PNB 3XE3 – Inferential Statistics – Spring 2016 – Course Syllabus v.1a

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

Instructor

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Contact

To contact the instructor, please EMAIL: manninfc@mcmaster.ca
This is *by far* the quickest and most reliable way to contact me!

ALSO: Please send email from your @mcmaster.ca account! - gmail, hotmail, yahoo, etc. is often filtered as spam. It becomes VERY difficult to keep track of so many students via gmail accounts, when many usernames /aliases are ambiguous with respect to your personal identity at McMaster. PLEASE help us, and correspond via your McMaster email address for this class. 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 instructor 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 instructor will be monitoring the Avenue discussion board several times daily and you will get a fast response this way.

Lectures & Lab/Tutorial Sections

>   Lectures: Tuesday and Thursday 9:30am-11:20am; BSB/B155
>   Tutorials: Tuesday and Thursday 11:30am-12:20pm; BSB/244

Attendance at lab/tutorial sessions is MANDATORY. You will get credit for attending lab/tutorial sessions and completing and submitting weekly lab work DURING your tutorial/lab session. Lab/tutorial sessions will involve hands-on problem solving and data analysis, both written (by hand) and computer-based (Excel and SPSS). See the weekly schedule below for details.

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.

Both the lecture and tutorial/lab components of the course are mandatory. Lab work is to be completed and submitted within weekly scheduled lab/tutorial time for your tutorial section.

Materials and Fees

Course textbook:
Fundamental Statistics for the Behavioral Sciences, by David C. Howell, published by Wadsworth. Either the new 8th edition or previous 7th edition is fine (you probably already own ed. 7e). 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:
http://www.uvm.edu/~dhowell/fundamentals8/
The 7th ed. site is mostly the same: http://www.uvm.edu/~dhowell/fundamentals7/

Software:
We will use Excel and SPSS, both of which are available in all of the computer labs. Assignments will be completed and submitted during the lab times so students do not need to purchase their own copy of the software.

MacID:
You will need to activate your MacID if you have not already done so, to work on the computers in the labs, and to receive course emails. See http://www.mcmaster.ca/uts for information on obtaining and activating your MacID.

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 and a final exam, all during class time. 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 Final-Part 1 (aka "Midterm 3"): best 2 of 3, 25% each = 50%
- Final-Part 2 (all course content, cumulative): 40%
- Lab/Tutorial Work: best 10 out of 11 labs, 1% each = 10%

Lab/Tutorial Work:
Attendance at labs/tutorials is mandatory, and attendance will be taken. Each lab will involve some combination of written and/or computer based problem solving, guided by TAs. Work must be completed and submitted during the corresponding lab time to earn credit for each session. Absence or submissions outside of lab time will earn grades of zero for that lab. There will be no make-up assignments. Please let us know ASAP if you can't make your lab session. You must attend **YOUR OWN** scheduled lab section! – prior permission required to change! – not enough TA support otherwise.

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 exams, assignments, etc. must be submitted through the office of the Associate Dean of your faculty. It is then also **YOUR** responsibility to speak with your instructor **as soon as possible** (within 48 hours of missing an exam). Missed lab sessions/work will count as zero for that lab (no make-ups). 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, Readings & Exams

Date	Topic	Readings
Tuesday May 2	Introduction/Overview; Review; T-tests: One sample	Chapter 12 and 13
Thursday May 5	T-tests: Two dependent samples	Chapter 13 and 14
Tuesday May 10	T-tests: Two independent samples	Chapter 14 and 15
Thursday May 12	Power	Chapter 15
Tuesday May 17	**Midterm 1** (for first hour) Analysis of Variance: One Way ANOVA	Chapter 16
Thursday May 19	ANOVA	Chapter 16
Tuesday May 24	Factorial ANOVA	Chapter 17
Thursday May 26	Repeated Measures ANOVA; more ANOVA things	Chapter 16
Tuesday May 31	ANOVA review	Chapter 18
Thursday June 2	**Midterm 2** (for first hour) Chi-Square Analysis	Chapter 19
Tuesday June 7	Non-Parametric Statistics	Chapter 20
Thursday June 9	Statistics in Practice	No new readings
Tuesday June 14	Review	No new readings
Thursday June 16	**Final Exam**	