Special Topics: Distributed Computing
EEL 6935
Class Periods: T2-3, Th3
Location: CHE 0316
Academic Term: Spring 2020

Instructor:
Name: José Fortes
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Office Phone Number: 352-392-9265
Office Hours: T1PM, By appointment

Teaching Assistant/Peer Mentor/Supervised Teaching Student:
Please contact through the Canvas website
- Sridharan, Srivattsan (*Supervised Teaching Student)*

Course Description
This course introduces beginning graduate students and undergraduate senior students to key concepts and techniques underlying the design and engineering of distributed computing systems. Technical topics covered in this course include interprocess communication, remote invocation, distributed naming, distributed file systems, security, distributed clocks, process coordination, concurrency control, replication and fault-tolerance. Types of systems discussed in this course include computational clouds, grid computing, storage systems, peer-to-peer networks and Web services. 3 credits.

Course Pre-Requisites / Co-Requisites
EEL5737 or permission of instructor.

Course Objectives
Students who successfully complete the course will understand the fundamental issues involved in the design of distributed computing systems. Students are evaluated through homework assignments, exams, a multi-part project and class presentations.

Materials and Supply Fees
None.

Required Textbooks and Software
- Distributed Systems
- Maarten van Steen and Andrew S. Tanenbaum
- Edition 2, Version 01 (February 2017)
- ISBN 0-13-239227-5, ISBN-13: 978-1530281756, ISBN-10: 153028175X

Recommended Materials
- Distributed Systems
- Maarten van Steen and Andrew S. Tanenbaum
- Edition 3, Version 01 (February 2017)
- ISBN-13: 978-1543057386, ISBN-10: 1543057381

Course Schedule
Week 1:   Topic / Lecturer / Corresponding Book Chapters / Quizzes / Exams
Week 1:   Introduction to distributed computing (DC)/Chapter 1
Week 2:   DC architectures/Chapter 2
Week 3:   Types and foundations of communication in DC systems/Chapter 3

Week 4:	Communication principles and mechanisms/ Chapter 4
Week 5:	Naming in DC systems/ Chapter 5
Week 6:	Coordination algorithms/ Chapter 5
Week 7:	Consistency and replication/ Chapter 6
Week 8:	Exam and fault-tolerance basics/ Chapter 7
Week 9:	Fault-tolerant DC systems/ Chapter 7
Week 10:	Security in DC systems/ Chapter 8
Week 11:	Distributed storage
Week 13:	Introduction to cloud computing
Week 14:	Exam
Week 15:	Advanced topics and project reports

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance is expected from students. There are no explicit penalties for absence. Cell phones must be off or on mute. Additional class policy guidelines may be provided in a separate class policies document. Homeworks returned late or missed receive a grade reduction in proportion to the delay in submission, possibly resulting in a grade of zero. Unless communicated to the instructor in advance, missed exams receive a grade of zero. If communicated in advance, make-up exams must take place prior to original exam date. Make-up exams will take place only under exceptional documented circumstances. Excused absences must be in compliance with university policies in the Graduate Catalog (http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance) and require appropriate documentation.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Homework Sets (4)	100 each	25%
Exam 1	200	25%
Exam 2	200	25%
Project	200	25%
		100%

Grading Policy

Percent	Grade	Grade Points
85.0 - 100.0	A	4.00
82.0 - 84.9	A-	3.67
79.0 - 81.9	B+	3.33
76.0 – 78.9	B	3.00
73.0 - 75.9	B-	2.67
70.0 - 72.9	C+	2.33
67.0 – 69.9	C	2.00
64.0 - 66.9	C-	1.67
61.0 - 63.9	D+	1.33
64.0 - 60.9	D	1.00
60.0 - 63.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:
http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
• Your academic advisor or Graduate Program Coordinator
• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: https://registrar.ufl.edu/ferpa.html

Campus Resources:

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

E-learning technical suppor*t*, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. https://www.crc.ufl.edu/.

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus*:* https://care.dso.ufl.edu.

On-Line Students Complaints*:* http://www.distance.ufl.edu/student-complaint-process.