATTENDANCE** Please come to every class, prepared to participate. Bring your i>clicker and three spare AAA batteries, a pen and paper (in addition to a laptop, if you choose to bring one; see Fried, 2008, Sana et al., 2013), and an open mind. *If you miss class*, you are responsible for obtaining notes and announcements. You will not be able to regain participation points for missed classes.

**RESPECTFUL CONDUCT** You are expected to treat all classmates, teammates, instructor, and Teaching Fellows, with respect both in and out of the classroom, face-to-face and in writing (e.g., on email). This includes arriving to class on time and minimizing distractions for other students.

**ETHICAL CONDUCT** You are responsible for your own learning. Cheating of any kind will **not** be tolerated, including dishonest use of the i>clicker (e.g., entering responses for an absent classmate). See page 10 in this syllabus for more information about plagiarism, exams, and ethical conduct.

**ON TIME ASSIGNMENTS** Late research papers will be accepted up to 7 days late, but 10% per day will be deducted *if either the hard copy or the electronic copy is late*. No assignments will be accepted after 7 days (including weekends). Plan ahead to avoid penalties. (Because of the flexible deadline for the Communication Assignment, none will be accepted after the start time of the final exam, or December 6, whichever is first.)

**PRESENCE AT EXAMS & TESTS** If you must miss an exam due to an extenuating circumstance like *severe* illness, you must submit the **Request For a Make-Up Exam Form**, available on Connect, plus appropriate documentation to Dr. Rawn. Unless it is an emergency, this form must be submitted at least 7 days before the date of the exam, at which point an alternative will be arranged. In case of emergency, the form must be submitted within 3 days of missing the exam (or as soon as is physically possible). If you miss the deadline, you will receive a zero.

**PRESENCE AT LABS 1, 2, 3, AND THE POSTER SESSION** If you are unable to attend any of those meetings, you must submit the **Request For Excused Absence Form**, available on Connect, to Dr. Rawn. This form must be submitted at least 14 days before the date of the event. In case of emergency, the form must be submitted within 3 days of missing the event (or as soon as is physically possible). If your documentation is approved for missing Lab, you will still be responsible for communicating with your team but you will not lose points for missing lab. If your documentation is approved for missing the poster session, your grade will be re-weighted such that the poster session will count for 0% (instead of 10%) and your APA style paper will count for 35% (instead of 25%).

**RE-GRADE POLICY:** If you feel very strongly that a question on any exam or your paper was graded unfairly, you may submit the appropriate **Re-Grade Request Form** available on Connect. To qualify, you must submit the form to Dr. Rawn within 2 weeks of the date grades were posted on Connect. She will consider your request carefully and will respond via email within one week of receiving it. Re-grading may result in an increase or decrease, and that re-grade is final.

**FEEDBACK & COMPREHENSION CHECKS** You will be consulted regularly for feedback about your learning, what elements of the course are working well for you, and what could be improved. At the end of each class, you will have the opportunity to summarize your learning and ask a question. Comprehension Check questions will be addressed at the start of the next class.



We invite you to share your thoughts and suggestions with us, particularly about things we are able to change, and to be open to **working together to make this course a positive experience for all of us**.

**USE OF ELECTRONICS IN THE CLASSROOM** *To be determined collaboratively on the first day of class.*

### What You Can Expect From Us

**AVAILABLE** We are here to help you and your classmates in your choice to succeed. Visiting us in person is typically more effective than email for clearing up questions. If our office hours absolutely cannot work for you, respectfully

email us a few time and day options to make an appointment.

**ONLINE SLIDES** PowerPoint slides and handouts will be available *after* class on our Connect site, in the “PowerPoint slides” folder on the homepage. Slides cannot be posted before class because they will undermine clicker questions. Moreover, data shows that having notes in advance rather than after class does not influence exam performance (Babb & Ross, 2009).

