

University of Puerto Rico
 Mayagüez Campus
 College of Engineering
 Department of Electrical and Computer Engineering
 Ph.D. in Computing Information Sci Eng

Course Syllabus

1. General Information:	
Alpha-numeric codification: ICOM 6006 Course Title: Distributed Systems Number of credits: Contact Period: ej. 2 hours of lecture and two hour laboratory per week	
2. Course Description:	
English: Advanced topics in operating systems, with emphasis in distributed systems. Operating systems architectures, including conventional, network, distributed, and cooperative-autonomous systems. Issues in design, concurrent programming, client/server models, synchronizations, distributed process communication, time and resource scheduling, distributed/shared files and memory, and security.	
Spanish: Temas avanzados de sistemas operativos, con énfasis en sistemas distribuidos. Arquitecturas de sistemas operativos, incluyendo los sistemas convencionales, de archivos en red, distribuidos y autónomos-cooperativos. Temas de diseño, programación concurrente, modelos cliente/servidos, sincronización, comunicación entre procesos distribuidos, planificación automatizada de agendas y recursos en procesos, archivos y memoria distribuidos/compartidos y seguridad.	
3. Pre/Co-requisites and other requirements:	
ICOM 5007 or instructor consent	
4. Course Objectives:	
At the end of this course, students will have a very good understanding of concepts and techniques in distributed systems.	
5. Instructional Strategies:	
<input type="checkbox"/> conference <input type="checkbox"/> discussion <input type="checkbox"/> computation <input type="checkbox"/> laboratory <input type="checkbox"/> seminar with formal presentation <input type="checkbox"/> seminar without formal presentation <input type="checkbox"/> workshop <input type="checkbox"/> art workshop <input type="checkbox"/> practice <input type="checkbox"/> trip <input type="checkbox"/> thesis <input type="checkbox"/> special problems <input type="checkbox"/> tutoring <input type="checkbox"/> research <input type="checkbox"/> other, please specify:	
6. Minimum or Required Resources Available:	
S. Tanenbaum and M. van Steen, "Distributed Systems: Principles and Paradigms" Prentice Hall, 2002.	
7. Course time frame and thematic outline	
Outline	Contact Hours
Chapter 1: Introduction	3 hrs.
Chapter 2: Communication	6 hrs.
Chapter 3: Processes	3 hrs

Chapter 4: Naming	4 hrs.
Chapter 5: Synchronization	4 hrs.
Chapter 6: Consistency and Replication	4 hrs.
Chapter 7: Fault Tolerance	5 hrs.
Chapter 8: Security	4 hrs.
Chapter 9: Distributed Object-Based Systems	3 hrs.
Chapter 10: Distributed File Systems	3 hrs.
Chapter 11: Distributed Document-Based Systems	3 hrs.
Chapter 12: Distributed Coordination-Based Systems	3hrs.
Total hours: (equivalent to contact period)	

8. Grading System

Quantifiable (letters) Not Quantifiable

9. Evaluation Strategies

	Quantity	Percent
<input type="checkbox"/> Exams		
<input type="checkbox"/> Final Exam		
<input type="checkbox"/> Short Quizzes		
<input type="checkbox"/> Oral Reports		
<input type="checkbox"/> Monographies		
<input type="checkbox"/> Portfolio		
<input type="checkbox"/> Projects		
<input type="checkbox"/> Journals		
<input type="checkbox"/> Other, specify:		
TOTAL:		100%

10. Bibliography:

G. Coulouris, J. Dollimore, T. Kindberg, "Distributed systems: Concepts and Design." Addison Wesley. 3rd Edition, 2001.

M. Singhal and N. Shivaratri, "Advanced Concepts in Operating Systems." McGraw-Hill, 1996.

A. Siferschatz, G. Gagne, and P. B. Galvin, "Operating Systems Concepts." Wiley, 7th Edition 2005

11. According to Law 51

Students will identify themselves with the Institution and the instructor of the course for purposes of assessment (exams) accommodations. For more information please call the Student with Disabilities Office which is part of the Dean of Students office (Chemistry Building, room 019) at (787)265-3862 or (787)832-4040 extensions 3250 or 3258.