

**CSCI/CMPE3340.03**

**Software Engineering**

**Fall 2019**

## **Syllabus**

**Department of Computer Science**

**University of Texas Rio Grande Valley**

### **Instructor**

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Office hours: MW 10-12, TR 11-12, and by appointment.

### **Course Information**

Credit hours: 3

Class times: MW 1230pm - 145pm, LHSB 1.402, Brownsville campus.

WWW: <https://my.utrgv.edu/home>, login and click on the Blackboard Icon, and then click on the link for CSCI/CMPE3340.03, Fall 2019.

Required textbook:

E. Braude, *Software Engineering Modern Approaches, 2e*, Waveland Press, Inc., ISBN-13: 978-0471692089.

**Course Description** (Catalog) A formal approach to the state-of-the-art techniques in software design and development. Emphasis will be on Project Planning, Requirements, Specification, and System Design and includes object design, testing, and implementation. Provides the student with the opportunity to work on large projects in a group situation. Equivalent course: CMPE 3340. A student may receive credit in only one course.

**Prerequisites** Grade of C or better in: [3 advanced hours in CSCI or CMPE] and [CSCI 2380 or CSCI 2388 or CMPE 2380 or CMPE 2388].

**Course Learning Outcomes** The aim of this course is to introduce you to the main activities and techniques associated with software engineering and provide experience in applying these techniques:

- Understand the principles of software engineering.
- Understand and analyze the local and global impact of a software product on society
- Understand and be fluent in the use of software engineering terminology and nomenclature
- Be knowledgeable of ethics, professionalism, and cultural diversity in the work environment.
- Be able to analyze the local and global impact of any produced software
- Be capable of intelligently communicating with most members in a software development organization (business and project management, analysts, architects, developers, customers, and end users)
- Be able to create and use planning, requirements analysis, domain analysis and design artifacts, and testing modules.
- Be able to document all phases of the software development processes

**ABET Learning Outcomes** The course supports the following ABET Learning Outcomes:

- (1) An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- (2) An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- (3) An ability to communicate effectively in a variety of professional contexts.
- (4) An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- (5) An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- (6) An ability to apply computer science theory and software development fundamentals to produce computing-based solutions.

**Course Organization** The class meet for lecture twice a week. Students must study the material assigned by the instructor and complete assignments. There is one mid-term exam during the semester, which will be held in class on **Wednesday, Oct 9<sup>th</sup>, 2019**. There is also a final exam at the end of the semester. Both exams will be based on materials covered in lectures and assignments. Please do not plan to travel at the end of semester until the final exam is over.

**Assignments** There will be two types of assignments in this course: homework and projects. Homework assignments are short-answer problems that will help you understand and learn important concepts and methodologies in software engineering while project assignments will help you practice and apply learned concepts and methodologies in SE on actual problems. It is very important for you to do each assignment seriously. Homework assignments will be given on a weekly basis throughout the semester and project assignments will be given less frequently. Please note the following assignment submission requirements:

- Homework assignments: Typed submissions are recommended although handwritten solutions are acceptable as long as they're written clearly and completely readable. The instructor cannot grade your solutions if they're unreadable. You must staple your submission if it is more than one page and write/type clearly your name, student ID number and due date on the first page. Homework assignments are usually due on Wednesdays at the beginning of lectures on the due dates.
- Project assignments: TBA (There will be team projects.)

No more than two assignment submissions that are late or do not meet other submission requirements as described above will be accepted for each student. In addition, no assignment submissions will be accepted regardless if the solutions to those assignments have been already posted or given in class, or if a majority of the submitted solutions have been graded and returned to students. All submitted assignments, homework and project, are subject to oral defenses, where students are required to explain to the instructor key steps and details of the submitted assignment solutions satisfactorily and demonstrate complete understanding of the submitted work. Unsatisfactory assignment defenses might lead to grades of relevant assignment problems or whole assignments voided at the instructor's discretion.

**Attendance** Attendance of lectures is taken and counts towards your final grade for this course. No excuse other than officially documented cases allowable by the university policies, which are usually only for family or extreme health emergencies, will be accepted for absences. You are not required to attend class on days listed in the university calendar as major religious holy days (although I assume that you practice at most one religion). In addition, you're allowed two absences without excuses or grade penalties. Students have the option to be exempted from attendance of lectures, in which case the percentage weight of attendance will be distributed proportionally among other grading components. To activate this option, however, students must notify the instructor no later than **Monday, September 9, 2019**.

