

CSCE 431: Software Engineering

Section 500, 501, 502

Fall 2019

Philip Ritchey

Last Modified August 26, 2019

1 Class Time and Location

Lecture:

8:00 AM – 9:15 AM in ZACH 244

Lab:

Section	Days	Times	Room
500	TR	9:35 AM – 10:25 AM	ZACH 590
501	TR	11:35 AM – 12:25 PM	ZACH 590
502	TR	12:45 PM – 1:35 PM	ZACH 590

2 Course Description and Prerequisites

CSCE 431. Software Engineering. (2-2). Credit 3. Application of engineering approach to computer software design and development; life cycle models, software requirements and specification; conceptual model design; detailed design; validation and verification; design quality assurance; software design/development environments and project management. Prerequisites: CSCE 315 or approval of instructor.

3 Instructor Information

Instructor

Philip Ritchey   

Office: HRBB 338D

Office Phone: 979-845-3510

Email: pcr+csce431@tamu.edu

Office hours: M 3pm – 4pm, F 9am – 10am, and by appointment (<https://calendly.com/pcr>).

¹I am willing to provide a safe haven, a listening ear, and support for lesbian, gay, bisexual, and transgender people or anyone dealing with sexual orientation issues. I am a QPR gatekeeper for suicide prevention. I support violence prevention efforts across campus.

Teaching Assistants (TAs)**Jonathan Martinez**

Office: ETB 2021

Email: jmartinez0304@tamu.edu

Office hours: W 9am – 11am, R 2pm – 4pm, and by appointment.

4 Textbook

Engineering Software as a Service: An Agile Approach Using Cloud Computing, Armando Fox and David Patterson. ISBN-13: 978-0984881246. Strawberry Canyon LLC, 2016.

<http://www.saasbook.info>.

This book is available in both trade paperback and Kindle versions at Amazon. The Kindle version is kept up-to-date and includes live links to references and code fragments.

5 Course Website

faculty.cse.tamu.edu/ritchey/courses/csce431/fall19

6 Grading

Classroom material is enhanced with assigned readings. A major component of the course is teamwork on a group project. Individual work includes reading summaries, quizzes, programming assignments, and a mid-term exam.

Weight	Component
50%	Project (Team)
15%	Midterm Exam
10%	Readings
10%	Programming Assignments
10%	Quizzes
5%	Class Participation

The grading scale expected to be used is:

$A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\% > F$

7 Topics and Goals

The course topics will include:

- software lifecycle and software processes
- requirements elicitation and specification
- modeling software
- software design at various levels
- coding practices, interfaces, modularity, contracts
- verification and validation, testing
- managing a code base (version control, organizing releases, etc.)
- testing (unit and regression testing)
- practical designs (typical software architectures, design patterns, API designs)
- effort estimation

Students will

1. gain an understanding of the difficulties and risks of software projects, and knowledge of the commonly applied techniques and methods to mitigate those risks and to increase the likelihood of success of software projects.
2. learn new and increase existing skills related to practical software construction.
3. gain familiarity with the current research problems in software engineering.

8 Policies

8.1 Attendance

You are strongly encouraged to attend every class, arrive on time, and stay the whole time. You are responsible for learning the material covered in class, regardless of your attendance.

8.2 Late and Missed Work

Late work is assessed a penalty of 25% per day (partial days rounded up to full days). In-class work – such as exams and quizzes – can be made up in the event of a documented University Excused Absence. See rule 07 of the student rules: student-rules.tamu.edu/rule07.

8.3 Typesetting

All reports must be typed and submitted as a PDF. You are strongly encouraged to typeset your work using \LaTeX . Resources for \LaTeX can be found on the course website and on the Internet. Microsoft Word and OpenOffice Write are inferior but acceptable alternatives.

8.4 Questions about Graded Work

If you believe that work submitted on time has been graded incorrectly or incompletely, you must meet with the TA or instructor within one week of the date the work is returned.

8.5 Version Control

You are required to use a version control system to track changes and back up your work. Texas A&M has an enterprise GitHub server (github.tamu.edu) that you can use.

8.6 Piazza

All questions and comments about the course should be posted on Piazza (<https://piazza.com/tamu/fall2019/csce431>). Piazza is designed and managed so that you can get help quickly and efficiently from classmates, the PTs, the TAs, and me. If you email a question or comment about the course to me or a TA, you will very likely be redirected to Piazza. You may post questions or comments anonymously on Piazza, however this privilege will be revoked if it is misused.

8.7 Email Formatting

When you send email to me or a TA, the subject must be prefixed with [CSCE 431] and you must sign your name to the email. Putting [CSCE 431] in the subject will let us know in which course of ours you are enrolled. Signing your name will let us know who you are. If you do not sign your name, we may assign you one at random in our reply.

8.8 Discussion of Grades

Federal law prohibits the instructor, TAs, and graders from discussing grades over email or phone. If you have a question about your grade, you must discuss it with us in-person, such as during office hours.

8.9 Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit disability.tamu.edu.

8.10 Harassment and Discrimination

Texas A&M is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, Texas A&M encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation and world. All decisions and actions involving students and employees should be based on applicable law and individual merit.

Texas A&M University prohibits harassment and discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran.

Students who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the Office of the Dean of Student Life at 979-845-3113.

8.11 Academic Integrity Statement and Policy – Aggie Code of Honor

An Aggie does not lie, cheat, or steal, or tolerate those who do.

For all academic work in this and every course, it is expected of you that you shall neither give nor receive any unauthorized aid.

All violations of the Aggie code of Honor will be reported to the Aggie Honor System Office.

For more information, see aggiehonor.tamu.edu/RulesAndProcedures/.