Data Systems Architecture – BDAT 1002

S2022

syllabus

Department

Meeting Time & Location

GCFlex Delivery (online or on-campus option).

Course Description

Data intensive applications present unique challenges for systems architects and require specialized technology solutions to support real time and deep data analytics. In this course students learn how to install, configure and administer common architecture solutions that are used to manage scalable and reliable distributed systems in real time or near real-time.

Resources

Course slides, in-class exercises, online resources.

Instructor

Dr. Saber Amini

Office Hours

Due to the shift to online learning, I do not have set office hours. Please email me (saber.amini@georgiancollege.ca) to setup a virtual session through Zoom.

Expectations for Success

Students are expected to watch videos posted each week and perform the hands-on exercises. As indicated by the enrolment requirements in the Big Data Analytics

syllabus Department

program, access to a laptop with proper specifications is mandatory and required for classroom exercises.

Evaluation

Assignments (In-class labs)	40%
Midterm Project	20%
Final Group Project	40%

Schedule of Activities

WEEK	LESSON	Assessments (release)
1	Introduction to Big Data • Hadoop Framework and Technologies	
2	Hadoop Distributed File System • Review of Linux Commands • Details of HDFS • Working with HDFS	In-class Lab 1
3	MapReduce • Sort and Shuffle phases • Scalability	In-class Lab 2
4	Apache Pig	In-class Lab 3
5	Apache Pig continued	
6	Apache Hive	Midterm Project
7	Apache Hive continued	
8	READING WEEK – No classes	
9	Apache Kafka	In-class Lab 4
10	Apache Sqoop	In-class Lab 5
11	Apache Flume	In-class Lab 6
12	File Types in Hadoop	In-class Lab 7
13	Elasticsearch, Kibana and Logstash	Final Group Project
14	Elasticsearch, Kibana and Logstash	
15	Hadoop Installation (Time permitting)	

The sequence and content of this syllabus may change due to unanticipated opportunities or challenges, or to accommodate the learning styles of the students.

Evaluations

Evaluations for all assessments will be returned within two (2) weeks of the submission deadline in line with Georgian College guidelines. Request for extensions must be made in a timely manner *prior* to the deadline and include appropriate documentation. There is a 10% per day penalty for late submissions of work up to 7 days after which the assessment will receive a grade of zero (0).

Any appeals of grades for assessments must be made within 10 business days (generally 14 days) after the marks have been posted. Once this deadline has passed, grades for that particular assessment are final and will not be changed unless there are extenuating circumstances.

Extra Help

The passing grade in all Big Data Analytics program courses is 60%. It is the responsibility of the student to periodically check their marks on Blackboard and ensure that they are on the right track to be successful in the course.

If you are struggling in the course, please reach out to me for help. You can also contact tutoring services (https://library.georgiancollege.ca/tutoring) and Student Success (StudentSuccess@GeorgianCollege.ca) for further assistance.

Email Response

Emails will be responded to within 2 business days (and generally much faster).

Due to the pivot to online teaching, there has been a substantial increase in the volume of emails that I receive every semester. As a result, I may miss your email and not respond to you within 2 business days. In such cases, please email me again as a reminder. Please only email me using my official Georgian College email saber.amini@georgiancollege.ca.

Emails sent to any other external email will not be responded to.

Academic Integrity

Students are expected to work on all assessment in this course (other than the group project) individually and submit their own work. Students are advised to familiarize themselves with the academic regulations at Georgian College by vising the following website:

https://www.georgiancollege.ca/ctlae/academic-integrity/

Student Code of Conduct

Students are expected abide by the Georgian College's Student Code of Conduct at all times including when interacting with me in emails. Please familiarize yourself with the provisions of the Student Code of Conduct by visiting the following website:

https://www.georgiancollege.ca/student-code-of-conduct/

Final Grades

Final grades in the course will be posted in a timely fashion after the final day of classes and an email announcement sent to you. You will have at least two (2) days to review your final grade. Any discrepancy in final grade marks must be communicated with me prior to the final grade submission deadline.

Any grade change requests after the final grade submission deadline will not be considered unless there are extenuating circumstances.