

Department of Electrical & Computer Engineering Techn
Division of Engineering, Computer Programming, & Tech
WestCampusBuilding 9, Room 140 (407) 582-1902/1903

VALENCIA

<http://www.valenciacollege.edu/west/engineering/>
Spring,2017 2016

SESSION-

Course Syllabus: CET 2112C–Digital Systems 1– CRN 21822 (3 credits)

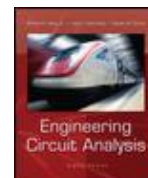
Course Description: Introduces principles and techniques required for development of analysis skills in digital circuitry. Topics include computer number systems; digital codes and parity error detection methods; Boolean algebra; Karnaugh mapping; logic gate minimization techniques; arithmetic operations via combination logic gate minimization techniques; arithmetic operations via combination logic; flip-flop timing and synchronization circuits; and pulse waveform generation. Laboratory projects provide hands-on experience in use of laboratory instruments and in techniques for measurement and interpretation of digital data. (Special Fee: \$58.00)

Prerequisite: EET 1214C and MTB 1329C or MAC 1105

Class Time and Location: Wednesday: 5:30 pm to 9:00 pm Room # 11 - 246

Textbook: *Digital Systems Principles & Applications* by Tocci, 11th Edition, ISBN: 0-13-510382-7

Lab Manual(s): *Digital Systems Laboratory Manual* by Dr. Nasser Hedayat



Library Resources: Library at the West campus has put together dedicated res for the BSECET program that can be accessed through

<http://libguides.valenciacollege.edu/bsecet>

Professor's Information:

Name: Professor Arif Rafay

Office: West Campus, Bldg. 11 – Room 253

Phone: (cell) 407.443.1023

Email: arafay@mail.valenciacollege.edu

Office hours:

Day	Time	Location
Monday	12:00 noon to 12:50pm	Room 11 - 253
Tuesday	1:00 pm to 5:00 pm	Room 11 - 253
Wednesday	11:00 am to 12:50pm	Room 11 - 253
Thursday	11:00 am to 12:50pm	Room 11 - 253
Friday	8:00 am to 12:00 noon	Virtual(email, phone)

Student Performance Assessment:

Homework Assignments	10%
Lab Reports¹	30%
Exam 1²	20%
Exam 2²	20%
Final Exam	20%

A	90-100%
B	80 - 89%
C	70 – 79%
D	60 – 69%
F	< 60%

¹Each Lab report weighs 100 points that include performance plus presentation

² No make-up exams and quizzes will be given

Learning Outcomes:

At the completion of this course, student will be able to:

- (i) Demonstrate an in-depth understanding of basic circuit laws and circuit analysis methods.
- (ii) Demonstrate an understanding of transient behavior of electrical circuits.
- (iii) Demonstrate an in-depth understanding of AC sinusoidal circuit analysis
- (iv)** Demonstrate an understanding of response of electrical networks in complex frequency plane.

Note:

- It is the student's responsibility to be in class and take notes. Exams will cover all material covered *in class*, labs, and homework.
- Each lab report has performance grade (50 points) and writing grade (50 points).
- No Late report will be accepted.
- Homework should be turned in at the beginning of class.
- Quizzes will be given at the beginning of the class. Arrive at proper time not to miss any quiz. No make-up quizzes will be given.
- Pre-labs should be done before the beginning of class else you will not be able to finish the lab as lab calculations come from pre-labs. Also, if you do any pre-lab after lab is started, you will not receive any points for that pre-lab.

Important Dates:

Monday, January 16 MLK Birthday – **College is closed.**

Wed, Jan 20 – Fri Jan 29 **No Show Reporting Period**

Mon. – Sun., Mar. 13 – 17 **Spring Break**

Friday, March 31, 2017 **Withdrawal deadline for “W” Grade**

Mon. – Sun., Apr. 24 –Apr 28 Final Exams Week

Tuesday, May 2 Final Grades Viewable in ATLAS

Tentative Schedule: Home Work assignments will be provided by the professor

Date	Lecture Material/Chapter	Lab Experiment	Assignment Due
01/11	Chapter 2 Syllabus & course overview. Introductory concepts, Number systems & codes, Logic gates, Boolean algebra	None	None
01/18	Chapter 3 Boolean algebra	Exp A1	None
01/25	Chapter 2/Chapter4 Boolean algebra, Combinational circuits	Exp 1	Pre-lab for Exp 1 and
02/01	Chapter 4 Combinational circuits	Exp 2	Pre-lab for Exp 2 and Exp 1 Lab Report
02/08	Chapter 4 Combinational circuits	Exp 3	Pre-lab for Exp 3, Exp 2 Lab Report