**PHOTOGRAPHS** To help document active learning, we will take some photographs throughout the term. Please see me within the first two weeks if you have serious concerns about this.

**FEEDBACK** We will endeavour to provide you with feedback on learning appraisals as promptly and as detailed as possible, given the frequency of appraisals and size of our class.

**RESPECTFUL & ETHICAL CONDUCT** At all times, we aim to treat each of you with respect, and to make all course decisions with the highest ethical standards in mind. If you feel you are being treated unfairly or disrespected by us or a classmate, we invite you to talk to us so we can sort out the issue together. To be clear: such a discussion would not impact your grade.

## Psychology Department Grading Policies

*To meet department policy, the typical student demonstrating adequate performance on learning appraisals will earn around 67-71% in this course. Read on for details.*

In order to reduce grade inflation and maintain equity across multiple course sections, all psychology courses are required to comply with departmental norms regarding grade distributions. According to departmental norms, the mean grade in a 300-level class is 70 for a good class, 68 for an average class, and 66 for a weak class, with a standard deviation of 13). The corresponding figures for 100- and 200-level Psychology courses are 67, 65, and 63, with a standard deviation of 14. *Psyc 217 is the one exception to this. Our mean may slightly exceed this value (up to 71%, same standard deviation).* **Scaling** may be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or department. Grades are not official until they appear on a student’s academic record. You will receive both a percent and a letter grade for this course. At UBC, they convert according to the following key:

A+	90-100%	C+	64-67%
A	85-89%	C	60-63%
A-	80-84%	C-	55-59%
B+	76-79%	D	50-54%
B	72-75%	F	0-49%
B-	68-71%		

## Faculty of Arts Guidelines for Grading Criteria

You are earning a degree at a highly reputable post-secondary institution. Therefore, criteria for success are high. The Faculty of Arts offers the following guidelines that broadly characterize the kind of work that is generally associated with the main grade ranges. These characteristics help to put the Psychology Department Grading Policies into context. Note that adequate performance is in the C range, which is the typical class average.

**A RANGE: EXCEPTIONAL PERFORMANCE.** Strong evidence of original thinking; good organization in written work; capacity to analyze (i.e., break ideas down) and to synthesize (i.e., bring different ideas together in a coherent way); superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

**B RANGE: COMPETENT PERFORMANCE.** Evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

**D-C RANGE: ADEQUATE PERFORMANCE.** Understanding of the subject matter; ability to develop solutions to simple problems in the material; acceptable but uninspired work; not seriously faulty but lacking style and vigour.

**F RANGE: INADEQUATE PERFORMANCE.** Little or no evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.

Consider these characteristics when making choices about the quality of work you submit in all learning appraisals, in this and any other course.



## Ethical Conduct: Practices and Policies

**Don't Cheat. Don't Plagiarize. It's Not Worth It.**

**Read on For Key Definitions, Consequences, and How to Act Ethically**

The consequences for unethical conduct are more severe than you may think: you may fail the assignment or test, you may fail the course, you may be expelled from University, and unable to attend any other post-secondary institution in the future. Think about the long-term implications of that outcome in your life.

### Psychology Department's Position on Academic Misconduct

Cheating, plagiarism, and other forms of academic misconduct are very serious concerns of the University, and the Department of Psychology has taken steps to alleviate them. In the first place, the Department has implemented software that can reliably detect cheating on multiple-choice exams by analyzing the patterns of students' responses. In addition, the Department subscribes to *TurnItIn* — a service designed to detect and deter plagiarism. All materials (term papers, lab reports, etc.) that students submit for grading will be compared to over 5 billion pages of content located on the Internet or in TurnItIn's own proprietary databases. The results of these comparisons are compiled into customized "Originality Reports" containing several, sensitive measures of originality that flag instances of plagiarism; instructors receive copies of these reports for every student in their classes.

During exams, the instructor and invigilators reserve the right to move students in their seating arrangement with no explanation provided.

