CSC 4996: Senior Project and Computer Ethics
Wayne State University

Winter 2017

Lecture: Tuesday, Thursday 5:30 – 6:45 pm
Lab: Thursday 7:00 – 8:40 pm
Location: 0106 State Hall

Instructors:

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Office Hours: Tue 5:00-6:00pm

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Mohammad Ebrahim Khalaj Email: fh3109@wayne.edu

Credit Hours: 3

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 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

Prerequisites
CSC 4110 and CSC 4111 – Introduction to Software Engineering – strictly enforced!!!
Corequisites
CSC 4997 – Senior Project Lab Thursday 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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Important dates
- Quiz: Tues, 01/08/2016 - mandatory
- Last day to withdraw: Mon, 01/23/2017

Major deadlines (tentative)
These deadlines may change during the semester. Updates will be posted on Blackboard and communicated during the class.
- Development Plan – TBD
- Requirements – TBD
- First prototype presentation – TBD
- Design Specifications – TBD
- Test Case – TBD
- Second prototype presentation – TBD
- Final presentation – TBD

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

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.trc.wayne.edu/node/48

Other Notes:
   • Any modifications to the syllabus will be made on the blackboard (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 way 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.

Religious Holidays:
Because of the extraordinary variety of religious affiliations of the University student body and staff, the Academic Calendar makes no provisions for religious holidays. However, it is University policy to respect the faith and religious obligations of the individual. Students with classes or examinations that conflict with their religious observances are expected to notify their instructors well in advance so that mutually agreeable alternatives may be worked out.

Student Disabilities Services:
• If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located in the Adamany Undergraduate Library. The SDS telephone number is 313-577-1851 or 313-202-4216 (Videophone use only). Once your accommodation is in place, someone can meet with you privately to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.
• Students who are registered with Student Disability Services and who are eligible for alternate testing accommodations such as extended test time and/or a distraction-reduced environment should present the required test permit to the professor at least one week in advance of the exam. Federal law requires that a student registered with SDS is entitled to the reasonable accommodations specified in the student’s accommodation letter, which might include allowing the student to take the final exam on a day different than the rest of the class.

Academic Dishonesty - Plagiarism and Cheating:
Academic misbehavior means any activity that tends to compromise the academic integrity of the institution or subvert the education process. All forms of academic misbehavior are prohibited at Wayne State University, as outlined in the Student Code of Conduct (http://www.doso.wayne.edu/student-conduct-services.html). Students who commit or assist in committing dishonest acts are subject to downgrading (to a failing grade for the test, paper, or other course-related activity in question, or for the entire course) and/or additional sanctions as described in the Student Code of Conduct.
• Cheating: Intentionally using or attempting to use, or intentionally providing or attempting to provide, unauthorized materials, information or assistance in any academic exercise. Examples include: (a) copying from another student’s test paper; (b) allowing another student to copy from a test paper; (c) using unauthorized material such as a "cheat sheet" during an exam.
• Fabrication: Intentional and unauthorized falsification of any information or citation. Examples include: (a) citation of information not taken from the source indicated; (b) listing sources in a bibliography not used in a research paper.
• Plagiarism: To take and use another’s words or ideas as one’s own. Examples include: (a) failure to use appropriate referencing when using the words or ideas of other persons;
(b) altering the language, paraphrasing, omitting, rearranging, or forming new combinations of words in an attempt to make the thoughts of another appear as your own.

- **Other** forms of academic misbehavior include, but are not limited to: (a) unauthorized use of resources, or any attempt to limit another student’s access to educational resources, or any attempt to alter equipment so as to lead to an incorrect answer for subsequent users; (b) enlisting the assistance of a substitute in the taking of examinations; (c) violating course rules as defined in the course syllabus or other written information provided to the student; (d) selling, buying or stealing all or part of an un-administered test or answers to the test; (e) changing or altering a grade on a test or other academic grade records.

**Course Drops and Withdrawals:**
In the first two weeks of the (full) term, students can drop this class and receive 100% tuition and course fee cancellation. After the end of the second week there is no tuition or fee cancellation. Students who wish to withdraw from the class can initiate a withdrawal request on Pipeline. You will receive a transcript notation of WP (passing), WF (failing), or WN (no graded work) at the time of withdrawal. No withdrawals can be initiated after the end of the tenth week. Students enrolled in the 10th week and beyond will receive a grade. Because withdrawing from courses may have negative academic and financial consequences, students considering course withdrawal should make sure they fully understand all the consequences before taking this step. More information on this can be found at: http://reg.wayne.edu/pdf-policies/students.pdf

**Student services:**
- The Academic Success Center (1600 Undergraduate Library) assists students with content in select courses and in strengthening study skills. Visit www.success.wayne.edu for schedules and information on study skills workshops, tutoring and supplemental instruction (primarily in 1000 and 2000 level courses).
- The Writing Center is located on the 2nd floor of the Undergraduate Library and provides individual tutoring consultations free of charge. Visit http://clasweb.clas.wayne.edu/writing to obtain information on tutors, appointments, and the type of help they can provide.

**Class recordings:**
Students need prior written permission from the instructor before recording any portion of this class. If permission is granted, the audio and/or video recording is to be used only for the student’s personal instructional use. Such recordings are not intended for a wider public audience, such as postings to the internet or sharing with others. Students registered with Student Disabilities Services (SDS) who wish to record class materials must present their specific accommodation to the instructor, who will subsequently comply with the request unless there is some specific reason why s/he cannot, such as discussion of confidential or protected information.