THE UNIVERSITY OF BRITISH COLUMBIA

Department of Computer Science, Mathematics, Physics and Statistics
Okanagan Campus

DATA 534: Web and Cloud Computing (W2023 – T22)

Parallel and cloud computing architectures and program deployment.

Overview of course format

The course will be delivered in a flipped format with assigned reading/videos and in-class unrecorded discussions/exercises complemented by assignments.

Students need a quiet space, webcam, computer, and microphone to follow the course when delivery occurs online.

Schedule

Lecture: Tuesdays/Thursdays 11:00-12:30 (EME 1153)
Labs: Monday 1:30-3:30 pm (EME 1153)

Office Hours: Both TA and professor do not schedule office hours, but are available to book an appointment as necessary canvas or email.

Instructor

Mostafa Mohamed, SCI 200E, mostafa.mohamed@ubc.ca.

TA

Sofia Bahmutsky

Tentative course schedule.

See below a tentative schedule that specifies which classes will have preparatory work (blended) or not (in-class). This may evolve during the term as I finalize the lecture content and activities.

DATE	DAY	TOPIC	FORMAT
09-Jan-2024	**Tues**	**Introduction**	**In-Class**
11-Jan-2024	**Thurs**	**Internet: protocol, HTML, CSS, Web scrapping**	**In-Class**
16-Jan-2024	**Tues**	**APIs, JSON, and how the Internet works**	**In-Class**
18-Jan-2024	**Thurs**	**Internet and web infrastructure**	**In-Class**
23-Jan-2024	**Tues**	**Parallel Computing, Map Reduce**	**In-Class**
25-Jan-2024	**Thurs**	**Project's Time**	**Online**
30-Jan-2024	**Tues**	**Apache Spark, NoSQL**	**In-Class**
01-Feb-2024	**Thurs**	**Project's Time**	**Online**
06-Feb-2024	**Tues**	**Final Project Presentation**	**In-Class**
08-Feb-2024	**Thurs**	**Final Project Presentation**	**In-Class**

Lab Assignments

#	Topic
1	Web Scraping
2	API
3	AWS
4	Map Reduce

Marking and evaluation

Each week you will have a short quiz on the topics covered that week. All labs will be posted and submitted through Canvas.

Assessment	Weight	Deadline (where to submit)	Type
Labs (4)	50%	Sunday at Noon (Canvas)	Individual
Project Proposal	10%	Third Week (Canvas)	Group
Group Project	40%	Last week, In-class presentation	Group

Learning Outcomes

By the end of the course, students are expected to be able to:

- understand the basics of the Internet architecture
- select an appropriate platform for a computation

- compare various parallel and cloud computing platforms
- deploy programs using coarse parallelisms
- use parallel computing libraries in Python and R
- deploy a task on a cloud architecture.

Grievances and Complaints Procedures

A student who has a complaint related to this course should follow the procedures summarized below.

- The student should attempt to resolve the matter with the instructor first. Students may talk first to someone other than the instructor if they do not feel, for whatever reason, that they can directly approach the instructor.
- If the complaint is not resolved to the student's satisfaction, the student should contact the departmental chair Dr. Sylvie Desjardins at sylvie.desjardins@ubc.ca .

Your Responsibilities

Your responsibilities to this class and to your education as a whole include attendance and participation. You have a responsibility to help create a classroom environment where all may learn. At the most basic level, this means you will respect the other members of the class and the instructor and treat them with the courtesy you hope to receive in return. Inappropriate classroom behavior may include: disruption of the classroom atmosphere, engaging in non-class activities, talking on a cell-phone, inappropriate use of profanity in classroom discussion, use of abusive or disrespectful language toward the instructor, a student in the class, or about other individuals or groups.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating usually result in a failing grade or mark of zero on the assignment or in the course. Careful records are kept to monitor and prevent recidivism. A more detailed description of academic integrity, including the policies and procedures, may be found at (http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,54,111,959). If you have any questions about how academic integrity applies to this course, consult with the instructor.

Disability Assistance

If you require disability-related accommodations to meet the course objectives, please contact your Diversity Advisor of Disability Resources (see drc.questions@ubc.ca for their contact information). For more information about Disability Resources or academic accommodations, please visit the website at: http://students.ok.ubc.ca/drc/welcome.html

Equity, Human Rights, Discrimination and Harassment

UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from human rights based discrimination and harassment. If you require assistance related to an issue of equity, discrimination or harassment, please contact the Equity Office, your administrative head of unit, and/or your unit's equity representative. UBC Okanagan Equity Advisor: ph. 250-807-9291; email equity.ubco@ubc.ca Web: http://equity.ok.ubc.ca

Missing an Exam

Only students who miss the final exam for a reason that corresponds to the University of British Columbia Okanagan's policy on excused absences from examinations will be permitted to take the final exam at a later time. A make-up exam may have a question format different from the regular exam. If the reason for absence is satisfactory, the student's final exam will be worth more of the final grade. Further information on Academic Concession can be found under Policies and Regulation in the Okanagan Academic Calendar http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3,48,0,0

Reference Material

Refer to lecture slides, varies based on topics.

Acknowledgement

Many of the content of the course comes from the work done by my colleagues in previous instances of this course both in Vancouver and the Okanagan.