In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating or plagiarism may result in a zero credit for the work in question. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to a student's transcript. For details on pertinent University policies and procedures, please see Chapter 5 in the UBC Calendar (<http://students.ubc.ca/calendar>).

### Why is Academic Misconduct Treated So Harshly?

Some people don't feel like cheating on a test or taking a sentence or two from someone else's paper without citing it is a big deal. Here's a bit of insight into why we care so much. In the academic community—a community of

which you are now a part—we **deal in ideas**. That's our currency, our way of advancing knowledge. By representing others' ideas in an honest way, we are (1) respecting the rules of this academic community, and (2) showcasing how our own novel ideas are distinct from but relate to their ideas. APA style gives us a formal way to indicate where our ideas end and where others' begin. **Welcome to the academic community. You are expected to act honestly and ethically, just like the rest of us.**

### Participating in the Academic Community Ethically

What can you do to ensure you are acting ethically? First, recognize that all graded work in this course, unless otherwise specified, is to be **original work done independently by individuals. Groupwork is to be original work created collaboratively by the group.**

**VISIT LEARNING COMMONS' GUIDE TO ACADEMIC INTEGRITY** UBC offers an online guide to preventing unintentional plagiarism and organizing your writing. Visit <http://learningcommons.ubc.ca/resource-guides/avoiding-plagiarism/>

**USE THE LIBRARY'S RESOURCES**, including any of the indexes and databases listed under Indexes and Databases, Subject Resources, OneSearch or Metasearch on the Library's website at <http://www.library.ubc.ca>. (Not sure which index to use? Click HELP on the library homepage at [www.library.ubc.ca](http://www.library.ubc.ca) or try Subject Resources.) When instructed to do so, you may use sources such as Google/Yahoo/MSN Search/etc. to find articles for assignments in this course, particularly Google Scholar.

**BE CAREFUL AND CRITICAL OF WHAT YOU READ AND CHOOSE TO CITE.** Reference all material using APA style; if you cannot find a proper reference, question whether that source is appropriate to use. **Do not** copy and paste text from other sources, even in a draft, as you might unintentionally misrepresent those words as your own in a later draft (which would still qualify as plagiarism).

*If you ever have any questions about what sources to use or how to cite them, please see your Instructor or Teaching Fellow **before** handing in your assignment.*

## Supplemental Reading List

Bartlett, T. (2013, January 30). Power of suggestion. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Power-of-Suggestion/136907/>

Madigan, R., Johnson, S., & Linton, P. (1995). The language of psychology: APA style as epistemology. *American Psychologist*, *50*, 428-436.

Pashler, H., & Wagenmakers, E.-J. (2012). Editors' introduction to the special section on replicability in psychological science: A crisis of confidence? *Perspectives on Psychological Science*, *7*, 528-530. doi:10.1177/1745691612465253

Neuroskeptic. (2012). The nine circles of scientific hell. *Perspectives on Psychological Science*. *7*, 643-644. doi:10.1177/1745691612459519

Nosek, B. A., Spies, J. R., & Motyl, M. (2012). Scientific utopia: II. Restructuring incentives and practices to promote truth over publishability. *Perspectives on Psychological Science*, *7*, 615-631. doi:10.1177/1745691612459058

## References

Throughout this syllabus I have cited many journal articles. Below is my complete reference list. I included them here for two reasons: (1) to model responsible, APA style citation and referencing practices we will be using in this course, and (2) to show you some of the many ways I use research to guide the decisions I make in my teaching practice and course design. To be clear, these are **not** required reading, but you may find some of them interesting (e.g., Dunlosky et al., 2013).

