

**BIM 437 COMPUTER ENGINEERING DESIGN  
SYLLABUS (TENTATIVE)**

Each senior student is supposed to prepare a senior thesis in order to fulfill the graduation requirements. Senior thesis consists of two courses, BIM 437 Computer Engineering Design and BIM 444 Computer Engineering Applications, offered in both Fall and Spring semesters. A senior thesis is an independent research project that senior students take to fulfill a graduation requirement. During the study of senior thesis, students work with an advisor and carry out a research project. Your thesis will represent your ability to perform research and present it effectively.

Senior students are expected to take BIM 437 Computer Engineering Design course during the first semester of their last year. Each project should be designed by a group of two or three students. Deadlines and schedule are given below:

Task		Explanation	Due Date
Determine your group members		Each group should have two or three members (If you want to work alone or group of more than three students, see your advisor and department chair)	by 5PM, Wednesday, First Week of the Semester
Choose your advisor			by 5PM, Friday, First Week of the Semester
Determine your thesis topic		project title, project definition, motivation	by 5PM, Friday, Second Week of the Semester
1 <sup>st</sup> Midterm (Hand in your midterm report and present your thesis proposal to your thesis committee)		The report and the presentation should cover the project title, project definition, motivation, related work (literature review), background knowledge about the used technologies, user requirement analysis, functional and non-functional requirements, high-level design, low-level design, originality, widespread impact, method, feasibility, and planning	5PM, Friday, Eighth Week of the Semester
2 <sup>nd</sup> Midterm	Seminars	Engineering Ethics & Legal, Privacy, and Ethical Issues in Computer Engineering	Tenth Week of the Semester
	Hand in Progress Report	The report should include explanation about your design and coding completed so far	by 5PM, Friday, Thirteenth Week of the Semester
Final (Midterm grades will be published one week before the Final!)		Senior Thesis Qualifying Exam	Final Exam Week!

## **MIDTERM-Thesis Proposal (Presentation) & Midterm Report**

Each group must prepare a midterm report about their senior thesis and hand in to their advisor before the presentation. The report should be 6-8 pages. Please follow the Senior Thesis Writing Guidelines given in our department web site. Please be sure that your report includes the followings:

1. Concise title
2. Group members and their e-mail addresses
3. Your motivation and originality-reasons why you have decided to prepare such project (risk analysis)
4. Problem definition-briefly explain your project problem
5. Briefly explain what you are going to do-scope of your project
6. Explain how you are going to do (method)-technologies that you will use (give brief definition of each technology and reasons why you have decided to use them)
7. List what you have done so far-each group is expected to complete related work, requirement analysis, functional and non-functional requirements, planning, overall design (high level design and preferably detailed design) and coding done so far
8. Planning: Team members and responsibilities, business plan, work packages, measure of success and B plan
9. Feasibility and widespread impact
10. References

Your report will be graded by your advisor.

Each group is expected to present their thesis proposal to their thesis committee, given below. Your presentation should be 8-10 slides and briefly cover your report. Please note that each group has at most 15 minutes for presentation and Q & A. Your presentation will be graded by each committee member and your presentation grade will be average of their marks.

### **Grading Policy for Report**

1. Presentation (20%)-Your work should be typed, spell-checked, and well formatted.
2. Clarity of writing (20%)-The writing should be clear and plain.
3. Clarity of organization (20%)
4. Effectiveness and quality (20%)
5. General impressions (20%)

### **Grading Policy for Proposal Presentation**

1. Originality: 20 %
2. Widespread Impact: 20 %
3. Method: 20 %
4. Feasibility: 20 %
5. Planning: 20 %

## **GRADINGS FOR MIDTERMS**

**1<sup>st</sup> Midterm:** 20% (Midterm Report: 50%, Thesis Proposal (Presentation): 50%)

**2<sup>nd</sup> Midterm:** 10% (Progress Report: 50%, Seminars: 50%)

## **FINAL EXAM-Senior Thesis Qualifying Exam**

Each student has to take the senior thesis qualifying exam. The exam usually takes 90 minutes. It covers the following courses:

1. Programming Languages and Software Engineering
2. Data Structures and Algorithms
3. Database Management Systems
4. Computer Networks
5. Internet Programming and Web Server Programming
6. System Analysis and Design

### **Final Exam Grading:**

There will be two questions about each part (12 questions in total), each worth 10 points. Each student is expected to choose 10 questions to answer.

### **FINAL GRADING:**

1<sup>st</sup> Midterm: 20%

2<sup>nd</sup> Midterm: 10%

Final Exam: 70%

### **Grading Scale:**

76-100	AA
72-75	AB
68-71	BA
64-67	BB
60-63	BC
56-59	CB
52-55	CC
48-51	CD
44-47	DC
40-43	DD
0-39	FF

**Thesis Committees:** Each committee includes at least five members. Committee members will be announced later.

Students cannot take the BIM 437 Computer Engineering Design and BIM 444 Computer Engineering Applications courses during the same semester. To take them during the same semester, following conditions have to be satisfied:

1. The semester is your last semester
2. Your GPA (so far)  $\geq 3.00$
3. Department approval

**P.S.** For all your reports, please follow the Senior Thesis Writing Guidelines given in our department web site.

**P.S.** Please check our website for further announcements.