

 <b>FLORIDA ATLANTIC UNIVERSITY</b>	<b>COURSE CHANGE REQUEST</b> <b>Undergraduate Programs</b>		UUPC Approval <u>10-11-21</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	<b>Department</b> Electrical Engineering and Comp. Science <b>College</b> Engineering and Computer Science		
<b>Current Course Prefix and Number</b> COP 4703		<b>Current Course Title</b> Applied Database Systems	
<i>Syllabus must be attached for ANY changes to current course details. See <a href="#">Checklist</a>. Please consult and list departments that may be affected by the changes; attach documentation.</i>			
<b>Change title to:</b> Advanced Database Systems <b>Change prefix</b> From: _____ To: _____ <b>Change course number</b> From: _____ To: _____ <b>Change credits*</b> From: _____ To: _____ <b>Change grading</b> From: _____ To: _____ <b>Change WAC/Gordon Rule status**</b> Add <input type="checkbox"/> Remove <input type="checkbox"/> <b>Change General Education Requirements***</b> Add <input type="checkbox"/> Remove <input type="checkbox"/>		<b>Change description to:</b> Please see syllabus attached for new course description.  <b>Change prerequisites/minimum grades to:</b> COP 3540 with "C" or better  <b>Change corequisites to:</b>  <b>Change registration controls to:</b>  Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
<b>Effective Term/Year for Changes:</b> Spring 2022		<b>Terminate course? Effective Term/Year for Termination:</b>	
<b>Faculty Contact/Email/Phone</b> Hanqi Zhuang, zhuang@fau.edu, 561-297-3413			
<b>Approved by</b> Department Chair _____ College Curriculum Chair <u>Dan Meeroff</u> College Dean <u>Fred Bloetscher</u> UUPC Chair <u>Dan Meeroff</u> Undergraduate Studies Dean <u>Edward Pratt</u> UFS President _____ Provost _____		<b>Date</b> 9/23/2021 <u>10-4-21</u> <u>10-4-21</u> <u>10-11-21</u> <u>10-11-21</u> _____ _____	

Email this form and syllabus to [mjenning@fau.edu](mailto:mjenning@fau.edu) seven business days before the UUPC meeting.

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 Course Syllabus

<b>1. Course title/number, number of credit hours</b>	
Advanced Database Systems - COP 4703	3 credit hours
<b>2. Course prerequisites, corequisites, and where the course fits in the program of study</b>	
Prerequisites: COP 3540 with "C" or better	
<b>3. Course logistics</b>	
Term: TBD Class location and time:	
<b>4. Instructor contact information</b>	
Instructor's name Office address Office Hours Contact telephone number Email address	TBD
<b>5. TA contact information</b>	
TA's name Office address Office Hours Contact telephone number Email address	TBD
<b>6. Course description</b>	
An introduction to contemporary database designs and applications, with a focus on non-relational databases common in the era of big data. Key core topics include an introduction to NoSQL, aggregate data and distribution models, as well as column-oriented, key-value, document-oriented, and graph-oriented databases. Open-source NoSQL database programs will be highlighted to solidify concepts and to equip students with skills transferable beyond the classroom.	
<b>7. Course objectives/student learning outcomes/program outcomes</b>	
Course objectives	This course will provide students with an in-depth understanding of the theory, operation and application of modern database systems.
Student learning outcomes & relationship to ABET 1-7 outcomes	<ol style="list-style-type: none"> <li>1. An Ability to identify, formulate, and solve complex computing/engineering problems by applying principles of computing, engineering, science, and mathematics. (Problem solving)</li> <li>2. An ability to apply the computing/engineering design process to produce solutions that meet a given set of computing/engineering requirements with consideration for public health and safety, and global cultural, social, environmental, economic, and other factors as appropriate to the discipline. (Design)</li> <li>6. An ability to apply engineering/computer science theory and hardware/software development fundamentals to develop and conduct appropriate experimentation, analyze and interpret data, and use computing/engineering judgment to produce engineering/computing-based solutions/conclusions. (Experimentation and/or simulation)</li> </ol>

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<b>8. Course evaluation method</b>	
Homework - 45 % Projects - 50% Class Participation/Discussion 5%	
<b>9. Course grading scale</b>	
Grading Scale: 90 and above: "A", 87-89: "A-", 83-86: "B+", 80-82: "B", 77-79 : "B-", 73-76: "C+", 70-72: "C", 67-69: "C-", 63-66: "D+", 60-62: "D", 51-59: "D-", 50 and below: "F."	
<b>10. Policy on makeup tests, late work, and incompletes</b>	
<p><i>Makeup tests</i> are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student from participating in the exam.</p> <p><i>Late work</i> is not acceptable unless the instructor previously agreed.</p> <p><i>Incomplete grades</i> are against the policy of the department. Unless there is solid evidence of a medical or otherwise serious emergency situation incomplete grades will not be given.</p>	
<b>11. Special course requirements</b>	
TBD	
<b>12. Classroom etiquette policy</b>	
University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.	
<b>13. Attendance policy statement</b>	
<p>Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance.</p> <p>Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.</p>	
<b>14. Disability policy statement</b>	
In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses –	

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Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at [www.fau.edu/sas/](http://www.fau.edu/sas/).

**15. Counseling and Psychological Services (CAPS) Center**

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

**16. Code of Academic Integrity policy statement**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#). If your college has particular policies relating to cheating and plagiarism, state so here or provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

**17. Required texts/reading**

Testbook: NoSQL Distilled: A Brief Guide to the Emerging World of Polyglot Persistence. Raghu Prasad Sadalage and Martin Fowler. Addison-Wesley Professional, 2012, ISBN-13: 978-0321826626

**18. Supplementary/recommended readings**

TBD

**19. Course topical outline, including dates for exams/quizzes, papers, completion of reading**

- Review key concepts of relational databases
- Introduction to NoSQL
- Aggregate data models
- Distribution models
- Column-oriented databases (HBASE, Cassandra)
- Key-value databases (MongoDB, Riak)
- Document-oriented databases
- Graph-oriented databases (Neo4J)
- NoSQL development tools (Pig, Hive, Hadoop)