American Psychological Association. (2007). *APA guidelines for the undergraduate psychology major*. Washington, DC: Author. Retrieved from <http://www.apa.org/ed/precollege/about/psymajor-guidelines.pdf>

Babb, K. A., & Ross, C. (2009). The timing of online lecture slide availability and its effect on attendance, participation, and exam performance. *Computers & Education*, *52*, 868-881. doi: 10.1016/j.compedu.2008.12.009

Brickell, J. L., Porter, D. B., Reynolds, M. F., & Cosgrove, R. D. (1994). Assigning students to groups for engineering design projects: A comparison of five methods. *Journal of Engineering Education*, *83*, 259-262.

Ceynar Rosell, M., Beck, D. M., Luther, K. E., Goedert, K. M., Shore, W. L., & Anderson, D. D. (2006). The pedagogical value of experimental participation paired with course content. *Teaching of Psychology*, *32*, 95-99. doi: 10.1207/s15328023top3202\_3

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, *14*, 4-58. doi: 10.1177/1529100612453266

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco, CA: Jossey-Bass.

Fried, C. B. (2008). In-class laptop use and its effects on student learning. *Computers & Education*, *50*, 906-914. doi: 10.1016/j.compedu.2006.09.006

Kliegal, R., & Bates, D. (2011). International collaboration in psychology is on the rise. *Scientometrics*, *87*, 149-158. doi: 10.1007/s11192-010-0299-0

Madigan, R., Johnson, S., & Linton, P. (1995). The language of psychology: APA style as epistemology. *American Psychologist*, *50*, 428-436. doi: 10.1037/0003-066X.50.6.428

Michael, J. (2006). Where's the evidence that active learning works? *Advances in Physiology Education*, *30*, 159-167. doi: 10.1152/advan.00053.2006

Roediger, H. L., III, & Karpicke, J. D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, *17*, 249-255. doi: 10.1111/j.1467-9280.2006.01693.x

Sana, F., Weston, T., & Cepeda, N. J. (2013). Laptop multitasking hinders classroom learning for both users and nearby peers. *Computers & Education*, *62*, 24-31. doi: 10.1016/j.compedu.2012.10.003

## Our Class Schedule

The schedule may be modified during the semester. Any changes will be announced in class and posted on Connect. Students are responsible for being aware of these changes, whether or not they attended the class in which any changes were announced.

Wk	Date	Topics	Readings	Labs and Learning Appraisals
1	W Sept 4	Welcome! Course & Connect Overview	Syllabus	Register your i>clicker

