COMPSCI 476 – Software Engineering

**Spring 2015, TR 3:30pm -4:45 pm, McGraw 115**

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| Phone | 262-472-5002 |
| Office Hours | MW 1:00pm-3:30am, or by appointment |

# Course Description

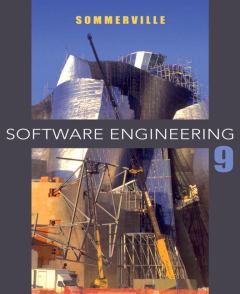
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|  | Software engineering is a systematic approach to designing, developing, and maintaining software. This course introduces students to principles, concepts, and techniques in software engineering. Students will learn software processes models, software life cycle, software requirement engineering, software system modeling, software testing, configuration management, and project management.  Students gain software engineering experience by working on a semester long group project. Some of the projects have real clients from the local industry. Through the project, students will learn teamwork and tools for collaboration such as version control.  Upon the completion of this course, students will   * Know the common software process models such as the waterfall model, the incremental development model, Boehm's spiral model, the rational unified process, * Have gained experience in requirement gathering with clients * Have learned software modeling using UML diagrams * Have learned Agile development, pair programming, and test driven development * Have learned software design patterns, and architecture patterns * Have learn teamwork through collaboration and collaboration development tools such as git and github or subversion. |

# Prerequisites

COMPSCI 223 Data Structures or consent of the instructor.

**A student may not earn credit for any course which is a pre-requisite for another course in which credit has been earned unless prior departmental approval is obtained.**

# Text & Software



**TEXT**: Software Engineering 9th edition available through UW-Whitewater Book Rental.

**SOFTWARE & Tools:** git client, Github account, UML editor (Visual Paradigm), junit, cppunit, JDK, g++, Visual Studio, Eclipse, NetBeans

# Tentative Schedule (order of topics may change)

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| --- | --- | --- | --- |
| Week | Chapter | Topics | Activities |
| 8/31 |  | Syllabus | Skill survey |
| 9/7 | 1, 2 | Intro to SE, Software Process |  |
| 9/14 | 3 | Agile Software Development | Project assignment |
| 9/21 | 4 | Requirement Engineering |  |
| 9/28 | 25, git slides | Version Management, Git/GitHub | Git assignment |
| 10/5 | 6 | Architectural design | UML assignment, Exam 1 |
| 10/12 | 7 | Design and Implementation | Design pattern assignment |
| 10/19 | 8 | Software Testing, junit, cppunit | Unit test assignment |
| 10/26 | 25 | Project Management |  |
| 11/2 | 23 | Project planning / potential speaker | Exam 2 |
| 11/9 |  | Team work |  |
| 11/16 |  | Team work |  |
| 11/23 |  | Team work |  |
| 11/30 |  | Team work |  |
| 12/7 |  | Team work |  |
| 12/14 |  | Final Exam week |  |
|  |  | 12/15 2:30-4:30pm Final project presentation |  |

# Important dates: 12/14 Project delivery 12/15 2:30-4:30pm Final project presentation

# Grading

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| --- | --- |
| Grade Items | Weights |
| Exams | 20% |
| Group project | 60% |
| Assignments | 20% |
|  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grading Scale |  |  |  |  |  |  |  |  |  |
| 93-100% | A | 87-89% | B+ | 77-79% | C+ | 67-69% | D+ | 0-59% | F |
| 90- 92% | A- | 83-86% | B | 73-76% | C | 63-66% | D |  |  |
|  |  | 80-82% | B- | 70-72% | C- | 60-62% | D- |  |  |

# Group Grading Policies

Group members will grade each other in the group. Failure to do so would result in 20% reduction in their grade for the project. This will help encourage each team member to contribute to the project. The team should only grade a member based the quality of the work and completion of the tasks assign to that member by the group. Record the number of meetings and keep track of team activities and attendance. Each team should decide on a team lead so that he/she can help keep the team moving.

Clients will evaluate final product, which is 30% of the project grade.

The instructor will evaluate requirement documentation, design documentation, and code totaling 60% of the project grade.

If you’re a team member is having problems, try to resolve it within your group. If that’s not possible, the team can talk to instructor.

# Additional Information and Resources

***Religious Beliefs Accommodation***

Board of Regents policy states that students’ sincerely held religious beliefs shall be reasonably accommodated with respect to scheduling all examinations and other academic requirements. Students must notify the instructor, within the first three weeks of the beginning of classes, of the specific days or dates on which they will request accommodation from an examination or academic requirement. For additional information, please refer to the section in the University Bulletin and the Timetable titled "Accommodation of Religious Beliefs."

***Academic Misconduct***

The University believes that academic honesty and integrity are fundamental to the mission of higher education and of the University of Wisconsin System. The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others’ academic endeavors. Students who violate these standards are subject to disciplinary action. UWS Chapter 14 identifies procedures to be followed when a student is accused of academic misconduct. For additional information, please refer to the section in the Student Handbook titled "Student Academic Disciplinary Procedures."

***Absence for University-Sponsored Events***

University policy adopted by Faculty Senate and the Whitewater Student Government states that students will not be academically penalized for missing class in order to participate in university-sanctioned events. They will be provided an opportunity to make up any work that is missed; and if class attendance is a requirement, missing a class in order to participate in a university-sanctioned event will not be counted as an absence. A university-sanctioned event is defined to be any intercollegiate athletic contest or other such event as determined by the Provost. Activity sponsors are responsible for obtaining the Provost’s prior approval of an event as being university-sanctioned and for providing an official list of participants. Students are responsible for notifying their instructors in advance of their participation in such events.

***University Statement***

The University of Wisconsin—Whitewater is dedicated to a safe, supportive and non-discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University sponsored events. (For details, please refer to the Undergraduate and Graduate Timetables; the "Rights and Responsibilities" section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the "Student Academic Disciplinary Procedures" [UWS Chapter 14]; and the "Student Nonacademic Disciplinary Procedures" [UWS Chapter 17]).