

3460:480 Software Engineering (SE) Spring 2019

Section 001 13586 Monday and Wednesday 11:45 am - 1 pm Arts & Sciences (CAS) 134

Instructor: Dr. Michael L. Collard

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Office Hours: Posted on the instructor's homepage. Also available by appointment.

Course Description A comprehensive overview of all phases of software development including requirements, analysis, design, implementation, testing and validation, release, maintenance, and evolution, focusing on agile methodologies.

Learning Objectives Students successfully completing the course will be able to:

- Fully explain and contrast agile and waterfall process models
- Demonstrate the ability to perform standard software development procedures such as project planning, issue tracking, version control, etc., as part of a team.
- Create a project plan with requirements documents, such as user stories
- Discuss the role of analysis, design, and implementation in the software-development process
- Create and perform software validation and testing
- Evaluate the role evolution, including refactoring and concept location, plays in the software-development process

Assessment The course will include assessment for the *Department of Computer Science Degree Program Assessment Plan* Learning Outcome 5: "An ability to function effectively on teams to accomplish a common goal" for the [BS CS Systems Track](#) and [BS CS Management Track](#)

Prerequisites: Minimum C- in 3460:210 CS II **Credits:** 3

Textbooks

Pilone, Miles, *Head First Software Development*, O'Reilly, 2007 ISBN 978-0-596-52735-8

Rajlich, Václav, *Software Engineering: The Current Practice*, CRC Press, 2011 ISBN 9781439841228

Grading

Exercises	10%	A	≥ 93%	C	≥ 73%
Projects	40%	A-	≥ 90%	C-	≥ 70%
Midterm	25%	B+	≥ 87%	D+	≥ 67%
Final	25%	B	≥ 83%	D	≥ 63%
	100%	B-	≥ 80%	D-	≥ 60%
		C+	≥ 77%	F	

Exercises Exercises occur frequently and are 10% of the overall score. Attendance is necessary to receive credit if the exercise is performed during class or distributed during class.

Projects At least 4 projects are assigned, and collectively are 40% of the overall score. They include creating artifacts of the software-engineering process, and the performing software-engineering tasks, including corrective and adaptive maintenance. Project grades are based on correctness, readability, design style, quality of design, and application of concepts presented in the course. Some projects include controlled collaborative work with other students.

Midterm The Midterm Exam is 25% of the overall score. It occurs after the 8th week of the semester, with the specific date announced at least one week before.

Final Exam The comprehensive Final Exam is 25% of the overall score. It is held in the regular classroom during Finals Week on the day/time determined by the University. Consult ZipLine for exact day/time.

Policies The course involves collaborative team activities. These are frequently conducted during class time, and will count towards both Exercises and Projects. Attendance is required for full credit.

The class is taught using a variety of sources; web pages, the instructors own web pages, and written on the board. Examples may be entered by the instructor and discussed during class. Attendance is necessary for complete understanding of the material.

Any source code created for this course will be committed as it is developed into a version-control repository. Typically, this will be a Git repository created through GitHub Classroom. The work must appear in this repository in order to be graded.

In order that work can be graded and returned promptly, late assignments will not be accepted without a valid excuse. It is up to the student to make up any missed material. Make-ups of any work for this class will only be given in the case of an excused absence or a documented, valid emergency. I encourage you to contact me if an emergency arises.

Students whose names are not on the University's official 15-day class list will not be permitted to attend class. Consult University information for specific dates and policies regarding the withdrawal policy.

Academic Honesty All submitted work (exercises, projects, and tests) must be your own. Submission of work that is even partly not yours will be reported to the *Office of Student Conduct and Community Standards*.

Special Notice Any student who feels she/he may need an accommodation based on the impact of a disability should contact the Office of Accessibility at 330-972-7928. The office is located in Simmons Hall, 105.

The University of Akron is committed to providing an environment free of all forms of discrimination, including sexual violence and sexual harassment. This includes instances of attempted and/or completed sexual assault, domestic and dating violence, gender-based stalking, and sexual harassment. Additional information, resources, support and the University of Akron protocols for responding to sexual violence are available at uakron.edu/Title-IX