**Grading** The assignments and exams will be graded on the correctness of both the answers to the questions and the process you show to obtain the answers. Your final grades for this course will be based on your attendance, if not exempted, assignments and exams. A breakdown of weights for each grading component is as follows.

Attendance 10%, Assignments (homework and project) 40%, Mid-term Exam 25%, Final Exam 25%.

I will not make changes in final grades unless the student can document an error on his grade records in a timely manner (See Regrading).

I will use the following number-to-letter grade mapping as dictated by UTRGV to assign final letter grades at the end of the course. I reserve the right to curve up (but not curve down) grades when and if I feel necessary.

100% >= A >= 90% > B >= 80% > C >= 70% > D >= 60% > F

**Re-grading** If you have a question about the grading of any piece of work, you should consult with the instructor of the course within one week of the date that the work was returned. In other words, if you do not pick up your work in a timely fashion, you may forfeit your right to question the grading of your work.

**Office Hours** Office hours offer you the opportunity to ask more individual questions about the course. Office hours are held on a first-come first-served drop-in basis. No appointment is necessary to attend office hours. Be aware that office hours become increasingly busy when it is close to a homework deadline and/or exam date. Plan your use of office hours accordingly. Individual appointments may be arranged, if needed, as schedules allow.

**Study Outside of Class** In this course, as in any course, you are expected to put in additional time beyond the scheduled class times. Professors generally expect that for each credit hour a class carries a typical student will put in 2 – 3 hours of time each week outside of class. Since this is a 3 credit course that translates into 6 – 9 hours of time outside of lecture times, each week. During this time you should read the material before coming to class and then again in greater detail after class. You should also attend office hours as needed and digest course materials thoroughly by doing assignments.

**Incompletes and Course Withdrawal** I will not give incomplete grades except for the rare cases dictated by the University and Department policy. It is the student's responsibility, not the instructor's, to withdraw from the course in a timely manner if doing poorly. No incomplete grades will be granted because of a wrong withdrawal process. Please obtain due dates to withdraw from the course and also please read and be aware of the formal procedures to withdraw. This information is available in the course schedule and the student affairs office.

**Online Blackboard** We will use UTRGV online Blackboard as the place for making announcements and posting course materials/information such as course calendar, lecture notes, assignments and grades etc. So please check Blackboard regularly and at least once every 24 hours. You can also post your questions there so that I, or even your fellow classmates can answer them. It is YOUR responsibility to keep updated with class through online Blackboard.

**General Notes** If you don't understand something covered in class, ask about it right away. The only silly question is the one that is not asked. If you get a poor mark on an assignment, or exam, find out why right away. Don't wait a month before asking. I will be happy to answer your questions. Don't be afraid to ask questions, or to approach the instructor in class, during office hours, in the hallways, or through e-mail.

**Student Integrity** Cheating of any kind will not be tolerated. Any assignment or exam that is handed in must be your own work. However, talking with one another to understand the material better is strongly encouraged. Recognizing the distinction between cheating and cooperation is very important. If you copy someone else's solution, you are cheating. If you let someone else copy your solution, you are cheating. We will not distinguish between the person who copied a solution and the person whose solution was copied. Both people will be treated as cheaters. If someone dictates a solution to you, you are cheating. Everything you hand in must be in your own words, based on your own understanding of the solution. If someone helps you understand the problem during a high-level discussion, you are not cheating. We strongly encourage students to help one another understand the material presented in class, in the book, and general issues relevant to the assignments. When taking an exam, you must work independently. Any collaboration during an exam will be considered cheating. When a cheating is caught, zero marks will be given the cheated work, and the case will be forwarded to the department chair and beyond if necessary.

**Fair Use of Computers** The lecture lab is equipped with computers to enhance your learning experience by mixing the lecture with hands-on lab sessions whenever needed. After one warning, any person caught using the computers for any purpose other than the class, e.g. checking emails, surfing the web, doing other classes' work, will be punished by a penalty decided on by the instructor.

**Cell Phones, Beepers and other Electronic Gadgets** Students must get into the habit of turning off cell phones once a class has begun and should not take or return calls during class time. Use of cellphone for any purpose or use of the laptops/desktop for anything not related to class will result in an immediate drop from the course.

