

COMS 309

Software Engineering

SIMANTA MITRA, PH.D.
DEPARTMENT OF COMPUTER SCIENCE
IOWA STATE UNIVERSITY

Contact Information

(also on Canvas)

 Simanta Mitra, 103 Atanasoff, smitra@iastate.edu

Emails must include "309" in subject line

Office Hours: 3:10-4 MWF

- Teaching Assistants

Vamsi Calpakkam, HEAD TA, vamsi@iastate.edu

Preethi Pandian, ppandian@iastate.edu

Shang Da, dashang@iastate.edu

Anurag Desai Yedla, adesai@iastate.edu

Ye Tian, yetian@iastate.edu

Ben Smith, bensmith@iastate.edu

Jeremy Roghair, jroghair@iastate.edu

Nisanth Chunduru, nisanth@iastate.edu

Lexi Reicks, lmreicks@iastate.edu

Aiden Fitzsimmons, aidenf8@iastate.edu

Ryan Ray, ryanr@iastate.edu

Catalog Description

Com S 309. Software Development Practices. (3-1)

Cr. 3. F.S. *Prereq: Com S 228 with C- or better..*

A practical introduction to methods for managing software development. Process models, requirements analysis, structured and object-oriented design, coding, testing, maintenance, cost and schedule estimation, metrics. Programming projects.

Recommended Course Text

Software Engineering – Modern Approaches

Second Edition

Eric J Braude and Michael E. Bernstein

Waveland Press Inc.

ISBN 10: 1-4786-3230-5

OTHER AUTHORS

- Roger S. **Pressman**,
- Ian **Sommerville**

#1. Major Goal

To **transition** from programmer to Software Engineer and become **knowledgeable** about common software engineering techniques and concepts.

#2. Major Goal


To learn how to **work effectively with a team** and to hold each other accountable for contributing to the project.

#3. Major Goal

To **experience development** of a reasonably sized project from concept to release.

- have followed **good practices** for the different stages of the development process
- **used software engineering tools** for development and design including IDE, Source-Control, Modeling, Test execution, and coverage.

Course Organization

- Course is organized around a 4 member team project.
Most problems manifest themselves only on larger/complex projects - we require the projects be somewhat complex.
-  For UG courses, each credit requires 3 hrs outside class work – i.e. **at least 9 hours total outside class for this course per week.**
- Teams will also need to reserve times to meet with TAs for weekly project status and for the four project demos.
- We will post notes on Canvas. You are expected to read on your own (usually easy to understand materials). We will discuss these in class. Exams will be on these notes.

Tentative

COM S 309 SPR 2019							
WK	Mon Week	Lec-Mon	Lec-Wed	Lec-Fri	DEADLINES	Mon Week	WK
1	14-Jan				1/15 T teams crt 1/16 W teams freeze 1/20 U proposals due	14-Jan	1
2	21-Jan	HOLIDAY			1/26 F freeze proposals	21-Jan	2
3	28-Jan	SET UP DEMO NO CLASS 1) Git usage 2) Client Side Exp 3) Server Exp			2/03 U screensketches due	28-Jan	3
4	4-Feb					4-Feb	4
5	11-Feb					11-Feb	5
6	18-Feb	BASELINE DEMO NO CLASS Basic Commn betwn Server/Client/DB				18-Feb	6
7	25-Feb					25-Feb	7
8	4-Mar	EXAM-1				4-Mar	8
9	11-Mar	DEMO-3 NO CLASS MAJOR use cases Use of Merge Reqs Use of Mockito			3/14 R Block Diagrams + API (Version-1)	11-Mar	9
10	18-Mar	SPRING BREAK				18-Mar	10
11	25-Mar					25-Mar	11
12	1-Apr					1-Apr	12
13	8-Apr	DEMO-4 NO CLASS MAJOR use cases Use of CI/CD Use of websockets				8-Apr	13
14	15-Apr				4/18 R Posters due	15-Apr	14
15	22-Apr				4/25 R Block Diagram + API (Version-2)	22-Apr	15
16	29-Apr	FINAL DEMO NO CLASS	BEST PROJECTS demos	LAST DAY OF CLASS	5/01 W Best Proj Demos 5/03 F 5min video due 5/03 F Final report due	29-Apr	16
17	6-May	Final Exam Time THU MAY 9th 12:00-02:00				6-May	17

Tentative Grading Scale

Grading Scale (we first give letter grade and THEN number grade)

- Excellent: ≥ 90 **A-** ≥ 93 **A**
- Good: ≥ 80 **B-** ≥ 83 **B** ≥ 87 **B+**
- Average: ≥ 70 **C-** ≥ 73 **C** ≥ 77 **C+**
- Poor: ≥ 60 **D-** ≥ 63 **D** ≥ 67 **D+**
- **F: 0 to < 60**

Tentative grading policy

- To pass the class
 - **Must pass FOUR out of FIVE demos** (at least C- i.e. $\geq 70\%$)
 - **Must pass BOTH exams.**
- Project is worth **80%**. (both documents + code)
- There will be practice worksheets – not worth any % but useful to prepare for exams.
- Two Exams are worth **20%**.

Some Grade Restrictions

NEGATIVE POINTS

- Based on team participation/attitudes (lack of)

BONUS POINTS

- Based on your technical efforts
- Based on your team participation/attitudes.

GRADE LIMITS

- Getting a grade of (*) in three demos will LIMIT your overall grade to a (*) (regardless of total points obtained).
- Getting a grade below A in any TWO demos will LIMIT your overall grade to below A (regardless of total points).
- Poor team member indications in any TWO of first THREE demos will LIMIT your overall grade to below A (regardless of total points).

COMMITMENT

1. You agree to **RESERVE** adequate time and energy **for working with your team** on the class project. **Block times on calendar TODAY!**

This class is a LOT of work. You **MUST** put in the time otherwise it affects your entire team.

Suggestion: do not take multiple hard courses together (examples 309+311 or 309+342 or 309+329 or 309+319)

Academic Dishonesty

- The class will follow Iowa State University's policy on academic dishonesty. Anyone suspected of academic dishonesty will be reported to the Dean of Students Office.
- Code/documents that you submit as your own – must have been created by you.
- <http://www.dso.iastate.edu/ja/academic/misconduct.html>

Project Code

- Your team must come up with your own idea and implement it from scratch. If you use ANY libraries and frameworks, you must get it approved by us AHEAD of time.
- When you show code to TA – make sure it is code that YOU wrote (and not libraries or what others wrote). No credit for non-code work (like css, html, image creation etc)

Disability Accommodation

- Iowa State University complies with the Americans with Disabilities Act and Sect 504 of the Rehabilitation Act. If you have a disability and anticipate needing accommodations in this course, please contact me to set up a meeting within the first two weeks of the semester or as soon as you become aware of your need. Before meeting with (instructor name), you will need to obtain a SAAR form with recommendations for accommodations from the [Disability Resources Office](#), located in Room 1076 on the main floor of the Student Services Building. Their telephone number is 515-294-7220 or email disabilityresources@iastate.edu . Retroactive requests for accommodations will not be honored.