CS 320
Fundamentals of Software Engineering
Tuesday and Thursday, 1:25 – 2:40 p.m. in VSCI 12
(3 Semester Hours)
Dr. Xinghui Zhao

Contact Information
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phone: (360) 546-9110
e-mail/web: x.zhao@wsu.edu
office hours: When door is open or by appointment

TA Information
Eric Klinginsmith (email: eric.klinginsmith@email.wsu.edu)

Required Textbooks

Reference Material
UML Distilled (Third Edition), Martin Fowler, Addison Wesley Inc.
The Mythical Man-Month (Anniversary Edition), Frederick P. Brooks, Addison Wesley Inc.

Prerequisite Courses
CS 224 Programming Tools
Math 216 Discrete Structures
Engl 402 Technical Writing (concurrent enrollment allowed)

Prerequisite Topics
• Experience with an Object-Oriented Programming Language (Java or C++)
• Principles of technical writing
• Use of UNIX or Windows environment for coding, compilation, debugging and testing

Major Topics Covered in the Course
1. Object Oriented Design and Programming
2. Software Requirements and Specification
3. Software Engineering Processes
4. Testing and Debugging
# Measured Course Outcomes

Students taking this course will (among other things):

<table>
<thead>
<tr>
<th>Course Outcome</th>
<th>Topics</th>
<th>Contributes to the assessment of</th>
<th>Assessed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elicit and analyze requirements to create an internally consistent requirements specification.</td>
<td>2</td>
<td>ABET(^1) B-1 WSU(^2) 1</td>
<td>Project and exams</td>
</tr>
<tr>
<td>Verify and validate the requirements specification over the course of a software project’s lifecycle.</td>
<td>2</td>
<td>ABET B-2 WSU 2</td>
<td>Homework and project</td>
</tr>
<tr>
<td>Analyze various software lifecycle processes and their relation to cost, timeliness, quality and changing requirements.</td>
<td>3</td>
<td>ABET C-1 WSU 2</td>
<td>Exams</td>
</tr>
<tr>
<td>Use a specific software lifecycle model to develop a design that is consistent with specified requirements.</td>
<td>1</td>
<td>ABET C-2 WSU 7</td>
<td>Homework and project</td>
</tr>
<tr>
<td>Use a software lifecycle model to implement a design, satisfying specified requirements.</td>
<td>1</td>
<td>ABET C-3 WSU 7</td>
<td>Homework and project</td>
</tr>
<tr>
<td>Create a test suite for unit testing, integration testing, acceptance testing or regression testing and report test results.</td>
<td>4</td>
<td>ABET C-4 WSU 7</td>
<td>Homework and project</td>
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\(^1\) Accreditation Board for Engineering and Technology / Computing Accreditation Commission

\(^2\) WSU’s Seven Goals of the Baccalaureate
Software
1. JDK 1.6 or later with Eclipse IDE: (downloadable)
2. Microsoft Visio

Tentative Grading Criteria
Midterm Exam 20 %
Final Exam 25 %
Homework and Projects 50 %
Discretionary 5 %

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>94 - 100%</td>
</tr>
<tr>
<td>A-</td>
<td>91 - 93%</td>
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<tr>
<td>B+</td>
<td>87 - 90%</td>
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<tr>
<td>B</td>
<td>83 - 86%</td>
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<tr>
<td>B-</td>
<td>80 - 82%</td>
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<tr>
<td>C+</td>
<td>77 - 79%</td>
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<tr>
<td>C</td>
<td>73 - 76%</td>
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<tr>
<td>C-</td>
<td>71 - 72%</td>
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<tr>
<td>D+</td>
<td>68 - 70%</td>
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<tr>
<td>D</td>
<td>62 - 67%</td>
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<tr>
<td>D-</td>
<td>60 - 61%</td>
</tr>
<tr>
<td>F</td>
<td>≤ 59%</td>
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</tbody>
</table>

Discretionary points
Discretionary points will be based on your conduct and participation in class. As this class endeavors to teach professional disciplines, it is reasonable to ask that students act professionally and treat each other (and the instructor) with respect. The subject matter of this course deserves discussion, I encourage you to offer your ideas and thoughts to the class and to question the material presented.

Homework
Homework is due at the beginning of class on the date specified in the assignment. Late homework and projects will lose 20% of the points. In addition, for writing assignments, points will be deducted for incorrect grammar, punctuation, and spelling.

Exams
There will be one midterm exam given during a regular class period. The date of this exam will be announced at least one week in advance. The Final exam is comprehensive and will be given on the date and time scheduled during finals week.

Makeup Exams
Makeup exams will not be given without prior authorization or written documentation that the student was unable to participate. Unexcused missed exams result in a grade of zero for that exam. Excused absences from exams include personal emergencies and work-related obligations, however confirmation is necessary.
Attendance

Attendance is required, ALL discretionary points will be lost if you are absent more than 2 times without prior authorization or written documentation that you were unable to participate.

Academic Integrity

Academic integrity is the cornerstone of the university and will be strongly enforced in this course. Any student caught cheating on any assignment will be given an “F” for the course and will be referred to the Office of Student Conduct.

Disability Accommodation

Accommodations may be available if you need them in order to fully participate in this class because of a disability. Accommodations may take some time to implement so it is critical that you contact Disability Services as soon as possible. All accommodations must be approved through Disability Services, located in the Student Resource Center on the Lower Level of VSSC. (360) 546-9138

Late Drops

Late drops are governed by departmental and college policies. The student must show documented evidence supporting reasons for a request to drop a class after the deadline. Requests will be considered on an individual basis.

Oral and Written Communications

This is a "writing in the major" course, thus two papers are required. This first writing assignment is a 2500 - 3000 word report on a specific software methodology. The report includes a critique of several aspects in the methodology. The second writing assignment is part of a semester long project. The student must write a software-requirements-specification (SRS), which is a technical document that describes the requirements of a software project. In addition, students must keep a project journal that discusses the progress and problems of their project.

ENCS Laboratory Computers & Network

Students enrolled in ENCS courses may establish and use an account on the ENCS Laboratory Network. To do so, go to any ENCS laboratory computer and, with the computer displaying the ENCS kiosk window, select the “Request ENCS Student Account” button and follow the instructions. To establish an account, students will need their WSU ID number and access to their preferred email address as listed with WSU's zzusis site. Students are expected to read and adhere to the “Terms and Conditions” statement, failure to do so can result in the loss of account privileges, or other consequences as set forth in the Student Conduct Code.
In particular, note the rules below. Unless specifically instructed to do otherwise by ENCS faculty or staff:

1) **Do not unplug, move or disturb the (blue) network cables.** DO NOT attempt to connect your personal equipment or devices to the wired ENCS network. You are welcome to use the ENCS wireless access facilities.

2) **Do not leave laboratory computers powered off,** do not disturb or unplug the power cord. You may leave the computers booted into any operating system.

3) You may connect your own USB devices (keyboard, mouse, flash drive, etc.), however, be certain to restore the computer to its original configuration and remove your device(s) when you are done.

4) Leave your laboratory workspace neat and clean, and restore the computing equipment to the position and configuration in which you found it.

Once you have established an ENCS network account, you can find additional information about ENCS network resources, and how to access and use them, at the following internal website: [http://info.labs.encs/](http://info.labs.encs/).