

San José State University
College of Engineering/Computer Engineering Department
CMPE 172/272, Enterprise Software Overview
Fall 2012

Instructor: Rakesh Ranjan

Office Location:

Telephone: (408) 425-6769

Email: Rakesh.Ranjan@sjsu.edu

Office Hours: Mondays before class, 5:30-6:00 pm in E329
Mondays after class, 8:45-9:15pm in E329

Class Days/Time: CMPE 272, Section 3: Mondays, 6:00-8:45 pm

Classroom: E329

Course Description

Current software development depends heavily on *software platforms*. A software platform integrates numerous layers of software technology that have been developed over several decades (commonly referred to as middleware). A software platform also provides a clear programming model, defines the deployment and management of applications, provides tools for efficient software development, and is a hotbed of standards development.

A software platform and its characteristics must be well understood before sound software engineering principles can be applied for developing high quality software that is delivered on time and within budget. The current state of art software platforms are explored and a gaze into the future of software platforms is taken.

This course will familiarize you with Enterprise Software technologies and to identify factors that affect Enterprise Software development. At the end of this course, you will be familiar with the following technologies and their related standards: OSs, SQL and NoSQL databases, Transaction processing engines, the Web technology, the Java platform, Cloud and SOA, Distributed Systems Management and SaaS. This course will provide you with a conceptual model for understanding these related disciplines. You will also be exposed to emerging technologies such as Big Data Analytics, Xtreme Transaction processing and Parallel programming techniques. The highlight of this course will be the class project using which students will solve real business problems using Enterprise technologies learnt in the class.

Prerequisites and Co requisites

Admission to the MS Software Engineering program or instructor consent.

Program Outcomes (PO)

	Description
PO 1	Be able to demonstrate an understanding of advanced knowledge of the practice of software engineering, from vision to analysis, design, validation and deployment.
PO 2	Be able to tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies and tools.
PO 3	Be able to demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science and business.
PO 4	Be aware of ethical, economic and environmental implications of their work, as appropriate.
PO 5	Be able to advance successfully in the engineering profession, and sustain a process of life-long learning in engineer or other professional areas.
PO 6	Be able to communicate effectively, in both oral and written forms.

Course Learning Objectives (CLO)

	Description
CLO 1	Understand the issues, processes, responsibilities and tasks in software engineering project management.
CLO 2	Understand the different organizational approaches to software engineering project management.
CLO 3	Understand techniques involved in the successful leadership of software development project teams.
CLO 4	Apply engineering discipline to software development management.
CLO 5	Function in a leadership role for software development teams.
CLO 6	Communicate effectively during a software development project.
CLO 7	Effectively gather and document project requirements.
CLO 8	Discern the most effective process to use for a given project.
CLO 9	Effectively estimate, schedule, and plan work for a project team.
CLO 10	Apply critical thinking to the solution of software development problems and to effectively communicate the results of that thinking.

Course Learning Objectives Support Program Outcomes

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6
CLO 1	X	X		X	X	
CLO 2	X	X		X	X	
CLO 3	X	X	X	X	X	X
CLO 4	X	X				X
CLO 5				X		X
CLO 6		X				X
CLO 7	X		X			
CLO 8	X	X		X	X	
CLO 9	X	X				X

CLO 10			X	X		X
---------------	--	--	---	---	--	---

Texts/Readings

Handouts

Lecture slides and other class supplemental materials will be distributed via Desire 2 Learn.

Classroom Protocol

This course consists of a single lecture per week. You must submit your assignments and project on time and attend all classes. You are encouraged to consult with me on your project to make sure it is successful.

Desire2Learn will be used to distribute lecture notes (and other class materials), schedule class activities, host on-line discussion, provide a dropbox for assignment submittal, and to detect plagiarism.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. [Information on add/drops are available at: http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-298.html](http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-298.html).

[Information about late drop is available at http://www.sjsu.edu/sac/advising/latedrops/policy/](http://www.sjsu.edu/sac/advising/latedrops/policy/). Students should be aware of the current deadlines and penalties for adding and dropping classes.

Assignments and Grading Policy

- 10% Homework assignments
- 15% In-class Quizzes
- 25% Team Project
- 25% Midterm Exam
- 25% Final Exam

Grade Overall Score

- A+ 95-100
- A 90-94
- B+ 85-89
- B 80-84
- C+ 75-79
- C 70-74
- D+ 65-69
- D 60-64
- F 0-59

University Policies

Academic Integrity

Your own commitment to learning, as evidenced by your enrollment at San José State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development. The policy on academic integrity can be found at http://sa.sjsu.edu/student_conduct.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the [Disability Resource Center](http://www.drc.sjsu.edu/) (DRC) at <http://www.drc.sjsu.edu/> to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.

A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Learning Assistance Resource Center

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The [LARC website](http://www.sjsu.edu/larc/) is located at <http://www.sjsu.edu/larc/>.

SJSU Writing Center

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The [Writing Center website](http://www.sjsu.edu/writingcenter/about/staff/) is located at <http://www.sjsu.edu/writingcenter/about/staff/>.

Peer Mentor Center

The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop –in basis, no reservation required. The [Peer Mentor Center website](http://www.sjsu.edu/muse/peermentor/) is located at <http://www.sjsu.edu/muse/peermentor/>

CMPE 272. Enterprise Software Overview, Fall 2012, Course Schedule

Schedule is subject to change. Notification of schedule changes will be made via Desire2Learn calendar.

Table 1. Course Schedule

Week	Class date	Topics
1	8/27	Enterprise Software overview
2	9/3	Labor Day - Holiday
3	9/10	OS/Linux Internals Overview
3	9/17	Databases & Information Management
4	9/24	Big Data Analytics
5	10/1	Class Project Discussions
6	10/8	Middleware - The software development platform
7	10/15	Midterm Exam
8	10/22	Distributed Systems
09	10/29	Guest Lecture
10	11/5	Information Security
12	11/12	Veteran's Day - Holiday
13	11/19	Cloud Computing & SaaS
14	11/26	Services Science, management & engineering (SSME)
15	12/3	Project Presentation I
16	12/10	Project Presentation II
	12/17	Final Exam