PNB 3XE3 – Inferential Statistics – Fall 2017 – Course Syllabus v.1a

NOTE: Please see the PNB-3XE3 AvenueToLearn page for UPDATED syllabus information!

Instructor

    Dr. Scott Watter   Office: Psychology, Room 408
    Phone: 905 525 9140 x.23031   Office Hours: by appointment

Contact

To contact the instructor, please EMAIL: watter@mcmaster.ca

- this is *by far* the quickest and most reliable way to contact me! Don't leave voicemail – just email me please. To get a quick response, and to make sure I see your email, please be sure to do the following:

1. Please put "3XE3" in the SUBJECT line of your email – I get a LOT of email every day, and this will help me notice yours and get back to you quickly.

2. Send email from your @mcmaster.ca account!!! - gmail, outlook, yahoo, etc. is often filtered as spam. It becomes VERY difficult to keep track of 100+ students via gmail accounts, when many usernames /aliases are ambiguous with respect to your personal identity at McMaster. Emails from non-mcmaster addresses may experience substantial delays in getting a response (if any), depending on how quickly we can figure out who you are.

Course Assistance

Please post any course-related questions to Avenue (click on PNB-3XE3 and go to the Discussion tab). Rather than emailing the professor or one of the individual TAs you should post your question on Avenue (unless it is of a personal nature). Others will likely have the same question and will benefit from seeing the answer. Your TAs will be monitoring the Avenue discussion board several times daily and you will get a fast response this way.

Teaching Assistants

    Please see the course Avenue To Learn site for contact information about your TAs this term.

Lectures & Lab/Tutorial Sections

Lectures: Monday, Wednesday & Thursday, 1:30pm-2:20pm, JHE-264.
Labs/Tutorials:

T01	Mon	9:30p-11:20a	JHE-329
T02	Thurs	9:30a-11:20a	GS-102
T03	Thurs	11:30a-1:20p	GS-101
T04	Tues	2:30p-4:20p	BSB-138
T05	Thurs	2:30p-4:20p	MDCL-1016

Attendance at lab/tutorial sessions is highly recommended. Lab/tutorial sessions will be TA-directed sessions involving hands-on problem solving and data analysis, both written (by hand) and computer-based (e.g., Excel, JASP, SPSS). Much of this work will include working through practice exam questions. You must attend YOUR OWN SCHEDULED lab session. If you need/want to change, please contact the instructor for permission first. We will take attendance in all labs.

PLEASE NOTE: You do not get any marks simply for attending labs or lectures. That said, you are STRONGLY ENCOURAGED to attend both; attending both labs and lectures is STRONGLY to your benefit in doing well in the course. Missing labs and lectures is NOT a reasonable excuse for requesting extra help in office hours, etc.

Avenue to Learn

In this course we will be using McMaster's online course content system, Avenue to Learn. 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.

The course website is available to registered students by logging into Avenue:
http://avenue.mcmaster.ca
You will need to learn how to use Avenue to access the course content, announcements, and discussions. Detailed instructions for logging in and using Avenue can be found on the website above.

Slides from the lectures will be available on Avenue as PDF files, **AFTER** the lectures.

Course Objectives

Students should gain a strong foundation in inferential statistics, including t-tests, Analysis of Variance, Chi-Square and Non-Parametric methods, assessing Power and choosing appropriate analysis methods. Students will understand the theory behind these methods, and be able to apply these methods correctly and appropriately to analyze data, and be able to interpret results.

Materials and Fees

Course textbook:
Fundamental Statistics for the Behavioral Sciences, by David C. Howell, published by Wadsworth.
Any of the 7th/8th/9th editions will be fine. Some supplementary readings may be added as the term progresses, and will be provided via Avenue. We will also use Dr David Howell's (the textbook author) very useful website for the book, which includes problem solutions, student guides, and lots of other useful material to help you in the course (these are all mostly the same):
http://www.uvm.edu/~dhowell/fundamentals9/
http://www.uvm.edu/~dhowell/fundamentals8/
http://www.uvm.edu/~dhowell/fundamentals7/

Software:
You do not need to purchase software for this course. We recommend the open-source JASP as an excellent introduction to user-friendly computer-based statistics: https://jasp-stats.org/   (Note that learning to use JASP is not a requirement of this course.)

MacID:
Please see http://www.mcmaster.ca/uts for information on obtaining and activating your MacID. You will need to activate your MacID to access AvenueToLearn, email, etc. for this course.

AvenueToLearn:
You should check the PNB-3XE3 discussion group on Avenue on a daily basis for questions and answers, and also check the Course Announcements section.

Assessment

There will be 3 exams: two midterm exams during class time, and a final exam in the final exam period. Exams may be a mixture of written and multiple choice questions, including questions where you need to work out mathematical statistical problems by hand, and then report (written) or choose the best alternative (multiple choice) based on your calculations. You may bring only a **McMaster approved calculator**, **pencils** and **erasers** suitable for multiple-choice scan sheets, and your **McMaster student ID card** to the exams. Sheets with formulae (if required) will be supplied for you. The grading scheme is described below. The instructor reserves the right to alter the evaluation scheme if necessary.