### **Tentative Course Calendar By Week**

Week Of	Lecture Topics	Homework and Exams
8/26/2019	Syllabus and Introduction to SE (chapters 1 and 2)	Homework 1
9/2/2019	Software Process (chapters 3 and 4)	Homework 2

9/9/2019	Software Requirement Analysis (chapters 10 - 12)	Homework 3
9/16/2019	Software Requirement Analysis, cont'd	Homework 4
9/23/2019	Software Design (chapters 15-17)	Homework 5
9/30/2019	Software Design, cont'd	Homework 6
10/7/2019	Midterm Review	Midterm Exam
10/14/2019	Software Implementation (chapters 22-23)	Homework 7
10/21/2019	Software Implementation, cont'd	Homework 8
10/28/2019	Software Testing (chapters 25-26)	Homework 9
11/4/2019	Quality Control in SE (chapter 5)	Homework 10
11/11/2019	Software Configuration Management (chapter 6)	Homework 11
11/18/2019	TBA	TBA
11/26/2019	TBA	TBA
12/3/2019	Final Review	

### **UTRGV Policy Statements**

*The UTRGV disability accommodation, mandatory course evaluation statement and sexual misconduct statement are required on all syllabi. Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.*

**STUDENTS WITH DISABILITIES:** *Required on all syllabi. Do not modify.*

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact **Student Accessibility Services (SAS)** as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who experience a broken bone, severe injury, or undergo surgery during the semester are eligible for temporary services.

### **Pregnancy, Pregnancy-related, and Parenting Accommodations**

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably

immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

**Student Accessibility Services:**

**Brownsville Campus:** Student Accessibility Services is located in 1.107 in the Music and Learning Center building (BMSLC) and can be contacted by phone at (956) 882-7374 or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu).

**Edinburg Campus:** Student Accessibility Services is located in 108 University Center (EUCTR) and can be contacted by phone at (956) 665-7005 or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu).

**MANDATORY COURSE EVALUATION PERIOD:** *Required on all syllabi. Do not modify.* 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. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about:

Module 1	October 2 <sup>nd</sup> – 8 <sup>th</sup>
Module 2	November 27 <sup>th</sup> – December 3 <sup>rd</sup>
Full Fall Semester	November 14 <sup>th</sup> – December 4 <sup>th</sup>

**ATTENDANCE:** Recommended on all syllabi; may be modified by the instructor as long as it is not inconsistent with UTRGV policy.

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.

**SCHOLASTIC DISHONESTY:** Recommended on all syllabi.

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 (including self-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 Student Rights and Responsibilities.

**SEXUAL MISCONDUCT and MANDATORY REPORTING:** *Required on all syllabi. Do not modify.*

In accordance with UT System regulations, your instructor is a "Responsible Employee" for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity ([oiie@utrgv.edu](mailto:oiie@utrgv.edu)) any instance, occurring during a student's time in college,

of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and 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](http://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 that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at 665-8287, 882-8282, or [OVAVP@utrgv.edu](mailto:OVAVP@utrgv.edu).

**COURSE DROPS:** Recommended on all syllabi; may be modified by the instructor as long as it is not inconsistent with UTRGV 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.

**STUDENT SERVICES:** Recommended on all syllabi.

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email ([ucentral@utrgv.edu](mailto:ucentral@utrgv.edu)) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

Center Name	Brownsville Campus	Edinburg Campus
<b>Advising Center</b> <a href="mailto:AcademicAdvising@utrgv.edu">AcademicAdvising@utrgv.edu</a>	BMAIN 1.400 (956) 665-7120	ESWKH 101 (956) 665-7120
<b>Career Center</b> <a href="mailto:CareerCenter@utrgv.edu">CareerCenter@utrgv.edu</a>	BCRTZ 129 (956) 882-5627	ESSBL 2.101 (956) 665-2243
<b>Counseling Center</b> <a href="mailto:Counseling@utrgv.edu">Counseling@utrgv.edu</a>	EUCTR 109 (956) 665-2574	BSTUN 2.10 (956) 882-3897
<b>Learning Center</b>	BMSLC 2.118	ELCTR 100



<a href="mailto:LearningCenter@utrgv.edu">LearningCenter@utrgv.edu</a>	(956) 882-8208	(956) 665-2585
<b>Writing Center</b> <a href="mailto:WC@utrgv.edu">WC@utrgv.edu</a>	BUBLB 3.206 (956) 882-7065	ESTAC 3.119 (956) 665-2538

**Disclaimer** This syllabus does not contain all regulations that relate to students. Contents in the syllabus may be changed by the instructor with advanced notice and/or agreement with the students. Any change will be kept to a minimum.