Wk	Date	Topics	Readings	Labs and Learning Appraisals
	F Sept 6	Science Basics	Cozby & Rawn Ch 1 <i>(Optional: Stanovich Ch 1)</i>	
2	M Sept 9	Hypotheses, Falsifiability	Cozby & Rawn Ch 2 <i>(Optional: Stanovich Ch 2)</i>	
	W Sept 11	Falsifiability, <i>continued</i>		
	F Sept 13	Operationism, Variables and the Experimental Method	Cozby & Rawn Ch 4 <i>(Optional: Stanovich Ch 3)</i>	
3	M Sept 16	Correlational and experimental design basics	<i>(Optional: Stanovich Ch 5)</i>	
	W Sept 18	<b>UBC classes suspended:</b> Observance of Opening of West Coast National Event of the Truth and Reconciliation Commission. See <a href="http://www.trc.ca/">http://www.trc.ca/</a> for more information.		
	F Sept 20	Experimental Design, <i>continued</i>	Cozby & Rawn Ch 8 (p. 155-162 only) <i>(Optional: Stanovich Ch 6)</i>	
4	M Sept 23	Practical Considerations	Cozby & Rawn Ch 9	
	W Sept 25			<b>Midterm 1</b>
	F Sept 27		<i>To prepare for lab, read Cuttler Ch 1</i>	<b>Lab #1: Research Design</b>
5	M Sept 30	Experimental Design, <i>continued</i>	Cozby & Rawn Ch 8 (p. 163-168 only)	
	W Oct 2	Questionnaire Design	Cozby & Rawn Ch 7 (p. 124-131 only)	
	F Oct 4	Ethics of Research	Cozby & Rawn Ch 3	
6	M Oct 7	Ethics of Research, <i>continued</i>		
	W Oct 9	Ethics and Values in Psychology	Articles available as links in Connect Neuroskeptic (2012) Madigan, Johnson, & Linton (1995)	<i>Recommended due date:</i> Communicating Psychological Research Assignment
	F Oct 11		<i>To prepare for lab, read Cuttler Ch 2</i>	<b>Lab #2: Proposal Presentation</b> TCPS Certificate due
7	M Oct 14	<b>2013 Thanksgiving Day (UBC closed)</b>		
	W Oct 16	Measurement Concepts	Cozby & Rawn Ch 5	iPeer peer- and self-evaluation due
	F Oct 18	Measurement Concepts, <i>continued</i>		
8	M Oct 21	Quasi-Experiments	Cozby & Rawn Ch 11	
	W Oct 23	Quasi-Experiments & Complex Designs	Cozby & Rawn Ch 10 <i>(Optional: Stanovich Ch 9)</i>	
	F Oct 25		<i>To prepare for lab, read Cuttler Ch 3</i>	<b>Lab #3: Data Collection</b>
9	M Oct 28	Complex Designs, <i>continued</i>		
	W Oct 30	Describing Data	Cozby & Rawn Ch 12 (up to p. 250)	
	F Nov 1	Describing Data, <i>continued</i>	<i>(Optional: Cozby &amp; Rawn p. 250-254)</i>	
10	M Nov 4			<b>Midterm 2</b>
	W Nov 6	Probabilistic Reasoning & Chance	Stanovich Ch 10, 11	
	F Nov 8		<i>To prepare for lab, read Cuttler Ch 4</i>	<b>Lab #4: Data Summary</b>
11	M Nov 11	<b>2013 Remembrance Day (UBC closed)</b>		
	W Nov 13	Inferential Statistics	Cozby & Rawn Ch 13	
	F Nov 15		<i>To prepare for lab, read Cuttler Ch 5</i>	<b>Lab #5: Writing an APA Style Report</b>
12	M Nov 18	Inferential Statistics, <i>continued</i>		
	W Nov 20	Inferential Statistics, <i>continued</i>		
	F Nov 22	Observation, Case Studies, & Testimonials	Cozby & Rawn Ch 6 Stanovich Ch 4	[Online Student Evaluation of Teaching]
13	M Nov 25	Generalization and Interpretation Issues	Cozby & Rawn Ch 14 <i>(Optional: Stanovich Ch 7, 12)</i>	<b>APA-style Report Due</b>
	W Nov 27	Publication and Replication in Psychology	Articles available as links in Connect Pashler & Wagenmakers (2012) Bartlett (2013) Nosek, Spies, & Motyl (2012)	
	F Nov 29	Synthesis, Catch up (Last day of classes)		<b>Poster Session 5-6:30pm, LSI</b> iPeer peer- and self-evaluation due

**Final Exam:** The date of the final exam will be set by the registrar. Do not book travel during exam period: December 4 to 18, including Saturdays. It will feature most heavily the new material covered since Midterm 2 (Cozby Chapters 6, 13, 14; Stanovich Chapters 4, 10, 11; Pashler, Bartlett, & Nosek articles; all classes), and will include class and reading material from the entire course, as listed above.

The original design of this course and syllabus were critically informed by insights from a similar course designed by Dr. A. Carle (U. North Florida), whose peer-reviewed syllabus is available from the *Society for the Teaching of Psychology's Office of Teaching Resources in Psychology* website, as well as syllabi from Dr. A. Perrino (UBC) and Dr. C. Cuttler (UBC). Annual revisions to this course and syllabus have been influenced by feedback from students in all my Psyc 217 Sections since Fall 2008, my Teaching Fellows and fellow instructors of Psyc 217, American Psychological Association (2007) and Fink (2003).