

# FLORIDA ATLANTIC UNIVERSITY™

UGPC APPROVAL \_\_\_\_\_  
 UFS APPROVAL \_\_\_\_\_  
 SCNS SUBMITTAL \_\_\_\_\_  
 CONFIRMED \_\_\_\_\_  
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 CATALOG \_\_\_\_\_

## Graduate Programs—NEW COURSE PROPOSAL<sup>1</sup>

DEPARTMENT: CEECS

COLLEGE: ENGINEERING AND COMPUTER SCIENCE

RECOMMENDED COURSE IDENTIFICATION:

PREFIX COT COURSE NUMBER 5316 LAB CODE (L or C) \_\_\_\_\_

(TO OBTAIN A COURSE NUMBER, CONTACT [MJENNING@FAU.EDU](mailto:MJENNING@FAU.EDU))

COMPLETE COURSE TITLE: SEMANTIC WEB PROGRAMMING



CREDITS<sup>2</sup>: 3

TEXTBOOK INFORMATION: 1. Hebel, J., Fisher, M., et al., Semantic Web Programming, Wiley, 2009

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR  SATISFACTORY/UNSATISFACTORY \_\_\_\_\_

COURSE DESCRIPTION, NO MORE THAN THREE LINES: Semantic web building blocks (standards, languages, and frameworks). Open source tools. Integrated flow with our examples. Build an infrastructure to develop personal and practical Apps. Open to majors in computer science and engineering (CSE) and others with consent of the instructor.

PREREQUISITES\*: Graduate or senior undergraduate student. Familiarity with Java.

COREQUISITES\*: NONE

REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)\*: GRADUATE AND SENIOR UNDERGRADUATES IN COMPUTER ENGINEERING AND COMPUTER SCIENCE (ENGINEERING). IF NOT, CONSENT OF INSTRUCTOR.

\* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: PHD OR GRADUATE FACULTY STANDING

Faculty contact, email and complete phone number:  
 Ravi Shankar, [shankar@fau.edu](mailto:shankar@fau.edu), 7-3470

Please consult and list departments that might be affected by the new course and attach comments. <sup>3</sup> NA

**Approved by:**

Department Chair: Nungun Erud  
 College Curriculum Chair: Walter  
 College Dean: [Signature]  
 UGPC Chair: [Signature]  
 Graduate College Dean: [Signature]  
 UFS President: \_\_\_\_\_  
 Provost: \_\_\_\_\_

**Date:**

11/27/13  
11/27/13  
12/2/13  
1/29/14  
1-29-14

1. Syllabus must be attached; see guidelines for requirements: [www.fau.edu/provost/files/course\\_syllabus.2011.pdf](http://www.fau.edu/provost/files/course_syllabus.2011.pdf)
2. Review Provost Memorandum: Definition of a Credit Hour [www.fau.edu/provost/files/Definition\\_Credit\\_Hour\\_Memo\\_2012.pdf](http://www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf)
3. Consent from affected departments (attach if necessary)

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

**Department of Computer and Electrical Engineering and Computer Science  
Florida Atlantic University  
Course Syllabus**

<b>1. Course title/number, number of credit hours</b>	
COT <del>5xxx</del> - Semantic Web Programming <b>5316</b>	3 credit hours
<b>2. Course prerequisites, corequisites, and where the course fits in the program of study</b>	
Prerequisites: Graduate or senior undergraduate student. Familiarity with Java.	
<b>3. Course logistics</b>	
<p><i>Term:</i> TBA  <i>Class location and time:</i> TBA  <b>Open Source tools:</b> You may use a subset of these based on your project needs: Eclipse IDE, Java SDK, Lucene, and Jena semantic web framework.  <b>Our Web Reference:</b> <a href="http://semanticweb.fau.edu/">http://semanticweb.fau.edu/</a> and slides at: <a href="http://csi.fau.edu/courses/semantic-web/">http://csi.fau.edu/courses/semantic-web/</a>            Students will use Github or Bitbucket for their project documentation.</p>	
<b>4. Instructor contact information</b>	
<i>Instructor's name</i> <i>Office address</i> <i>Office Hours</i> <i>Contact telephone number</i> <i>Email address</i>	Dr. R. Shankar 513 EE TBA 561-297-3470 shankar@fau.edu
<b>5. TA contact information: None</b>	
<b>6. Course description</b>	
Semantic web building blocks (standards, languages, and framework). Open source tools. Integrated flow with our examples. Build an infrastructure to develop personal and practical Apps. Open to majors in computer science and engineering (CSE) and others with consent of the instructor	
<b>7. Course objectives/student learning outcomes/program outcomes</b>	
<i>Course objectives</i>	Semantic Web, aptly labeled Web 3.0 by many, offers a powerful approach to gain mastery over the multitude of information and information services. Mr. Tim Berners-Lee (TBL), the visionary behind the World Wide Web, has said that "... if properly designed, the Semantic Web can assist in the evolution of human knowledge as a whole." The Semantic Web is a strategic technology that truly provides a solution with significant efficiency and productivity advantages, and has lucrative opportunities. SEC's XBRL and TBL's Linked Data are large scale successes. Such Apps can help the user to sort through vast information resources available on the Web, and to secure relevant and focused information in a cost and time efficient manner. The course will use an open source tool suite as the back bone to present an integrated flow. <b>Note:</b> The class lectures will cover practical aspects.
<b>8. Course evaluation method</b>	
Five Tool or Topic Assignments (choose): 40% Mid-term and Final Exam 30% Project (report, presentation and demo, with or	

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without code): 20% Semantic web community service (develop a tool, review, blog, etc.) 10%	
<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>There will be two exams in this course. The students will demonstrate their functioning systems at the end of the semester in front of a group of professors and/or industry professionals. During the semester, the same group of professors from different disciplines (engineering, linguistics, operational management, and urban planning) will review progress and advise. These other professors will help students in the course, as appropriate. Dr. Shankar is responsible for all the teaching and course project coordination.</i></p> <p><i>A grace period of 1 week is allowed for submission of assignments.</i></p> <p><i>A grade of incomplete will be assigned only in the case of solid evidence of medical or otherwise serious emergency situation.</i></p>	
<b>11. Special course requirements</b>	
Students will need access to a laptop	
<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. Disability policy statement</b>	
<p>In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca Raton campus, SU 133 (561) 297-3880 and follow all OSD procedures.</p> <p style="text-align: center;"><i>URL to be added.</i></p>	
<b>14. Honor code policy</b>	
<p>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 unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and place high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. See University Regulation 4.001 at <a href="http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf">www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf</a></p>	
<b>15. Required texts/reading</b>	
1. Hebel, J., Fisher, M., et al., Semantic Web Programming, Wiley, 2009	
<b>16. Supplementary/recommended readings</b>	

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

Topics to be covered (the number of 80 minute lectures is listed in parentheses):

Intro to Semantic Web: Build a semantic web App to gain exposure to standards and Jena (4 lectures)

Databases: Relational, XML, and Semantic (RDF, RDFS and OWL) approaches (4 lectures)

Project topics: Discussion and Definition (2 lectures)

Intelligent Web: Algorithms for Search and ranking with Lucene (8 lectures)

Rules, Querying, and Reasoning: SPARQL and Pellet (6 lectures)

Putting it together: Jena and Lucene (4 lectures)

Five Tool or Topic Assignments (choose): 40% - during the semester

Mid-term and Final Exam 30% - during the 7th and final week

Project (report, presentation and demo, with or without code): 20% - during the second half of the semester and end of the semester

Semantic web community service (develop a tool, review, blog, etc.) 10% - anytime