

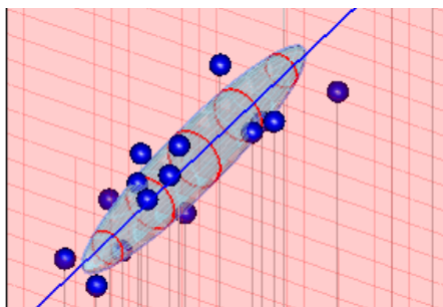
Course Description

NATS 1500: Statistics and Reasoning in Modern Society – Winter 2019

Georges Monette

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Simpson's Paradox in 3D

Doubt is not a pleasant condition, but certainty is absurd. — *Voltaire*

Course Description

Statistical reasoning is crucial for a critical understanding of the flood of information we face daily in modern society. This course examines the principles of statistical reasoning with an emphasis on applications to everyday decisions and turning information into understanding.

Credit Exclusions

Note that you cannot get credit for both NATS 1500 and for MATH 1532. This means that if you receive credit for one of these courses, you can't also get credit for the other.

Also you can't get credit for this course if you are concurrently enrolled in or if you already have credit for an introductory statistics course at York or if you have been granted a transfer credit for such a course. The full list of courses can be found at [this link](#) or at the end of this document.

Note, however, that you can get credit for one of these courses **after** having received credit for NATS 1500.

Course work and grades

- **Final exam: 35%** Two-hour exam during the final exam period.
- **Midterm test: 30%** One hour on Wednesday, February 13, during class time.
- **Assignments: 30%**
 - Combination of individual and team assignments. Assigned at most weekly but will skip some weeks. Most are done on Piazza.
- **Class and Piazza contributions: 5%**
 - Contribute actively in class and post questions and answers about course material on Piazza.

- Contribute to the course ‘wiki’: post links to something on the web that is interesting and relevant to our course and add a link to it on the wiki page with a brief summary of the content and relevance.

Textbook

- Jessica Utts and Robert F. Heckard (2016) *Mind on Statistics (5th ed)* ISBN: 9781285463186.
 - Available in the bookstore.

Getting Help

- Post questions and comments about the course material on Piazza. Post your questions to the entire class so everyone can benefit from the discussion and answer. Instructors (TAs and the professor) will monitor Piazza and participate if other students don’t have an answer.
- If you have a personal question for the instructor, you can post it on Piazza as a private posting to the instructor. This should only be used for personal questions that are of no interest to the rest of the class.
- You can ask your teammates or other classmates directly.
- You can see the instructor during office hours.
- You can contact tutors in the NATS-AID centre who are undergraduates who have done particularly well in NATS1500.
- You can contact the MATH-AID Centre that organizes sessions to provide mathematics help for Natural Science courses.
- You can see a tutor in the Stat Lab in S525 Ross.

Teams

Teams will be assigned on Piazza Friday, January 11. You will have a chance to meet your team members the following Monday.

You will be able to communicate with your team through Piazza by creating a post that is private to your team. You will also be able to contribute to group assignment by editing the same files.

Course policies

Missed deadlines

Late activities or projects are penalized 20% of the value of the activity for each day (or portion of a day) they are late.

Missed work

If you miss the term test with a suitably documented medical or compassionate reason, your mark will be imputed from your mark on the final exam.

Use of computers in class

You should bring your laptop to class **to use it for purposes directly related to the class** such as taking notes, annotating slides posted on the web or trying out commands in Rcmdr, which is free software we will use for the course. Be aware that some pedagogical research suggests that taking handwritten notes leads to deeper learning for most students. I don't think that this is true for all students and that is one reason why I would not consider requiring all students to forego the use of computers.

However, additional research also suggests that students sitting near students using computers are adversely affected, presumably by the distracting effect of a screen even if it is used for academic purposes.

Therefore, as a matter of courtesy to your fellow students, you should not use your computers for visually distracting activities.

Academic honesty

Familiarize yourself with the York University Senate Policy on Academic Honesty. Violations of academic honesty are treated very seriously in university. **Always cite your sources for any information you use. For example, provide links to websites you have visited to get information.**

Official York Calendar Description

This is the link to the calendar entry.

Course Description: Statistical reasoning is crucial for a critical understanding of the flood of information we face daily in modern society. This course examines the principles of statistical reasoning with an emphasis on applications to everyday decisions and turning information into understanding. Course credit exclusion: SC/MATH 1532 3.00. NCR: students who have passed or are taking HH/PSYC 2021 3.00, HH/PSYC 2022 3.00, SC/BIOL 2060 3.00, AP/ECON 2500 3.00, AP/ECON 3470 3.00, AP/ECON 3480 3.00, AP/ECON 3500 3.00, AP/GEOG 2420 3.00, SC/GEOG 2420 3.00, HH/KINE 2050 3.00, HH/KINE 3150 3.00, SC/MATH 1131 3.00, GL/MATH 1610 3.00, SC/MATH 2500 3.00, SC/MATH 2560 3.00, SC/MATH 2565 3.00, SC/MATH 2570 3.00, AP/POLS 3300 6.00, AP/SOCI 3030 6.00, GL/PSYC 2530 3.00, AP/ADMS 2310 3.00, SB/MGMT 1050 3.00.