Computing Science Course Outlines 2020 Fall

CMPT 474 - D100 Web Systems Architecture

Instructor(s): Ouldooz Baghban Karimi

SFU Surrey

Calendar Objective/Description:

Web Systems Architecture

Instructor's Objectives:

Building systems for developing applications that run on a cloud is the main topic of discussion in this course, including definitions, enablers, opportunities, challenges, and practices in web-based systems architecture. Readings include research papers and industry articles. The course includes a number of practical projects and hands-on experiences. Learning about Azure, AWS, Google Cloud, Kubernetes, OpenStack, and building cloud-based systems is a part of this course.

Students must have access to a computer with stable internet connection. Some components of the course require real-time participation during the scheduled lecture and/or exam times.

Prerequisites:

see go.sfu.ca

Topics:

- Web-based Systems: Definitions, Opportunities, and Challenges
- Fundamentals: Data Center, Virtualization, Cloud
- Service Management and Orchestration
- Service Delivery, Measurement, and Pricing
- Application Architectures: N-Tier, Microservices
- Meeting User Expectations: Availability, Consistency, Resiliency, Scalability
- Meeting User Expectations: Requirements and Tradeoffs
- Meeting User Expectations: Security and Privacy

Grading:

Labs & Quizzes (20%) Assignments & Projects (40%) Midterm & Final (40%)

Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

Academic Honesty Statement:

Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies ( http://www.sfu.ca/policies/gazette/student.html ).