CMPE 1101-02
Introduction to Computer Engineering

Course Information

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<tr>
<th>Instructor:</th>
<th>Dr. Tim Wylie</th>
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<tr>
<td>Contact:</td>
<td>Office: ENGR 3.287</td>
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<td>Phone: 956-665-2577</td>
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<td>Office Hours:</td>
<td>TR 9:00 a.m. - 11:00 a.m.</td>
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<td>Schedule:</td>
<td>Lecture: MW, 12:15 p.m. - 1:30 p.m., ACSB 2.113</td>
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<td>Final Exam:</td>
<td>May 10, 2017, 10:15 a.m. - 12:00 p.m., ACSB 2.113</td>
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<td>Textbook:</td>
<td>None</td>
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<td>Course Website:</td>
<td><a href="http://faculty.utrgv.edu/timothy.wylie/CMPE1101">http://faculty.utrgv.edu/timothy.wylie/CMPE1101</a></td>
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Course Description

**CMPE 1101 - Introduction to Computer Engineering.** This course is an introduction to computer engineering concepts and vision, the history of computer systems, societal and ethical issues, binary values and number systems, analog and digital data representation, gates and circuits, Boolean algebra and circuit simplification, basic computer architecture, low-level, high-level programming languages and pseudo code, and communications skills.

Course Topics

This course presents an introduction to the breadth of the field of computer science and computer engineering. Topics include an introduction to computers as a career, overviews of various computer science/engineering areas and topics, and foundations of computational problem solving.

CMPE 1101 consists of lectures and lab assignments. The goals for the lecture are to introduce history, terminology, concepts, applications, and contemporary social/ethical considerations for the field of computer science. The goals of the assignments are to provide review of and hands-on experience with the concepts introduced in-class.

*This course is required for majors in Computer Engineering. Computer Science majors should take CSCI 1101.*

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. List the contributions of several pioneers in the computing field.
2. Identify significant continuing trends in the history of the computing field.
3. Explain the reasons for using different formats to represent numerical data.
5. Describe numeric data representation and number bases, and convert numbers between bases.
6. Understand binary logic circuits and Boolean algebra.
7. Describe the internal representation of nonnumeric data.
8. Design, implement, test, and debug simple programs.
9. Discuss the importance of algorithms in the problem-solving process.
10. Understand the difference between an algorithm and a computer program.
11. Identify the necessary properties of good algorithms.
12. Understand algorithms for repetition, selection, input/output, assignment, and modules.
13. Describe the range of subfields and applications of Computer Science.
14. Understand contemporary issues in the design and development of computers.

**ABET Outcomes**
(a) An ability to apply knowledge of computing and mathematics appropriate to the discipline.
(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
(e) An understanding of professional, ethical, legal, security and social issues and responsibilities.

**Course Requirements**

**Labs.** During each class there will be an accompanying lab related to the topic of discussion. These should be turned in at the end of class, or whenever instructed.

**Scoring and Grading.** The purpose of the labs are to increase your hands-on experience with the material, and to provide you with an avenue to demonstrate what you have learned. The grade will be dependant on attendance and the lab exercise in class. Thus, each class is worth about 3.3% of your grade. Being late takes half the credit away. There are 30 classes (including the final), each worth 10 points.

<table>
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<tr>
<th>Grade Breakdown</th>
<th>Final Grade</th>
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<tr>
<td>'A' ≥ 270 points</td>
<td>90%-100%</td>
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<tr>
<td>'B' ≥ 240</td>
<td>80%-89%</td>
</tr>
<tr>
<td>'C' ≥ 210</td>
<td>70%-79%</td>
</tr>
<tr>
<td>'D' ≥ 180</td>
<td>60%-69%</td>
</tr>
<tr>
<td>'F' &lt; 180</td>
<td>0%-59%</td>
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**Note:** Grades may be curved to reflect the overall performance of the class.

**Course Schedule**
This is a rough course schedule to give you an idea of topics and pacing. The actual course schedule is likely to change and will be kept up to date on the course website.

Week 1-2: Introduction, history, overview
Week 3-4: Scratch programming
Week 5-6: Algorithms
Week 7-9: Robots-boolean algebra, number systems
Week 10-12: Robots - algorithms
Week 13-14: Robots - algorithms
Week 15: Group work, ethics

**Course Policies**

**Attendance:** Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.
Drop Class Policy: According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the 3-peat rule and the 6-drop rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time. The census date is Sept. 14th, which is the last day to drop the class without it appearing on your transcript.

Computer Use Policy: Please read and be aware of University policies for computer use and data security, which can be found at: http://www.utrgv.edu/is/files/documents/utrgv-aup.pdf

Late Work Policy: Late work is not accepted.

Make-up Policy: No make-up exams will be given except for university sanctioned excused absences. If you need to miss an exam, it is your responsibility to contact me before the exam, or as soon after the exam as possible. Missing an exam without an approved (by the university or me) excuse will result in a zero.

Academic Integrity Policy: As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

Course Evaluation: Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Online evaluations will be available Nov. 18 – Dec. 8. Students who complete their evaluations will have priority access to their grades.

Sexual Harassment, discrimination, and violence

In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a students time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.
Note to Students with Disabilities

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.