

SER516 Software Agility: Project and Process Management

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Javier Gonzalez-Sanchez, Ph.D.

Office: Peralta Hall Room 230U
Office hours: By appointment
E-mail: javiergs@asu.edu
Web: javiergs.engineering.asu.edu

1. Description

Quality software construction principles in an agile community context. Process, project management, agile methods, open source communities, coding best practices, configuration management, software delivery, and building in quality.

2. Course Objectives and Expected Learning Outcomes

After successfully completing SER516, the student will be able to:

- a) Practice agile software processes and practices.
- b) Construct quality software code through build-in-quality development practices.
- c) Understand modern software delivery models, such as: (a) open source software communities; (b) delivering software products and services to internal and external customers; and (c) release and deployment management best practices.

3. Course Topics:

Agile Methods

- a) Agile Foundations and Philosophy
- b) SCRUM
 - Managing requirements in Scrum (Product & Sprint backlogs, User Stories)
 - Release and Sprint Planning
 - Reviews and Retrospectives
 - Agile estimating and tracking (burndown)
 - Scaling Agility up (size) and out (systems)

Software Delivery Models

- a) Open source communities and licensing
- b) Software Acquisition
- c) Delivering software products and services to customers

Quality Software Construction Practices

- a) Software Change Management
- b) Continuous Integration, Testing, and Delivery
- c) Software Reviews (manual and automated)
- d) Code Smells and Refactoring
- e) Measuring Software Quality

4. Absence & Make-Up Policies

- **No late assignments are accepted and there are no makeup assignments.** Exceptions apply according with University policies, such as Medical or family issues, Religious practices, and/or University-sanctioned activities.
- Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and the assignment will not be submitted on time. Published assignment due dates (Arizona Mountain Standard time) are firm.
- Accommodations will be made for religious observances provided that students notify the instructor at the beginning of the semester concerning those dates. Students who expect to miss class due to officially university-sanctioned activities should inform the instructor early in the semester. Please follow the appropriate University policies to request an accommodation for religious practices (<http://www.asu.edu/aad/manuals/acd/acd304-04.html>) or to accommodate a missed assignment due to University-sanctioned activities (<http://www.asu.edu/aad/manuals/acd/acd304-02.html>).

5. Evaluation

25% Lab Exercises, Quizzes, and Assignments

25% Team Project

25% Midterm exam

25% Final exam (comprehensive exam)

-1% Missed lecture. Attendance will be taken randomly 10 times during the semester.

Students may appeal a scored assessment within one week of the grade's posting online. Appeals are in written form only (including email) and must point to specific evidence of why the grade should be revised. Arbitrary "*please regrade because I want a higher score*" queries will be

discarded without a response. **The instructor reserves the right to assign a lower score on appeal.**

6. Grading

The following is the grading scale that will be used in the course (I reserve the right to modify the scale or grading system).

- A+ \geq 97%
- A \geq 93%
- A- \geq 89%
- B+ \geq 85%
- B \geq 81%
- B- \geq 77%
- C+ \geq 73%
- C \geq 69%
- D \geq 65%
- E < 65%

7. Resources

- Ian Sommerville, *Software Engineering 10th edition*, Addison-Wesley 2012. This **textbook** used in the SER program is Sommerville 10th edition, and it is used extensively in SER515. It is not used as extensively in SER516.
- Martin, Robert C. *Clean Code: A Handbook of Agile Software Craftsmanship* 2008. This is the top build-in-quality text.
- Rubin, K.S. *Essential Scrum* 2012, Addison-Wesley. This is the most comprehensive guide on Scrum.
- Schwaber K. and Beedle, D. *Agile Software Development with Scrum* 2002. ISBN-10: 0130676349
- McConnell, S. *Code Complete 2* 2004. Microsoft Press.

Additional readings will be assigned

8. Classroom Behavior

Cell phones and pagers must be turned off during class to avoid causing distractions. The use of recording devices is not permitted during class. Any violent or threatening conduct by an ASU student in this class will be reported to the ASU Police Department and the Office of the Dean of Students.

Students are expected to participate in the educational process and not be a disruptive element with regard to the learning of others. Safety, self-discipline and respect for others are necessary elements in the educational processes employed in this course. All students should be familiar with the Student Code of Conduct, which can be found at <http://www.asu.edu/studentlife/judicial/>

9. Academic Integrity

All students in this class are subject to ASU's Academic Integrity Policy (available at <http://provost.asu.edu/academicintegrity>) and should acquaint themselves with its content and requirements, including a strict prohibition against plagiarism. All violations will be reported to the Dean's office, which maintain records of all offenses.

Cheating is expressly forbidden in this class. Cheating is defined as "presenting someone else's work as your own". A special case of cheating, but no less problematic, is plagiarism. **Plagiarism** is the copying or paraphrasing of another's work such as a paper or code (including online postings) without proper attribution to that source. Further, do not submit papers with over 10% of the work in "direct quotes" as a means to avoid plagiarism. Your ideas and your work should be original; citations are used to inform your work.

10. Sexual Discrimination

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish discuss any concerns confidentially and privately.

IMPORTANT

- Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advance notice.
- All contents of these lectures, including written materials distributed to the class, are under copyright protection. Notes based on these materials may not be sold or commercialized without the express permission of the instructor. [[ACD 304-06](#)].