

DATA5000: Introduction to Data Science

Winter 2022

School of Computer Science

Carleton University

Description

The course covers topics relevant to data science: working with data, exploratory data analysis, data mining, machine learning. The concepts are illustrated using the R language. Students also receive hands-on tutorials to IBM Cognos Analytics, Tableau, etc. Students will be evaluated by their course projects. The course will be lecture-based and will also offer some hands-on tutorials. The project component will be flexible and will involve data collection, manipulation, and analysis.

Class Schedule

Lectures are held every Thursday from 11:35 AM to 2:25 PM via Zoom.

Reading week: February 22–25, 2022 (no classes).

Course Website

http://olgabaysal.com/teaching/winter22/data5000_w22.html

Instructors

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Teaching Assistant

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Course Schedule

- Thursday January 13, 2022 - Lecture 1: What is Data Science?/ Introduction to R.
- Thursday January 20, 2022 - Lecture 2: Working with Data.
- Thursday January 27, 2022 - Lecture 3: Visualization and Exploration.
- Thursday February 3, 2022 - Lecture 4: Data Mining and Machine Learning I.
- Thursday February 10, 2022 - Lecture 5: Machine Learning II.
- Thursday February 17, 2022 - Guest Lecture/Tutorial.
- Thursday February 24, 2022 - NO Class (Winter Break)
- Thursday March 03, 2022 - Guest Lecture/Tutorial.
- Thursday March 10, 2022 - Guest Lecture/Tutorial.
- Thursday March 17, 2022 - Guest Lecture/Tutorial.
- Thursday March 24, 2022 - Guest Lecture/Tutorial.
- Thursday March 31, 2022 - NO Class (in lieu of Data Day on March 29).
- Thursday April 07, 2022 - Project Presentations.

Evaluation

- Paper presentation: 10% (paper selection due January 20)
- Project proposal: 10% (due January 27, 11:59 PM)
- Presentation outline: 5% (due March 17, 11:59 PM)
- Poster presentation: 10% (March 29)
- Project presentation: 15% (April 7)
- Project report: 50% (due April 14, 11:59 PM)

University Policies

Student Academic Integrity Policy

Academic Integrity is everyone's business because academic dishonesty affects the quality of every Carleton degree. Each year students are caught in violation of academic integrity and found guilty of plagiarism and cheating. In many instances they could have avoided failing an assignment or a course simply by learning the proper rules of citation. See the [Academic Integrity](#) for more information.

Plagiarism

As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science. Standard penalty guidelines can be found here: <https://science.carleton.ca/academic-integrity/>.

Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the [PMC website](#) for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Pregnancy obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the [Equity Services](#) website.

Religious Obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the [Equity Services](#) website.

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support.