

# 3460:689 Software Evolution Fall 2019

Section 001 75359 1:15 - 2:30 pm Arts & Sciences (CAS) 136

**Instructor:** Dr. Michael L. Collard  
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**Office Hours:** Posted on the instructor's homepage. Also available by appointment.

**Course Description** The course focus is on research issues in software evolution and maintenance. Topics include reverse engineering, design recovery, program analysis, program transformation, refactoring, traceability, program understanding, and mining software repositories.

**Learning Objectives** Students who complete the course can:

- Present the main points of a research paper in software evolution, and initiate discussion.
- Discuss the various parts of software evolution, including reverse engineering, design recovery, program analysis, program transformation, refactoring, traceability, program understanding, and mining software repositories
- Write a research paper or large system analysis in the general area of software evolution.

**Prerequisites** The course assumes a solid background in software engineering: 3460:680 Software Engineering Methodologies, excellent grades in 3460:480/580 Software Engineering, or a strong software-engineering background.

**Credits** 3

**Textbooks** Selected conference and journal papers. Typically, 4 papers will be covered each week.

<b>Grading Scale</b>	Projects	35%	A ≥ 93%	C ≥ 73%
	Presentation	20%	A- ≥ 90%	C- ≥ 70%
	Participation	35%	B+ ≥ 87%	D+ ≥ 67%
	Final	10%	B ≥ 83%	D ≥ 63%
		100%	B- ≥ 80%	D- ≥ 60%
			C+ ≥ 77%	F

**Participation** The most important part of the course is participation and is worth 35% of the overall score. Participation includes reading of the assigned papers, class discussion of the papers, and possible paper reviews.

**Presentation** Most of the course consists of students presenting research papers. The number of papers presented depends on the number of students in the course, and the number of papers covered. Students who are presenting in a class receive full credit towards class participation in that class meeting. Presentations are worth 20% of the overall score.

**Project** A semester project is required for all students and is worth 35% of the overall score. The project is a 10-page IEEE proceedings format paper for each student. Project topics must be approved. Possible approaches include empirical studies, in-depth literature surveys, and software prototypes. Projects can be done individually or in groups of 2 - 3 students, but each student must produce a separate paper. Students present their paper at the end of the semester.

**Final Exam** The Final Exam is in Arts & Sciences (CAS) 136 on Thu May 12, 2:30 - 4:30 pm and is worth 10% of the overall score.

**Policies** Attendance is expected and required.

So that work can be graded and returned promptly, late assignments are not 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 only apply 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 do not appear University's official 15-day class list are not permitted to participate (attend class, or receive credit.) Consult University information for specific dates and policies regarding the withdrawal policy.

**Academic Honesty** All submitted work must be your own. Any violations are reported to the Office of Student Conduct.

**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](http://uakron.edu/Title-IX)