# http://www.valenciacollege.edu/west/engineering/

Course Syllabus for MTB 1329C – Mathematics for Electronics - CRN 12682 – 3 Credit Hours

**Course Description:** No prior electronics background is required. Students will be introduced to basic arithmetic operations as well as selected prealgebra topics, number notation and operation, quantities and units of measurement, algebra fundamentals, and solving equations. This applications- oriented course emphasizes mathematical techniques used in DC/AC circuit analysis. Beginning with Ohm's and Kirchhoff's Law to analyze basic circuits, the student learns circuit simplifications and solution techniques for more complex configurations. Phasors and their application in AC circuits will also be covered. Some of these applications will be demonstrated to students via a lab environment.

## Prerequisites: None

## Class Time and Location: Thursday, 5:30 PM – 8:15 PM, University Center (Building 11), Room 236

**Textbook:** *Mathematics Applied to Electronics,* by Harter & Beitzel

**Required Materials:** Scientific calculator (such as a <u>Casio fx-115W Plus</u> or the equivalent), pencil or erasable pen, and graph paper

#### **Professor's Information:**

Instructor:	Dr. Hall
Office:	West Campus, University Center-254
Phone:	(Office) 407.582.1963
Email:	dhall@valenciacollege.edu
Office Hours:	Posted online and outside my office door

#### Student Performance Assessment:

Attendance and	d In Class Participation	<b>12%</b>
Exams		72%
Final Exam		16%

A: 90% - 100% B: 80% - <90% C: 70% - <80% D: 60% - <70% F: < 60%

Important Dates:	
Monday, September 3 <sup>rd</sup>	Labor Day - Credit Classes Do Not Meet
Tuesday, September 4 <sup>th</sup>	Drop/Refund Deadline
Thursday, October 11 <sup>th</sup>	College Night - Credit Classes Do Not Meet
Friday, November 2 <sup>nd</sup>	Withdrawal deadline for "W" Grade
Wednesday-Sunday, November 21 <sup>st</sup> -25 <sup>th</sup>	Thanksgiving Holidays - Credit Classes Do Not Meet
Monday-Sunday, December 10 <sup>th</sup> -16 <sup>th</sup>	Final Exams Week

**DISCLAIMER:** Changes in this syllabus may be made at anytime at the instructor's discretion.

# SESSION: Fall 2012



Date	I ♥ Math Course Activities	Weekly Math Fun
1 [08/30]	<ul> <li>Introductions</li> <li>Course Overview</li> <li>Chapter 2: Number Notation and Operations</li> </ul>	
2 [09/06]	<ul> <li>Exam?</li> <li>Chapter 3: Quantities &amp; Units of Measurement</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 2 Exam Preparation Problems
3 [09/13]	<ul> <li>Exam?</li> <li>Chapter 4: Algebra Fundamentals I: Review Rules of Operation and Arithmetic Operations</li> <li>Chapter 5: Algebra Fundamentals II: Definition of a Variable and Factoring</li> </ul>	Suggested Math Fun to Complete Before Class Today: > CH 3 Exam Preparation Problems
4 [09/20]	<ul> <li>Exam?</li> <li>Chapter 6: Solving Equations</li> <li>Chapter 7: Applying Mathematics to Electrical Circuits</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 4 and CH 5 Exam Preparation Problems
5 [09/27]	<ul> <li>Exam?</li> <li>Chapter 8: Fractions</li> <li>Chapter 9: Equations containing Fractions</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 6 and CH 7 Exam Preparation Problems
6 [10/04]	<ul> <li>Exam?</li> <li>Chapter 10: Applying Fractions to</li> </ul>	Suggested Math Fun to Complete Before Class Today:

	Electrical Circuits	
7 [10/11]	College Night - Credit Classes Do Not Meet	
8 [10/18]	<ul> <li>Exam?</li> <li>Chapter 11: Special Products, Factoring, and Equations</li> <li>Chapter 14: Graphs and Graphing Techniques</li> </ul>	Suggested Math Fun to Complete Before Class Today: ➢ CH 10 Exam Preparation Problems
9 [10/25]	<ul> <li>Exam?</li> <li>Chapter 16: Solving Systems of Linear Equations</li> </ul>	Suggested Math Fun to Complete Before Class Today:
10 [11/01]	<ul> <li>Exam?</li> <li>Chapter 19: Exponents, Radicals, and Equations</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 16 Exam Preparation Problems
11 [11/08]	<ul> <li>Exam?</li> <li>Chapter 20: Logarithmic and Exponential Functions</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 19 Exam Preparation Problems
12 [11/15]	<ul> <li>Exam?</li> <li>Chapter 21: The Decibel</li> </ul>	Suggested Math Fun to Complete Before Class Today:
13 [11/22]	Thanksgivi	ng Holidays - Credit Classes Do Not Meet
14 [11/29]	<ul> <li>Exam?</li> <li>Chapter 22: Angles and Triangles</li> <li>Chapter 23: Circular Functions</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 21 Exam Preparation Problems
15 [12/06]	<ul> <li>Exam?</li> <li>Chapter 24: Vectors and Phasors</li> <li>Chapter 25: The Mathematics of</li> </ul>	Suggested Math Fun to Complete Before Class Today: CH 22 and CH 23 Exam Preparation Problems

