

PNB 2XF3

Perspectives in PNB (Research Methods)

Instructor: Dr. Sukhvinder Obhi

Teaching Assistants: Matthew Berry, Hanae Davis, Mike Galang, Irina Ghilic, Ruth Hofrichter, Raha Hassan (see announcements section on Avenue for email contact information).

Note: Dr. Obhi does not hold office hours, but you can request a meeting by appointment. Usually, he will reply within 2 business days of receiving your email.

The aim of this course is to introduce you to the challenges, techniques, and insights of conducting research in Psychology, Neuroscience & Behaviour (PNB). We will survey the entire research process, emphasizing practical issues along the way. We will focus heavily on developing critical thinking and verbal presentation skills. You will also learn about research ethics, research funding, and dissemination of research to other scientists and the public. Emphasis will also be placed on how to extract good PNB research from the multitude of good and bad information we are exposed to every day. You should leave the course with improved scientific communication skills and a solid understanding of the research process along with an appreciation of the practical and theoretical issues that surround it.

Throughout the term, graduate students from across the department will deliver guest lectures that tie in with various themes of psychology, neuroscience, and/or behaviour. The aim of these lectures is to provide the “story behind the story” to give you insights into the research process in action and expose you to current research conducted in PNB.

Tutorials will i) help you to prepare for guest lectures via preview presentations in which your group will “warm up” the class for the guest lecture later that day, and ii) give you valuable practice at presenting and critiquing research papers clearly and succinctly to your peers.

In addition, toward the end of the term, your group (different from your preview group in tutorials) will deliver a presentation to the entire class in which you will present a critical fact check of an assigned TED talk. The aim is to foster critical thinking and analysis of information.

Class Meetings

Lectures: Monday,
3:30-4:20PM, Tuesday, 4.30-5.20PM,
Thursday, 3.30-4.20PM

Tutorials take place on Thursday mornings.
You must attend your assigned Tutorial to earn
full participation.

Assessment

Goals 1 pager	3%
In-class Quizzes	7%
Tutorial attendance	2%
Tutorial participation	5%
Preview Presentation	20%
Research Presentation 1	18%
TED Presentation	25%
Reflections Piece	20%

The Goals Piece is a summary of your goals for the course (font size 12, 1 inch margins, and 1 page max). What do you hope to achieve from the course? **Deadline: September 23rd by 5 pm in your tutorial Dropbox on Avenue.**

In-class quizzes will happen at the start of Monday class and will use iclickers. Quizzes will be on the previous week's lectures including the guest lecture and Dr. Obhi's lectures. Every student needs to purchase an iClicker and should bring it to each quiz date. iClickers can be purchased at the Campus Store and must be registered online with your name and a MacID (used to sign into AVE) to receive participation credit for your responses. Visit <http://www.bookstore.mcmaster.ca/textbooks/iclicker-faq.html> for more information.

Your final quiz mark will be calculated from all the quizzes that were held. If you miss a quiz, you will receive 0 for that week, no exceptions, and no make-ups.

If you forget to bring an iClicker to class, you will not be able to provide your answers. Hard copy responses will not be accepted (sorry!).

Tutorial attendance will be recorded and you will receive 2% if you attend 100% of tutorials. If you miss more than 3 tutorials, you will receive a 0 for this component.

Tutorial Timing and Location

 PNB 2XF3-T01 (10048)	Perspectives In Pnb (Tutorial)	21	Th 9:30AM - 10:20AM	BSB B138
 PNB 2XF3-T02 (10050)	Perspectives In Pnb (Tutorial)	23	Th 9:30AM - 10:20AM	BSB 120
 PNB 2XF3-T03 (10053)	Perspectives In Pnb (Tutorial)	23	Th 9:30AM - 10:20AM	BSB B140
 PNB 2XF3-T04 (10055)	Perspectives In Pnb (Tutorial)	23	Th 9:30AM - 10:20AM	BSB B142
 PNB 2XF3-T05 (10057)	Perspectives In Pnb (Tutorial)	23	Th 9:30AM - 10:20AM	BSB B154
 PNB 2XF3-T06 (10060)	Perspectives In Pnb (Tutorial)	23	Th 9:30AM - 10:20AM	BSB B155

Tutorial participation (5%): Your teaching assistant (TA) will expect active participation in tutorial to create a dynamic learning environment. If you have specific issues with this process you must speak with your TA as soon as possible. Every three weeks your TA will assign you a grade out of 10 using the rubric below (this will be after two weeks for the last two tutorials).

