

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____	
	Department EECS College ENG&CS (To obtain a course number, contact erudolph@fau.edu)			
Prefix CNT Number 6167	(L = Lab Course; C = Combined Lecture/Lab; add if appropriate) Lab Code	Type of Course Lecture	Course Title Internet of Things	
Credits (Review Provost Memorandum) 3	Grading (Select One Option) Regular <input checked="" type="radio"/> Sat/UnSat <input type="radio"/>	Course Description (Syllabus must be attached; see Guidelines) This research-oriented course covers technical and operational aspects of IoT and discusses their recent advances and innovative applications.		
Effective Date (TERM & YEAR) Spring 2023				
Prerequisites None <i>Prerequisites, Corequisites and Registration Controls are enforced for all sections of course.</i>		Academic Service Learning (ASL) course <input type="checkbox"/> Academic Service Learning statement must be indicated in syllabus and approval attached to this form.		
		Corequisites None	Registration Controls (For example, Major, College, Level) Eng or CS Graduate Standing or approval by instructor	
Minimum qualifications needed to teach course: Member of the FAU graduate faculty and has a terminal degree in the subject area (or a closely related field.)		List textbook information in syllabus or here See attached syllabus		
Faculty Contact/Email/Phone mahgoubi@fau.edu		List/Attach comments from departments affected by new course		

Approved by Department Chair _____ College Curriculum Chair _____ College Dean <u>Mihaela Cardei</u> UGPC Chair <u>Mihaela Cardei</u> UGC Chair <u>Mihaela Cardei</u> Graduate College Dean _____ UFS President _____ Provost _____	Date 8/31/2022 <u>9/19/2022</u> 9/19/2022 Oct 13, 2022 Oct 13, 2022 Oct 17, 2022 _____ _____
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Email this form and syllabus to UGPC@fau.edu 10 days before the UGPC meeting.

CNT 6167 Internet of Things

WF 3:30 – 4:50 P.M.
3 credits

Fall 2022

Prof. Imad Mahgoub, Tecore Endowed Chair Professor

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TA name

Office

Office hours

Telephone

Email

Course Description

This research-oriented course covers technical and operational aspects of IoT and discusses their recent advances and innovative applications.

Instructional Method

A brief statement about the Instructional Method and the expectations for student attendance in the class will be included here. For a list of the Instructional Methods and their definitions, see https://www.fau.edu/registrar/courses/Instru_Method.php

Prerequisites/Corequisites

None.

Course Objectives/Student Learning Outcomes

Upon completion of this course, students will:

- Understand the concepts of Internet of Things (IoT)
- Understand the applications of IoT, associated implementation, and technical details
- Achieve competency to locate, understand, and critique current research in the field of IoT
- Achieve competency in understanding and conducting research in the field of IoT

Course Evaluation Method

Test 30%
Presentation 30%
Paper 35%

Course Grading Scale

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
- 55-59: D-
- 54 and below: F

Policy on Makeup Tests, Late Work, and Incompletes

Late submissions are not accepted. There is only one exam towards the end of the semester so make up exams are not allowed.

Adjustments to this policy may be allowed in extenuating circumstances.

Classroom Etiquette Policy

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.

Policy on the Recording of Lectures

Because of a new Florida Statute in 2021, the following model language is suggested for inclusion in course syllabi, at the discretion of individual faculty:

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

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. 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.

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/>

Disability Policy

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 – 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/.

Code of Academic Integrity

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](#).

Required Texts/Readings

There is no required textbook for this course.

Supplementary/Recommended Readings

Students will be assigned some of the latest research articles. Information about these articles will be provided in the class.

Course Topical Outline (tentative)

The following list represents a typical but tentative flow of class material.

- Week 1
 - Introduction to the basics of communication networks
- Week 2
 - Communication and networking aspects of Internet of Things (IoT)
 - Technical and operational aspects of IoT
- Week 3-4
 - Internet of Things and sensor networks
 - Internet of things and vehicular networks
- Week 5
 - Detailed discussion about the applications of IoT in healthcare, transportation, agriculture, energy, environment, smart cities, smart structures, smart situation management.
- Week 6-7
 - Possible guest lecture from industry – current industrial trends/projects related to IoT
- Week 8-9
 - Discussion on communication protocols related to IoT
- Week 10
 - Discussion on performance evaluation/modeling and simulation of IoT
- Week 11
 - Possible guest lecture from Industry – practical aspects, challenges, and opportunities in the field of IoT
 - Discussion on standards related to IoT
- Week 12-13
 - Discussion on IoT security
 - Societal implications of IoT
- Week 14
 - Discussion on open research aspects and future directions related to IoT and its applications
- Week 15
 - Presentations

Test: Friday, November 18, 2022

Paper: Wednesday, November 30, 2022