CSC 4996: Senior Project and Computer Ethics
Wayne State University

Fall 2017
Lecture: Mon, Wed 5:30 – 6:45 pm
Lab: Wed 7:00 – 8:40 pm
Location: 2025 SCI

Instructors:

Khayyam Hashmi:
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Office Hours: Wed 4:30-5:30 pm

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Email: sbryfcz@gmail.com
Office: TBD
Office Hours: TBD

Course URL: All course materials will be posted on blackboard (http://blackboard.wayne.edu).

Required books
- All necessary reading material for the class will be posted on blackboard

Recommended books
- A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet (3rd or 4th Edition)
  Author: Sara Baase
- Design Patterns: Elements of Reusable Object-Oriented Software
  Authors: Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides
  Publisher: Addison-Wesley Professional, ISBN-10: 0201633612
- Object-Oriented Software Engineering: Practical Software Development Using UML and Java
  Paperback – December 1, 2004 by Timothy Christian Lethbridge, Robert Laganiere

Prerequisites
CSC 4110 and CSC 4111 – Introduction to Software Engineering – strictly enforced!!!

Corequisites
CSC 4997 – Senior Project Lab – Wed 7:00-8:40 pm

Course objective
Development of skills for planning, managing, implementing, and documenting complex software projects; legal, social and ethical issues in software development and computer use.

Learning outcomes
• Apply software engineering principles and practices (e.g., requirements elicitation, planning, domain analysis, software design, testing, etc.) to a real-world problem.
• Relate knowledge, information, methods, concepts, and theories of fundamental topics in computer science and software engineering in new problem domains, to develop unique solutions/algorithms for the project problem.
• Research and identify previously unknown techniques and tools necessary for computer science and software engineering practices relevant to the undertaken project.
• Develop skills for working productively in a team on a project that produces a significant software product and interact with external clients.
• Improve oral and written communications skills.
• Understand professional issues, including ethical, legal and security issues, related to computing and information technology in general.

Class format
In the first part of the semester, the instructor will cover background material necessary for the start of the student projects. Each student will participate in a team project. During the class, students will present regularly scheduled updates to their project. The instructor and the attending students will provide feedback on these presentations. In addition, each student will make a presentation on a topic related to legal, social and ethical issues in computing. A detailed schedule will be posted and updated on Blackboard. Students are expected to meet with their clients outside the class schedule.

Attendance
Attendance to classes is essential and it is the student’s responsibility to get the material covered in classes that are missed. There will be weekly student presentations scheduled through the semester and attending the students’ presentations is mandatory. Class participation and presentations are a major part of the final grade.

Exams and other graded activities
The final delivery and presentation of the project will be graded as well as intermediary deliverables, presented during the semester as assignments (such as, requirements analysis, design, testing plan, etc.). A set of deliverables must be created through the semester and stored in the repository of the each project (see details below). Each deliverables will be graded. A delivery schedule will be available via Blackboard.

Grading criteria

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<thead>
<tr>
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<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Project</td>
<td>83% - 86.99%</td>
<td>B</td>
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<tr>
<td></td>
<td>79% - 82.99%</td>
<td>B-</td>
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<td></td>
<td>75% - 78.99%</td>
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<td>71% - 74.99%</td>
<td>C</td>
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<td></td>
<td>67% - 70.99%</td>
<td>C-</td>
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<td>63% - 66.99%</td>
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<td></td>
<td>59% - 62.99%</td>
<td>D</td>
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<tr>
<td></td>
<td>55% - 58.99%</td>
<td>D-</td>
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<tr>
<td></td>
<td>Below 55%</td>
<td>Fail</td>
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Grading scale:
• 93% - 100%         A
• 90% - 92.99%        A-
• 87% - 89.99%        B+

Project deliverables
During the semester, each team will produce the following deliverables for their projects:
1. Development plan
1.1 Project overview
1.2 Project purpose, scope, objectives
1.3 Team organization (roles and responsibilities)
1.4 Problem resolution policies
1.5 Project plan (iterations, project schedule)
1.6 Configuration management plan
1.7 Technologies

2 Requirements specification
2.1 Problem description
2.2 Users/perspectives
2.3 Functional requirements (required/desired)
2.4 Non-functional requirements
2.5 Business constraints
2.6 Technical constraints
2.7 Requirements traceability matrix

3 Design specification
3.1 Domain analysis (domain model, dictionary)
3.2 System context
3.3 Architecture design (components/modules)
3.4 System design (DB design, GUI design, diagrams, etc.)
3.5 Other issues (standards, technologies, etc.)

4 Testing plan
4.1 Approach for each type of testing (including pass/fail criteria)
4.2 Functional testing (features to be tested, features not to be tested)
4.3 Non-functional testing
4.4 Integration testing
4.5 System testing
4.6 User acceptance testing
4.7 Schedule

5 User/admin manuals

6 Source code
6.1 First prototype
6.2 Second prototype
6.3 Third prototype
6.4 Final prototype

7 Final report
7.1 Lessons learned
7.2 Challenges
7.3 Team evaluation

**Dropping or withdrawing from classes**

Students must drop classes via the Web by logging into Pipeline (http://pipeline.wayne.edu). If a student has a hold and needs help dropping a class then they should send an e-mail request from their WSU e-mail account to registration@wayne.edu with the appropriate course information. Students may drop a class (for fifteen week classes) through the end of the fourth week of class. Classes that are dropped do not appear on the transcript.

Beginning the fifth week of class students are no longer allowed to drop but must withdraw from classes via Pipeline. It is the student’s responsibility to request the withdrawal. Beginning Fall 2011, the withdrawal period for full-term classes ends at the end of the tenth week of the term. See the Academic Calendar for specific information on when the withdrawal period ends: [http://reg.wayne.edu/students/calendar.php](http://reg.wayne.edu/students/calendar.php)
Educational accessibility services
If you feel that you may need an accommodation based on the impact of a disability, please feel free to contact me privately to discuss your specific needs. Additionally, the Office of Educational Accessibility Services (EAS) coordinates reasonable accommodations for students with documented disabilities. The Office is located in 1600 David Adamany Undergraduate Library, phone: 313-577-1851 (Voice) / 577-3365 (TTD).

Academic integrity policy
Wayne State University is committed to the highest standards of academic integrity. You are expected to conduct yourself in accordance with these standards. To the extent that this course relies on project reports and independent research papers, be especially aware of proper attribution and citation standards to avoid even the appearance of plagiarism.

Per the Student Code of Conduct, any violations of academic integrity will be handled via a combination of downgrading (up to and including failing the course) and prosecution via the Dean of Students and College of Engineering's Judicial Officer, which can result in permanent transcript notations or even expulsion from the University.

Be sure you are familiar with the material on the following links:
- [http://www.doso.wayne.edu/student-conduct/Student_Code_Conduct.html](http://www.doso.wayne.edu/student-conduct/Student_Code_Conduct.html)
- [http://www.trc.wayne.edu/node/48](http://www.trc.wayne.edu/node/48)

Other Notes:
- Any modifications to the syllabus will be made on the blackboard ([http://blackboard.wayne.edu](http://blackboard.wayne.edu)) and announcements will be posted.
- Please turn off all wireless phones, beepers, pagers, radios, the sound on all laptops and PDAs, and any other noise making devices, during the class.
- If you wish to record the class presentations, you must ask for permission and you are not allowed to distribute or share the recordings in any away with people who are not enrolled in this class.
- Programming environments consist of C++/Java used within either Windows or Unix operating system. If you do not have departmental computing account, apply immediately. All programming, documentation and project demos are done in this environment and it is the responsibility of students to acquire accounts and all necessary skills.