- Midterm 1, Midterm 2, and Midterm 3 (Qs as Part 2 of cumulative final): best 2 of 3, 25% each = 50%
- Final-Parts 1 & 2 (all course content, cumulative): 50%
(Note that questions from "Midterm 3" given as part of the cumulative final exam are graded both as a separate midterm score, AND contribute to the overall cumulative final exam score.)

Lab/Tutorial Work:
Attendance will be taken for lab sections. Each lab will involve some combination of written and/or computer based problem solving, guided by TAs. Please let us know ASAP if you can't make your lab session. You must attend **YOUR OWN** scheduled lab section! – prior permission is required to change! – there is not enough classroom space or TA support for extra people in scheduled labs.

Changes in course requirements

The university reserves 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 McMaster email and course websites weekly during the term and note any changes.

The professor reserves the right to change any and all course requirements if the need should arise. Any change in the course requirements will be posted on the webpage and emailed to the class, and the details will be announced in class. Any concerns about announced changes should be addressed with the professor as soon as the changes are announced.

Academic Integrity Policy

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.

Missed Assessment

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". Please note these regulations have changed beginning Fall 2015.
If you have any questions about the MSAF, please contact your Associate Dean's office.

All excuses for missed assessment must be submitted through the office of the Associate Dean of your faculty. It is then also **YOUR** responsibility to speak with your professor **as soon as possible**. Missed midterms (with approved absence) will sit a make-up exam (possibly of a different form, including written or in-person oral exam), or score zero; missed midterm exams will **NOT** be re-weighted to the final exam.

Schedule – Lectures, Topics, Labs & Exams

Week 1
    LECTURES Sept 6, 7: Introduction/Overview; Review; T-tests - one sample
    LAB: no lab this week - no tutorials scheduled
    READINGS: Ch 8, Ch 12 & Ch 13

Week 2
    LECTURES Sept 11, 13, 14: T-tests: Two dependent samples
    LAB: yes! – tutorial sections are ON this week (Lab 1)
    READINGS: Ch 8, Ch 13 & Ch 14

Week 3
    LECTURES Sept 18, 20, 21: T-tests: two independent samples
    LAB: yes! – tutorial sections are ON this week (Lab 2)
    READINGS: Ch 14 & Ch 15

Week 4
    LECTURES Sept 25, 27, 28: Power
    LAB: yes! – tutorial sections are ON this week (Lab 3)
    READINGS: Ch 15

Week 5
    *** MIDTERM ONE: MONDAY, OCTOBER 2 ***
        - Location of midterms To Be Announced – see Avenue for updates!
    LECTURES Oct 4, 5: Analysis of Variance – One Way ANOVA
    LAB: no lab this week - no tutorials scheduled
    READINGS: Ch 16

Week 6
    THANKSGIVING HOLIDAY & MID-TERM RECESS (Monday Oct 10 – Sat Oct 15)
    No lectures or labs this week.

Week 7
    LECTURES Oct 16, 18, 19: Factorial ANOVA
    LAB: yes! – tutorial sections are ON this week (Lab 4)
    READINGS: Ch 17

Week 8
        LECTURES Oct 23, 25, 26: Repeated Measures ANOVA
        LAB: yes! – tutorial sections are ON this week (Lab 5)
        READINGS: Ch 18

Week 9
        LECTURES Oct 30, Nov 1, 2: More ANOVA things.
        LAB: yes! – tutorial sections are ON this week (Lab 6)
        READINGS: Ch 16, 17, 18.

Week 10
        *** MIDTERM TWO: MONDAY, NOVEMBER 6 ***
                - Location of midterms To Be Announced – see Avenue for updates!
        LECTURE Nov 8, 9: Chi-Square Analysis
        (Psychonomic Society Conference this week – check Avenue for updated schedule!)
        LAB: no lab this week - no tutorials scheduled
        READINGS: Ch 19

Week 11
        LECTURES Nov 13, 15, 16: Chi-Square (continued); Non-Parametric Statistics
        LAB: yes! – tutorial sections are ON this week (Lab 7)
        READINGS: Ch 19 & 20

Week 12
        LECTURES Nov 20, 22, 23: Non-Parametric Statistics (continued)
        LAB: yes! – tutorial sections are ON this week (Lab 8)
        READINGS: Ch 20

Week 13
        LECTURES Nov 27, 29, 30: Statistics in Practice ; Review
        LAB: yes! – tutorial sections are ON this week (Lab 9)
        READINGS: no new readings this week

Week 14
        LECTURES Dec 4, 6: Review
        LAB: no lab this week – no tutorials scheduled
        READINGS: no new readings this week

Final Exam scheduled by the Registrar in the final exam period – to be scheduled.