# San José State University Computer Engineering CMPE 285, Software Engineering Processes, Session 1, Fall 2019

## Course and Contact Information

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| Instructor: | Richard Sinn |
| Office Location: | CL226 |
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| Email: | richardsinn@yahoo.com |
| Office Hours: | Mon, after class or by appointment |
| Class Days/Time: | Mon, 6pm |
| Classroom: | CL226 |
| Prerequisites: | Coreq: CMPE 202 or CMPE 220 or instructor consent. |

## Course Description

## *Software system development with emerging software engineering processes and technologies; planned and agile development processes, processes of Service-Oriented Architecture; component-based, Web-based, mobile based, event programming, wireless, user interface, and database access technologies. Corequisite: CMPE 202 or CMPE 220 or instructor consent.*

## Program Outcomes (PO)

|  |  |
| --- | --- |
|  | **Description** |
| **PO 1** | Be able to demonstrate an understanding of advanced knowledge of the practice of computer/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 |

## Required Texts/Readings

### Textbook

### *Software Engineering: A Practitioner's Approach (Irwin Computer Science) 8th Edition*

## Course Requirements and Assignments

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

## Grading Information

Apart from term project(s) and presentation, there are homework assignments, a mid-term exam and a final exam. The weightings for grading are:

* Term Project(s) 20%,
* Homework 15%,
* Midterm 15%,
* Final Exam 20%,
* Team Presentation 10%
* Lecture/Lab assignments 20%.

No Late Assignment Submission. Put everything in an envelop when submit any material.

## Classroom Protocol

Each student is required to engage in classroom activities, participate in project reviews and presentations, submit assignments and reports on time, *and*take exams and tests on time.

## University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at http://www.sjsu.edu/gup/syllabusinfo/”

# CMPE285 / Software Engineering Processes, Fall 2019, Course Schedule

*Schedule is subjected to change with fair notice in class.*

## Course Schedule

| Week | Topics, Readings, Assignments, Deadlines |
| --- | --- |
| 1 | Software and Software Engineering Overview |
| 2 | Software Engineering Introduction |
| 3 | Process models, Agile Development |
| 4 | Principles, Understanding Requirements, Requirements Modeling |
| 5 | CRC |
| 6 | User Interface Design, Pattern-Based Design |
| 7 | Quality Management |
| 8 | Quality Concepts, Software Testing Strategies |
| 9 | Quality Engineering |
| 10 | Industry Special Topic |
| 11 | Program Management, |
| 12 | Metrics and Process |
| 13 | Maintenance and Reengineering |
| 14 | Review Techniques |
| 15 | Software Process Improvement |
| 16 | Final Exam |