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).