
Course Outline

Introduction to the creation, delivery and analysis of multimedia content in systems with mobile devices. Topics include analysis of webs of documents, social network analysis, recommender systems and problems of trust, reputation and influence in mobile e-commerce systems.

Course Information

Instructor Name

Dave McKenney

Instructor Emaildavid.mckenney@carleton.ca**Lecture/Lab Hours**

Mondays/Wednesdays

9:35am-11:25am

NI 4020

Course Webpage<https://brightspace.carleton.ca/>**Course Discord Server**

Information will be posted on Brightspace

Course Delivery

This course will be delivered using a mix of asynchronous and synchronous delivery methods (i.e., using a blended approach). Pre-recorded lectures will be shared online to deliver primary lecture content. This is a lab-based course in which the students will spend most of their time working on assigned problems. Scheduled lecture times will be used for question/answer, assistance with lab assignments, and lab demonstrations. Some online lab and assignment demonstrations will also be supported.

Course Description

The principal course objective is to have a student create and analyze networks of multimedia and text resources found in social networks. The motivation for this objective is that social networks have value for two reasons: the relationships manifest through the links between network participants and the content that these individuals create or introduce to the network. During the course a student can expect to: create a network of documents/media, analyze social networks as graphs with particular properties and analyze multimedia documents and content using information retrieval techniques. Furthermore, students will learn to analyze large bodies of information for the purpose of extraction of general properties.

Required Textbook

There will be no required textbook purchase for this course. Reading material for the course will be shared via Brightspace.

Assessment Scheme

Your performance in this course will be assessed using several components. These include assigned lab problems and two assignments. Students are allowed to complete each of these components either individually or as a team of two. If working with a partner, both students must fill out the partner declaration form on Brightspace. The grades you achieve on these components will be weighted using the following scheme:

| | |
|--------------------------------------|-----|
| Assigned Lab Problems (10 × 5% each) | 50% |
| Assignments (2 × 25% each) | 50% |

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Topics Covered

Below is a summary of topics the course may cover:

- RESTful applications: architecture, Node.js, Express
- Introduction to information retrieval: document structure and similarity
- Introduction to (social) network science: types of social network structures and their structural analysis
- Creation and analysis of webs of documents: web crawlers, pagerank
- Introduction to social network data analysis: tools and simple data mining techniques
- Recommender systems
- Problems in social networks: trust, reputation, influence and community detection
- Multimedia content: recognition and similarity

University Policies

Special Information for Pandemic Measures

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are a [number of actions you can take to lower your risk](#) and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's [symptom reporting protocols](#).

Masks: Carleton has paused the [COVID-19 Mask Policy](#), but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

Vaccines: Further, while proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Doctor's note or medical certificate: in effect for Fall 2022 term. In place of a doctor's note or medical certificate, students are advised to complete the [self-declaration form](#) available on the Registrar's Office website to request academic accommodation for missed course work including exams and assignments. Students should also discuss with the course instructor the required accommodations arising from the COVID-19 situation.

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Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties, which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar. For more information, including the Standard Penalty Guideline, see <https://science.carleton.ca/academic-integrity/>.

Plagiarism

As defined by the 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](#).

Unauthorized Co-operation or Collaboration

Senate policy states that “to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis”. Please refer to the course outline statement or the instructor concerning this issue.

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Center website](#).

Religious Obligation

Please contact your 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](#).

Pregnancy Obligation

Please contact your 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 where 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

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your

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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, [see the policy](#).

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP; or by email at scs.ug.advisor@cunet.carleton.ca. The undergraduate advisors can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisors will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and Writing Tutorial Services.

You must also read: <http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Additional Notes

Including the time spent viewing lectures, completing lab problems, and working on other course material, **students can expect to spend at least ten (10) hours per week on this course**. Students are asked to pose all questions related to course content using the official course Discord server. Students should not email the instructor directly unless the question contains confidential information or is of a personal nature.

The instructor will attempt to answer every student inquiry received within 48 hours of the time the message was received, unless the inquiry requests information that has already been addressed in the course Discord server or in the course outline. All emails regarding the course should be sent from your Carleton email account. To ensure that all announcements are received, **students are expected to check their Carleton email and course Dicsord on a daily basis**.

All materials created for this course (including, but not limited to, lecture notes, in-class examples, tutorial exercises, assignments, examinations, and posted solutions) remain the intellectual property of the instructor. These materials are intended for the personal and non-transferable use of students registered in the current offering of the course. **Reposting, reproducing, or redistributing any course materials, in part or in whole, without the written consent of the instructor, is strictly prohibited.**

Students are invited to discuss any concerns with the Instructor at the earliest opportunity.