

**CST 438: Software Engineering**  
**Spring 2014**  
**Updated: January 2nd, 2014**

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**Time**

Monday & Wednesday – 4:00 PM to 5:50 PM

**Place**

18/104

**Instructor**

Jonathan Shu (Email: [JShu@csumb.edu](mailto:JShu@csumb.edu) )

**Office**

Please email me first.

**Office hours:**

Flexible on office hours (Email me to set up)

**Description**

This course prepares students for large-scale software development using software engineering principles and techniques. Coverage includes software development process, requirements analysis and specification, software design, implementation, testing, and project management. Students are expected to work in teams to carry out a realistic software project. (Offer every spring) prerequisite: CST 238

***This course is intended for CSIT majors.***

**Textbook:**

There is no required text book, but you can buy the following book for your reference.

- Engineering Long-Lasting Software: An Agile Approach Using SaaS and Cloud Computing, Beta Edition [Paperback] by Armando Fox (Author), David Patterson (Author)
  - [http://www.amazon.com/Engineering-Software-Service-Approach-Computing-ebook/dp/B00CCEHNUM/ref=sr\\_1\\_7?ie=UTF8&qid=1388708826&sr=8-7&](http://www.amazon.com/Engineering-Software-Service-Approach-Computing-ebook/dp/B00CCEHNUM/ref=sr_1_7?ie=UTF8&qid=1388708826&sr=8-7&)
  - Kindle Version for \$9.99 and paper version is only \$26.99.

**Prerequisites**

- CST 238 (Hard requirement) or consent of the instructor

Additional courses that you may find useful to take or have taken include:

- CST 211 - Technical Communication
- CST 263 - Introduction to Database Systems

## **Outcomes**

At the end of the course, students must

### ***Knowledge outcomes***

1. Be able to build large software systems using various software development life cycle and different techniques.
2. Be able to describe software engineering overview, software development processes (Agile, XP, Scrum), software specifications, principles of design, software architecture, formal method, project management, risk management, software testing, system implementation, configuration management and version control.
3. Be able to describe some issues and possible solutions related to (Time-permitting)
  - a. Cloud Computing
  - b. SaaS, PaaS, IaaS
  - c. Distributed computing on large data sets on clusters of computers.

### ***Skills/Abilities outcomes***

Students are involved in a large-team project. You will see what it takes to collaborate with people with different skills and approach to software development. You will have a chance to pick the topics of the projects and almost all aspects of development (programming language, libraries, build environment, etc.).

## **Project**

Create a team of 4-5 students to work on the project. You must prepare a plan for your project and get my approval as soon as possible. Your project will be based on the assignments, but will explore deeper into the areas. Report/presentation is due at the end of the semester. You will submit several milestones.

## **Assignments**

Assignments are posted on iLearn. You are responsible for keeping track of posted assignments and their due date/time.

Absolutely NO late assignments will be accepted. If you are late by 30 sec, you miss that assignment – **no exceptions**. If the amount of time allotted for an assignment is not enough, it should be brought for discussion during class.

## **Reading Assignments**

Reading assignment and videos are posted on iLearn. Your reading assignment grade completely and class participation grade significantly will be affected by your participation in these discussion.

### Teaching modality

Two classes per week: 1-hour lecture and 40-50 minutes project/assignment discussion or lab/assignment work. 2-8 hours of homework/assignment work per week.

We will use the last 30-35 min in the class to discuss any questions related to the project or assignment. Basically, the last 30-35 min MUST be lead by the students.

### Course Web Site

<http://ilearn.csumb.edu>

Additional course information and announcements will be available on this site. It is student's responsibility to check this site frequently.

### Grading

2 Exams	30
Final Group Project (Group Grade)	15
Final Group Project (Individual Grade)	10
Homework Assignments	20
Quizzes from Reading and Videos	15
Attendance / Lab	5
Effort / Participation / Altruism (EPA)	5
	100%

I will have some extra bonus points that are not part the class grade: Maximum 5%.

Everyone will start with 100 points for Attendance and Lab, and I will deduct 5 points every class/lab that you miss. I will announce the class averages for each exam. Quizzes are given at the beginning of every class. You have one week from hand-back to address grading issues. No makeups for quizzes.

### Email

When you email me, please put the class name in the subject line and include your name in the body of the message.

Also, I expect all email correspondence to adhere to academic and professional guidelines - TEXT MESSAGE approaches and other shortcuts are completely inappropriate.

## **Academic Integrity**

By accepting admission to California State University Monterey Bay, you made a commitment to understand, support, and abide by the University policies without compromise and exception. The code and policies are available in your Student Handbook and on the web at <http://policy.csumb.edu/csumb-policies>. You are responsible for reading and understanding the **Academic Integrity policy**.

It is expected that you yourself have done the work you turn in. That is not to say you cannot get help from another student, your instructor or any other person. However, you need to be very clear about the difference between getting help and another person doing your work. Unless specifically authorized by a class instructor, all of the following uses of a computer are violations of the University's guidelines for academic honesty and are punishable as acts of plagiarism: copying a computer file that contains another student's assignment and submitting it as your own work.

- Copying a computer file that contains another student's assignment and using it as a model for your own assignment.
- Working together on an assignment, sharing computer files or programs involved, and then submitting individual copies of the assignment as your own work.
- Knowingly allowing another student to copy or use one of your computer files and to submit that file, or a modification thereof, as his or her individual work.
- Plagiarism—representing the work of others as your own, by not properly citing all sources (be especially careful of materials copied from the web).
- Duplicating or distributing copies of copyrighted software programs, music, videos, images or other media—except as allowed by legal fair use standards in education.

Every student is expected to do his/her own work on individual assignments. Any evidence to the contrary for individual assignments will result in a grade of 0 (zero) and a report will be filed with the Department of Judicial Affairs. CSUMB's policies regarding **student discipline and judicial affairs** may be found at: <http://catalog.csumb.edu/general-information/behavior-codes/student-conduct>

## **Disabilities and Learning Issues**

Your instructor wants every student to succeed. Students with disabilities who require accommodations such as time extensions or test accommodations **must** present verification from Student Disability Resources as soon as possible.

Meet with SDR professional staff to register yourself at Building 47, Student Services, First Floor, Phone: 831/582-3672 voice, or 582-4024 fax/TTY or contact SDR at [StudentDisabilityResources@csumb.edu](mailto:StudentDisabilityResources@csumb.edu) or see the website at <http://sdr.csumb.edu>

Please schedule an appointment to discuss specifics with your instructor **no later than Feb 1st, 2012** if a disability may impact your performance in this class.

## **Final Notes**

### Course Policies

Everyone is expected to adhere to the following rules:

1. Attend all course meetings
  - a. Show up ON TIME
  - b. Be ready to work at the start
  - c. If you need to, arrive 10 minutes early
  - d. If you need to miss, be late, or leave early, plan ahead and contact instructor
  
2. Complete and submit assignments on time
  - a. Most assignments will be due on Fridays at 11:55 pm
3. Practice academic integrity
4. Act respectfully toward classmates and instructor
5. Participate in class discussions

Any failure to adhere to these rules may result in disciplinary action.

## **Attendance and Notes**

Students are expected to be regular and punctual in class attendance. If you need to miss class, you must inform the instructor as soon as possible. Students with attendance problems will be subject to disciplinary action. If students generally have attendance problems, instructor will be forced to use punitive pop quizzes.

Students are encouraged to take good notes. The instructor and course (and for that matter, life) do not rely on Powerpoint slides, so students are encouraged to not rely on Powerpoint slides!