CONTRIBUTION TO TUTORIAL

	Excellent (5)	Good (4)	Fair (3)	Poor (2)
(3 of 3)				
(2 of 3)				
(1 of 3)				

EVALUATING CONTRIBUTIONS

Excellent	Frequent & stimulating
Good	Frequent & valuable
Fair	Occasional & Forced
Poor	Infrequent & Irrelevant

The Reflections Piece constitutes your reflections piece is a maximum 2 page personal written account of your journey through the course. You should reflect on things you learned and whether or not your goals for the course were achieved. In particular, you should mention any specific challenges you encountered and how you overcame them. You can write the piece in your own style to make it personal and meaningful. The format is single spaced 12 point Times New Roman font with 1-inch margins all round. **Deadline December 9th by 5PM in your tutorial DropBox via Avenue.**

Preview Presentation (20%) - See rubric on p. 5

One group (per tutorial) will be responsible for preparing remaining students for each upcoming guest lecture. Your 15-minute presentation will include:

1. Presenting a brief biography, research background, and interests of the guest speaker.
2. Presenting a synopsis of journal article readings assigned by the guest speaker.

It is also recommended that all students think about questions that could be asked to speakers on the day of their lectures.

Please refrain from contacting speakers to discuss their biographies

Individual Paper presentations (18% see rubric on p.6)

You will give a short (7 min) presentation of a research paper of your choice (chosen from any topic within PNB, broadly defined). After your presentation, you will lead a 3-minute class discussion on the paper. In your presentation you must:

1. Provide a succinct overview of the study including why it was done and what was done, along with the main results and the authors' interpretation
2. Provide at least 1 reason why you think the paper was "cool" and highlight what the most important contribution of the paper is
3. Provide at least 3 limitations of the work and suggest ways it could be improved
4. Lead a 3-minute class discussion on the paper

The 3-minute discussion means that contributions can't be long winded. Participants should focus on making clear, concise contributions. Not everyone will be able to comment on every presentation, but there should be ample time for some contribution for each member of the group at some point in each tutorial session.

TED Fact Checking Presentations (25%, see rubric on p. 7)

Your larger group project is to scrutinize your assigned TED talk in detail. You should use everything you've learned about effective presentations and critical appraisal when you give your talk. Links to TED talks will be posted ahead of your session, so there is no need to play the whole TED talk in your presentation. You may, however, play parts of it to illustrate specific points. Your TED talk fact checking should include two essential components:

1. The main thesis of the talk and the specific claims made
2. A critical appraisal of both the thesis (is it important and worthy of dissemination to the public) and the specific claims made. For each of the claims you identify,

- you should research the relevant background literature with great care and attention to detail and relay to the class whether the claim made is justifiable in the light of the extant research and whether there any inaccuracies
3. You should also identify whether the speaker has any biases or hidden or unhidden agendas and discuss whether these affected the information they presented, and how they presented it.

Notes on Group Work

Before you begin, think about how best to effectively complete course assignments that involve multiple people. Read the chapter on Effective group work in the course text. Have a discussion about strategies that have worked in the past and also about those that did not! Clearly communicate group expectations about: [1] method(s) of communication, [2] expected response time, [3] deadlines, and [4] what to do if a group member does not complete his/her assigned task(s).

Also think about possible tools your group could use to work efficiently and effectively. Some examples of online (free) resources are provided below.

1. Google Drive: <https://www.google.com/drive/>
2. Doodle: <http://doodle.com/?home>
3. Slack: <https://slack.com/>

Late assignments will be penalized 25% a day (weekends will count as one day). If you submit a McMaster Student Absence Form, please contact your tutorial TA directly.

All electronic copies should be submitted before 5 PM on the due date to your tutorial DROPBOX via AVENUE.

In this course we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically 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: <http://www.mcmaster.ca/academicintegrity>

Students are encouraged to visit the Centre for Student Development to improve their writing skills (MUSC B107 at x:24711). For information about the Writing Clinic and the Centre's other services, visit the Centre's website: <http://studentsuccess.mcmaster.ca/academic-skills/writing-support-services.html>

Please read the NEW MSAF policy here:

http://academiccalendars.romcmaster.ca/content.php?catoid=13&navoid=2208#Requests_for_Relief_for_Missed_Academic_Term_Work

Preview Presentation Rubric

Group Members				Date:	
Preview Title:				Score:	/48
Missing	Poor (Below Expectation)	Fair (Changes Needed)	Good (Minor Errors)	Excellent (Meets/Exceed Expectations)	
0	1	2	3	4	
Presentation Slides		Score	Comments		
Slides are well designed, do not tax perception, attention or memory of audience members					
Images used are relevant and engaging					
Slides and speakers are complementary and do not compete with one another					
Structure and Content		Score	Comments		
Presents biography of guest speaker					
Identifies rationale of assigned papers					
Demonstrates understanding of research hypothesis					
Conveys methodological approach and how this helps to address research question					
Describes main results and they support the hypothesis					
Draws audience to a clear conclusion of research findings					
Discussion Facilitation		Score	Comments		
Prepared good questions and provided good direction					
Created discussion equally across all group members					
Individual Speaking Style		Score	Comments		
Group member 1 – speaker was					

clear and easy to follow		
Group member 2 – speaker was clear and easy to follow		
Group member 3 – speaker was clear and easy to follow		