02/15	Exam 1		Number Systems, Boolean Algebra, Combinational Logic
02/22	Flip Flops and related devices	Exp 4	Pre-lab for Exp 4, Exp 3 Lab Report
03/01	Flip Flops and related devices	Exp 5	Pre-lab for Exp 5 and Exp 4 Lab Report
03/08	Chapter 5 Flip Flops and related devices	Exp 5	
03/15	Spring Break		
03/22	Chapter 5 Flip Flops and related devices	Exp 6	Pre-lab for Exp 6 and Exp 5 Lab Report
03/29	Chapter 6 Digital Arithmetic	Exp 7	Pre-lab for Exp 7, Exp 6 Lab Report
04/05	Chapter 6/ Chapter 7 Digital Arithmetic, Counters Registers	Exp 8	Pre-lab for Exp 8, Exp 7 Lab Report
04/12	Exam 2		Flip Flops, Digital Arithmetic
04/19	Chapter 7 Counters and Registers	Exp 9	Pre-lab for Exp 9 and Exp 8 Lab Report
04/26	Final Exam		

DISCLAIMER: Any Changes in the policy and/or schedule of this syllabus may be made at anytime during the semester at the discretion of the instructor.

Rules and Comments:

- ❑ **Absolutely No food or drinks in the classroom or laboratory**
- ❑ No make-up exams are permitted unless **prior arrangement** with the instructor has been made and **approved**.
- ❑ **No Lab will be accepted if performed in the open lab unless prior approval by the instructor**
- ❑ There are no “dropped” exam scores.
- ❑ Each student is responsible for his or her own work. All exams and graded assignments are to be exclusively your own work, unless you receive instructions to collaborate. Using any human, written, electronic, or other resource in any manner not explicitly authorized by the instructor will result in a grade of zero on the exam(s) or assignment(s) involved.
- ❑ You are expected to be in class **on time**, and to remain in class for the entire period unless permission to leave early has been granted by the instructor. It is disruptive to arrive or depart while class is in session.
- ❑ Absences are excused solely at the discretion of the instructor, who may require that you prove the existence of extenuating circumstances before excusing any absence(s).
- ❑ **More than three unexcused lecture absences could result in a grade of “F” for the course.**
- ❑ It is **your responsibility to withdraw from the course**. Any withdrawal request after the withdraw deadline may not be granted.
- ❑ It is the student’s responsibility to keep track of their status and performance (i.e., quizzes, and exam grades) in class. Student should be able to average their grades based upon the grading policy stated in this syllabus.
- ❑ **You are encouraged to ask relevant questions during class.**
- ❑ Your attitude will greatly affect your ability to succeed in this course. It will also affect your classmates’ attitudes should you choose to participate in class discussions. Always consider this fact carefully before you speak or act. If your comments or actions in class are deemed by the instructor to adversely affect other students’ attitudes, they are considered disruptive.
- ❑ **Grades will not be disclosed over the telephone or via e-mail, except through your Atlas account.**
- ❑ **Cheating or any act of academic dishonesty is prohibited.** Any student caught

cheating, the instructor has the right to withdraw the student from the class or result in a failing grade.

- ❑ If you want to record any lecture using audio or video devices, you must take permission from the instructor and fellow students
- ❑ **Beepers** and **Cellular phones** must be turned **OFF** or put on **silent mode** during class.
- ❑ **Disruptive Behavior:** Any student engaging in disruptive behavior will be advised on the first offense and will be **dropped** from the course on the second offense.

Student Core Competencies:

The faculty of Valencia College has established four Core Competencies that describe the learning outcomes for a Valencia graduate. They are: THINK, VALUE, COMMUNICATE, and ACT. These general competencies can be applied in many contexts and must be developed over a lifetime. They specify how learning can be expressed and assessed in practice. They enable students and faculty to set learning goals and assess learning within and across the many disciplines of human inquiry. Use the descriptions and examples of academic work for each to measure your own learning outcomes. Samples of the academic work are great additions to your Learning Portfolio. For further information on student core competencies please go to www.valenciacollege.edu/competencies.

Expected Student Conduct:

Valencia College is dedicated not only to the advancement of knowledge and learning but is concerned with the development of responsible personal and social conduct. By enrolling at Valencia College, a student assumes the responsibility for becoming familiar with and abiding by the general rules of conduct. The primary responsibility for managing the classroom environment rests with the faculty. Students who engage in any prohibited or unlawful acts that result in the disruption of a class may be directed by the faculty member to leave the class. Violation of any classroom or Valencia's rules may lead to disciplinary action up to and including expulsion from Valencia. Disciplinary action could include being withdrawn from class, disciplinary warning, probation, suspension, expulsion, or other appropriate and authorized actions. You will find the Student Code of Conduct in the current Valencia Student Handbook

Students with disabilities:

Students who qualify for academic accommodations must provide a letter from the Office for Students with Disabilities (OSD) and discuss specific needs with the professor, preferably during the first two weeks of class. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities (West Campus SSB 102, ext. 1523).