CS 590 Spring 2020
SYLLABUS

Professor

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Purpose

This seminar investigates infrastructures, algorithms, technologies, and programming paradigms related to cloud cloud computing. Topics include: data center architectures and programmable networks; hybrid multi-cloud systems; edge computing; using cloud for IoT; virtualization, including containers and Virtual Machines; microservice and service mesh software architectures; high-level orchestration systems, including commercial examples, such as Kubernetes, Docker swarms, MESOS, AWS Lambda, and Google Lambda; hadoop and other algorithms for solving problems in a cloud environment; cloud security and privacy.

Grading Policy

Students will each prepare reports on various aspects of the topics above, and present their reports in class discussion. In addition, each student will experiment with local and public cloud systems, building microservices, deploying clusters, and using technologies such as Kubernetes to a cluster. The goal is understanding, and students will write essays on what they learned from the experiments. A grade will be assigned as follows:

5%	Participation in class discussions
40%	Essays describing what was learned from experiments using cloud facilities
45%	Reports on cloud platforms, programming paradigms, technologies, and facilities

Academic Integrity

Unless otherwise specified, all work submitted for the course is expected to be entirely your own, and not obtained from other students or external sources. Unauthorized collaboration and cheating of any kind will result in disciplinary action. If you have questions or concerns about collaboration and sharing, please consult the course instructor or teaching assistants for clarification. Further information can be found in the Purdue Department of Computer Science Academic Integrity Policy:

https://www.cs.purdue.edu/resources/academic_integrity.html

Changes For Emergencies

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be required by a revised semester calendar or other circumstances. If an emergency occurs, you can consult the CS web page for details