Individual Research Paper Presentation: Rubric

Group Member					Date:	
Presentation Title/paper reference they were presenting:					Score:	/44
Missing	Poor (Below Expectation)	Fair (Changes Needed)	Good (Minor Errors)	Excellent (Meets/Exceeds Expectation)		
0	1	2	3	4		
Presentation Slides		Score	Comments			
Slides are well designed, do not tax perception, attention or memory of audience members						
Images used are relevant and engaging						
Slides and speakers are complementary and do not compete with one another						
Structure and Content		Score	Comments			
Sets context of paper						
Describes central question addressed						
Describes method/experimental design employed						
Relays main results and author interpretations						
Provides 1 valid reason to like the paper and a clear statement of what the paper contributes						
Provides at least 3 limitations and suggestions for improvement						
Discussion Facilitation		Score	Comments			

Facilitates Discussion		
Prepared questions provide a solid foundation for discussion facilitation		
Individual Speaking Style	Score	Comments
Speaker was clear and easy to follow		

TED Talk Fact Checking Presentation Rubric

Group Members					Date:	
TED talk being critiqued:					Score:	/36
Missing	Poor (Below Expectation)	Fair (Changes Needed)	Good (Minor Errors)	Excellent (Meets/Exceed Expectations)		
0	1	2	3	4		
Presentation Slides		Score	Comments			
Slides are well designed, do not tax perception, attention or memory of audience members						
Images used are relevant and engaging						
Slides and speakers are complementary and do not compete with one another						
Structure and Content		Score	Comments			
Clear synopsis of the TED talk given						
Clear presentation of the claims made in the TED talk						
Clear statement about whether TED speaker likely had biases/conflict of interests and what they were						
Clear statements about research that was done to fact check and what the findings of this fact checking were						
Clear summary and conclusion						
Logical flow and structure of presentation						

Tentative Schedule of Topics (subject to change/modification)

DATE	Activity
Tuesday, September 6, 2016	Welcome + Intro! + organization of the McMaster Department + one other example
Thursday, September 8, 2016	Ayesha Khan Special Lecture - Context for the course
Monday, September 12, 2016	Skills for this course: Presentation skills overview
Tuesday, September 13, 2016	Peer review papers - the untold story
Thursday, September 15, 2016	The Research pipeline - Overview
Monday, September 19, 2016	Scientific Method
Tuesday, September 20, 2016	Overview of the PNB research ecosystem in Canada
Thursday, September 22, 2016	Guest lecture 1
Monday, September 26, 2016	Ethics in PNB research
Tuesday, September 27, 2016	PNB research techniques 2
Thursday, September 29, 2016	Guest lecture 2
Monday, October 3, 2016	Unpacking the pipeline 1: From questions to experiments
Tuesday, October 4, 2016	Unpacking the pipeline 2: Experiment implementation
Thursday, October 6, 2016	Guest lecture 3
Monday, October 10, 2016	BREAK
Tuesday, October 11, 2016	BREAK

Thursday, October 13, 2016	BREAK
Monday, October 17, 2016	Unpacking the pipeline 3: You've collected some data; now what?
Tuesday, October 18, 2016	Unpacking the pipeline 4: Dissemination 1; to the academy
Thursday, October 20, 2016	Guest lecture 4
Monday, October 24, 2016	Unpacking the pipeline 5: Dissemination 2; to the rest of the world
Tuesday, October 25, 2016	Dr Obhi away - NO CLASS
Thursday, October 27, 2016	Guest lecture 5
Monday, October 31, 2016	Consumption of PNB research fundamentals - getting signal from noise
Tuesday, November 1, 2016	Critical thinking in PNB: Further reflections on good science?
Thursday, November 3, 2016	Guest lecture 6
Monday, November 7, 2016	Traps in research: biases, dichotomies and ambition and temptation: the fall of famous scientists
Tuesday, November 8, 2016	The importance of replication and the current replication crisis
Thursday, November 10, 2016	Guest lecture 7
Monday, November 14, 2016	Critical communication 1: TED TALK FACT CHECK PRES
Tuesday, November 15, 2016	Critical communication 2: TED TALK FACT CHECK PRES
Thursday, November 17, 2016	Guest lecture 8
Monday, November 21, 2016	Critical communication 3: TED TALK FACT CHECK PRES
Tuesday, November 22, 2016	Critical communication 4: TED TALK FACT CHECK PRES
Thursday, November 24, 2016	Guest Lecture 9

Monday, November 28, 2016	Critical communication 5: TED TALK FACT CHECK PRES
Tuesday, November 29, 2016	Critical communication 6: TED TALK FACT CHECK PRES
Thursday, December 1, 2016	Guest Lecture 10
Monday, December 5, 2016	TBA
Tuesday, December 6, 2016	REVIEW