

Course syllabus

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INF1005H and INF1006H - Social Data Analytics, Winter 2016

- Instructor: Professor Alex Hanna
- Instructor Email: alex.hanna@utoronto.ca
- Meetings: Thursday, 1 - 4 PM
- Location: BL 325
- Office hours: By appointment
- Course website: <https://github.com/INF1005-6H-SocialDataAnalytics>

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Course Description

Statement of Acknowledgment of Traditional Land

I wish to acknowledge this land on which the University of Toronto operates.

For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

Course Description

This course highlights the research in analysis for social data and builds skills to undertake those analysis. It is a lab-intensive course intended to build up data analytic skills for novice and intermediate researchers. We start with reviews of recent studies using "big data" which are primarily theoretical, including critiques of data analytics and concerns surrounding data ethics. We will also be learning a programming language -- Python -- and learn how to

scrape social data, store and collect it, run basic statistics, generate visuals, and create a report based on a project of interest.

This course will be substantive as well as hands on. In lecture, we will focus on both theoretical principles of social data analysis, on coding principles, and examples of social data analysis in the wild. This will also be lab-oriented, in which we focus on applying the knowledge learned in lecture and completing lab assignments.

Course Learning Outcomes

By the end of this course, you should be able to do the following:

1. *Identify* potential social data sources which you can use to answer social scientific questions
2. *Collect* data sources for use in analysis
3. *Transform* data into a usable format
4. *Analyze* data using standard social scientific methods
5. *Visualize* data in informative ways

Relationship to Program Learning Outcomes

Social Data Analytics and related fields are becoming a fundamental practice in information and social scientific disciplines, as well as industry and government. This course will help students understand fundamental concepts and practices in data analytics and handle new types of social data (Program Outcome 1). It will also aid them in developing skills for research in data analytic (Program Outcome 3), and help them understand applications of new technological developments in information and social sciences (Program Outcome 6).

Course Requirements and Grading

Attendance

Attendance in this class is mandatory. Classes will be the primary space where we cover materials on quizzes and the final exam. In addition, this is a *lab-intensive* course, which means that I expect you to learn primarily through writing the code yourself. For those reasons, it is important for you to attend class, learn the material, and get experience programming different types of exercises. Take advantage of lab time, since it will be the best place to get help from the teaching assistants and myself.

Assignments In addition to completing lab portions of this course, you will also complete two assignments to be completed on your own time. Details on the assignments will be posted to the course website.

Grading

- Attendance: 20%
- Assignment 1: 40%
- Assignment 2: 40%

Procedures and Rules

Instructor Availability

I usually answer email within 48 hours, Monday to Friday. I do not answer email after 5 PM. Lengthy discussions about assignments, readings, concepts and other issues should be held during scheduled appointments.

Writing Support

As stated in the iSchool's Grade Interpretation Guidelines, "work that is not well written and grammatically correct will not generally be considered eligible for a grade in the A range, regardless of its quality in other respects". With this in mind, please make use of the writing support provided to graduate students by the [SGS Office of English Language](#)

and [Writing Support](#). The services are designed to target the needs of both native and non-native speakers and all programs are free. Please consult the current [workshop schedule](#) for more information.

Academic integrity

Please consult the University's site on [Academic Integrity](#). The iSchool has a zero-tolerance policy on plagiarism as defined in section B.I.1.(d) of the [University's Code of Behaviour on Academic Matters](#). You should acquaint yourself with the Code. Please review the material in [Cite it Right](#) and if you require further clarification, consult the site [How Not to Plagiarize](#). [Cite it Right](#) covers relevant parts of the U of T Code of Behaviour on Academic Matters (1995). It is expected that all iSchool students take the [Cite it Right](#) workshop and the online quiz. Completion of the online [Cite it Right](#) quiz should be made prior to the second week of classes. To review and complete the workshop, visit the orientation portion of the [iSkills](#) site.

Accommodations

Students with diverse learning styles and needs are welcome in this course. If you have a disability or a health consideration that may require accommodations, please feel free to approach me and/or the [Accessibility Services Office](#) as soon as possible. The Accessibility Services staff are available by appointment to assess needs, provide referrals and arrange appropriate accommodations. The sooner you let them and I know your needs, the quicker we can assist you in achieving your learning goals in this course.

Schedule

- Week 1 (1005: 1/13, 1006: 3/2)
 - Introduction to the course
 - [Lab setup, introduction to Python](#)
- Week 2 (1005: 1/20, 1006: 3/9)
 - [Data cleaning](#)
- Week 3 (1005: 1/27, 1006: 3/16)
 - [Data manipulation](#)
- Week 4 (1005: 2/2, 1006: 3/23)
 - [Data modeling and visualisation](#)
 - Assignment 1 due
- Week 5 (1005: 2/9, 1006: 3/30)
 - [Web scraping and APIs](#)
- Week 6 (1005: 2/16, 1006: 4/6)
 - [Automated textual analysis and social network analysis](#)
 - Assignment 2 due

Additional resources

If you want to learn more about the tools we're using in this class, there's a good deal of documentation on the web.

- [Markdown](#)
 - [Markdown documentation](#)
- [Project Jupyter](#)
 - [Documentation](#)
 - [Keyboard Shortcuts](#)
- [Python](#)
 - [Python 3.5 documentation](#)
 - [Tutorial](#)
- [Pandas and NumPy](#)
 - [Pandas documentation](#)
 - [NumPy Tutorial](#)

