

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Undergraduate Programs		UUPC Approval <u>10-11-21</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Electrical Engineering and Computer Science College Engineering and Computer Science <i>(To obtain a course number, contact erudolph@fau.edu)</i>		
Prefix CDA Number 3203	<i>(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)</i> Lab Code	Type of Course <div style="border: 1px solid red; padding: 2px;">Lecture</div>	Course Title Computer Logic Design
Credits <i>(Review Provost Memorandum)</i> 3	Grading <i>(Select One Option)</i> Regular <input checked="" type="radio"/> Pass/Fail <input type="radio"/> Sat/UnSat <input type="radio"/>	Course Description <i>(Syllabus must be attached; Syllabus Checklist recommended; see Guidelines)</i> This course introduces Boolean algebra, logic gates. Students will use combinational logic and build a set of adders, leading up to an ALU. Students will learn sequential logic and build a set of registers, memory devices, and RAM. Course also introduces machine language and instruction sets. The students will learn the concepts by implementing a series of small projects using design tools as well as hardware description languages (HDLs).	
Effective Date <i>(TERM & YEAR)</i> Spring 2022	Prerequisites, with minimum grade* None		
		Corequisites	Registration Controls <i>(Major, College, Level)</i>
*Default minimum passing grade is D-. Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course			
WAC/Gordon Rule Course <input type="radio"/> Yes <input checked="" type="radio"/> No <small>WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines.</small>		Intellectual Foundations Program (General Education) Requirement <i>(Select One Option)</i> None <small>General Education criteria must be indicated in the syllabus and approval attached to the proposal. See GE Guidelines.</small>	
Minimum qualifications to teach course MS in CS, CE, EE			
Faculty Contact/Email/Phone Hanqi Zhuang, zhuang@fau.edu, 561973341		List/Attach comments from departments affected by new course	
Approved by 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 _____			Date 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 seven business days before the UUPC meeting.

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

1. Course title/number, number of credit hours	
Computer Logic Design – CDA 3203	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: None	
3. Course logistics	
Term: TBD Class location and time:	
4. Instructor contact information	
<i>Instructor's name</i>	Hari Kalva
<i>Office address</i>	EE96, Room 440
<i>Office Hours</i>	T 3:00-5:00 pm
<i>Contact telephone number</i>	561-297-0511
<i>Email address</i>	hkalva@fau.edu
5. TA contact information	
<i>TA's name</i>	TBD
<i>Office address</i>	
<i>Office Hours</i>	
<i>Contact telephone number</i>	
<i>Email address</i>	
6. Course description	
This course introduces Boolean algebra, logic gates. Students will use combinational logic and build a set of adders, leading up to an ALU. Students will learn sequential logic and build a set of registers, memory devices, and RAM. Course also introduces machine language and instruction sets. The students will learn the concepts by implementing a series of small projects using design tools as well as hardware description languages (HDLs).	
7. Course objectives/student learning outcomes/program outcomes	
<i>Course objectives</i>	The students will learn Boolean algebra and fundamental components of computer systems. Students will understand how computer processors work and understand how they can support higher level functions required by software systems.
<i>Student learning outcomes & relationship to ABET 1-7 outcomes</i>	TBD
8. Course evaluation method	
<ul style="list-style-type: none"> • Assignments 25% • Midterm 25% • Simulations 25% • Final exam 25% 	

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

9. Course grading scale

A	93 – 100
A-	90 – 92
B+	87 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72
D+	67 – 69
D	63 – 66
D-	60 – 62
F	59 – 0

10. Policy on makeup tests, late work, and incompletes

Late work is not accepted without a prior approval from the instructor. A penalty of 15% applies to all late submissions.

Incomplete ("I") are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances.

11. Special course requirements

N/A

12. Classroom etiquette policy

To enhance and maintain a productive atmosphere for learning, personal communication devices such as cell phones are to be disabled during 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.

13. Attendance policy statement

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. After two full weeks

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

of face-to-face instruction with consecutive 'no show' of any students in person in the classroom, the modality of this course section may be changed to remote instruction only at the discretion of the university.

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 grade as a direct result of such absence.

14. Disability policy statement

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/.

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](#).

17. Required texts/reading

The Elements of Computing Systems, Second Edition By Noam Nisan and Shimon Schocken

18. Supplementary/recommended readings

TBD

19. Course topical outline (and associated readings)

- Boolean algebra and logic gates
- Binary Systems and Codes, Binary logic, and logic gates
- Analysis of Combinational Circuits including basic arithmetic circuits
- Analysis of Sequential Circuits including registers and counters

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

- Finite State Machine (FSM)
- Memory devices and RAM
- Intro to machine language programming
- Intro to programmable logic design and FPGAs