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	Phasors	
16 [12/13]	<ul> <li>Final Exam (Comprehensive)</li> </ul>	<ul> <li>Suggested Math Fun to Complete Before Class Today:</li> <li>➤ CH 24 and CH 25 Exam Preparation Problems</li> <li>Due Online Before Class Today:</li> <li>➤ All Grade Enhancement Opportunities         <ul> <li>a.k.a. Extra Credit - Not Required</li> <li>Submit within our online Blackboard Learn course under Assignments</li> </ul> </li> </ul>
		[See Blackboard Learn for more details]

Chapter 2:
Exercise sections: 21, 22 (odd only)
Chapter 3:
Exercise sections: 3, 5, 6 (odd onlyskip #27 in exercise section 6)
Chapter 4:
Exercise sections: 6, 7 (odd onlyskip #37 in exercise section 7)
Chapter 5:
Exercise sections: 8, 9 (odd only)
Chapter 6:
Exercise sections: 10-12 (odd only)
Chapter 7:
Exercise sections: 5, 6 (odd only)
Chapter 8:
Exercise sections: 12, 13 (odd only)
Chapter 9:
Exercise sections: 1, 2, 4 (odd only)
Chapter 10:
Exercise sections: 2, 4, 6, 7 (odd only)
Chapter 11:
Exercise sections: 5, 8 (odd only)
Chapter 14:
Exercise sections: 3, 4 (odd only)
Chapter 16:
Exercise sections: 1-5 (odd only)
Chapter 19:
Exercise sections: 5, 6 (odd only)
Chapter 20:
Exercise sections: 9, 10 (odd only)
Chapter 21:
Exercise sections: 1, 2 (odd only)
Chapter 22:
Exercise sections: 4, 6, 7 (odd only)
Chapter 23:
Exercise sections: 1, 2, 7 (odd only)
Chapter 24:
Exercise sections: 4, 6 (odd only)
Chapter 25:
Exercise sections: 3, 4 (odd only)

## **Rules and Comments:**

- Students are strongly encouraged to read the Valencia policy Manual <u>Student Code of</u> <u>Conduct</u> and <u>Computer Acceptable Usage</u> found at: <u>http://valenciacollege.edu/policies/policydetail2.cfm?PolicyCatID=10&PolicyID=3</u>
- You are expected to be in class <u>on time</u>. You are responsible for all information and/or assignments given during class, whether you are present or not.
- **NO LATE WORK** will be accepted (no exceptions).
- **NO MAKE UPS** on missed assignments or missed exams (no exceptions).
- Use pencil or erasable pen ONLY and <u>erase all errors</u> on any submitted assignments or exams. Five points will be deducted on each assignment or exam if non-erasable pen is used or for scratch outs done with any type of writing instrument.
- No audio or video recording allowed in class unless prior permission is granted from professor and every other student in the class.
- □ It is the student's responsibility to withdraw from the course. Any withdrawal after the withdraw deadline may result in earning an **F** as the overall grade for the course.
- If interested, you may calculate your most current grade in the course utilizing the "Student Performance Assessment" section listed on the first page of this syllabus along with what grades have been posted in Blackboard Learn and with what graded assignments have been returned in class to you thus far in the course. Your professor will calculate the final grade in the course that you have earned after the final exam has been given and will post this grade in Atlas for you to view at the end of the semester.

## **Student Core Competencies:**

The faculty members of Valencia College have 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: <a href="https://www.valenciacollege.edu/competencies">www.valenciacollege.edu/competencies</a>.

# **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** 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).

Valencia College is interested in making sure all our students have a rewarding and successful college experience. To that purpose, Valencia students can get immediate help with issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work. BayCare Behavioral Health Student Assistance Program (SAP) services are free to all Valencia students and available 24 hours a day by calling (800) 878-5470. Free face-to-face counseling is also available.