
LUT
University
LAND
OF THE
CURIOUS

LECTURE 1

INTRODUCTION – SOFTWARE ENGINEERING

GOALS FOR THIS LECTURE:

After this lecture:

1. You know what this course is about
2. You know how to pass the course

AGENDA FOR THIS LECTURE

- Teachers & teaching assistant
- Software Engineering – what is it?
- Course practicalities

COURSE PERSONNEL

- Teachers:
  - Maria Paasivaara, LUT
  - Zhihong Xu, HEBUT

- Teaching assistant:
  - Marianne Seppänen

SHORT BIO – MARIA PAASIVAARA

Professor of Empirical Software Engineering @ LUT, Lahti

Previously:

- IT University of Copenhagen, Denmark
- Aalto University, Finland

Research topics:

- Software engineering processes
- Global software engineering
- Educational research

Hobbies:

- Running, kayaking, riding

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ZHIHONG XU

PROFESSOR, SCHOOL OF ARTIFICIAL INTELLIGENCE, HEBEI UNIVERSITY OF TECHNOLOGY

Give lectures:

1. Software engineering
2. System analysis and design
3. Compilation principles
4. Object oriented programming

Areas of expertise：

1. Recommendation system
2. Knowledge Graph

Recent research outputs：

1. Research on Video Recommendation Algorithm Based on Knowledge Reasoning
2. Research on knowledge Map construction of Film review Emotion Analysis
3. Simulation research on genetic Optimization of Vehicle dynamic Circuit based on big Data

COURSE TEACHING ASSISTANT: MARIANNE SEPPÄNEN

- Teaching assistant at LUT
- 3rd year Bachelor's degree student – also studying Software engineering, but in Finnish on Lappeenranta campus
- Living in Lahti
- Hobbies: jogging, watching reality TV, travelling

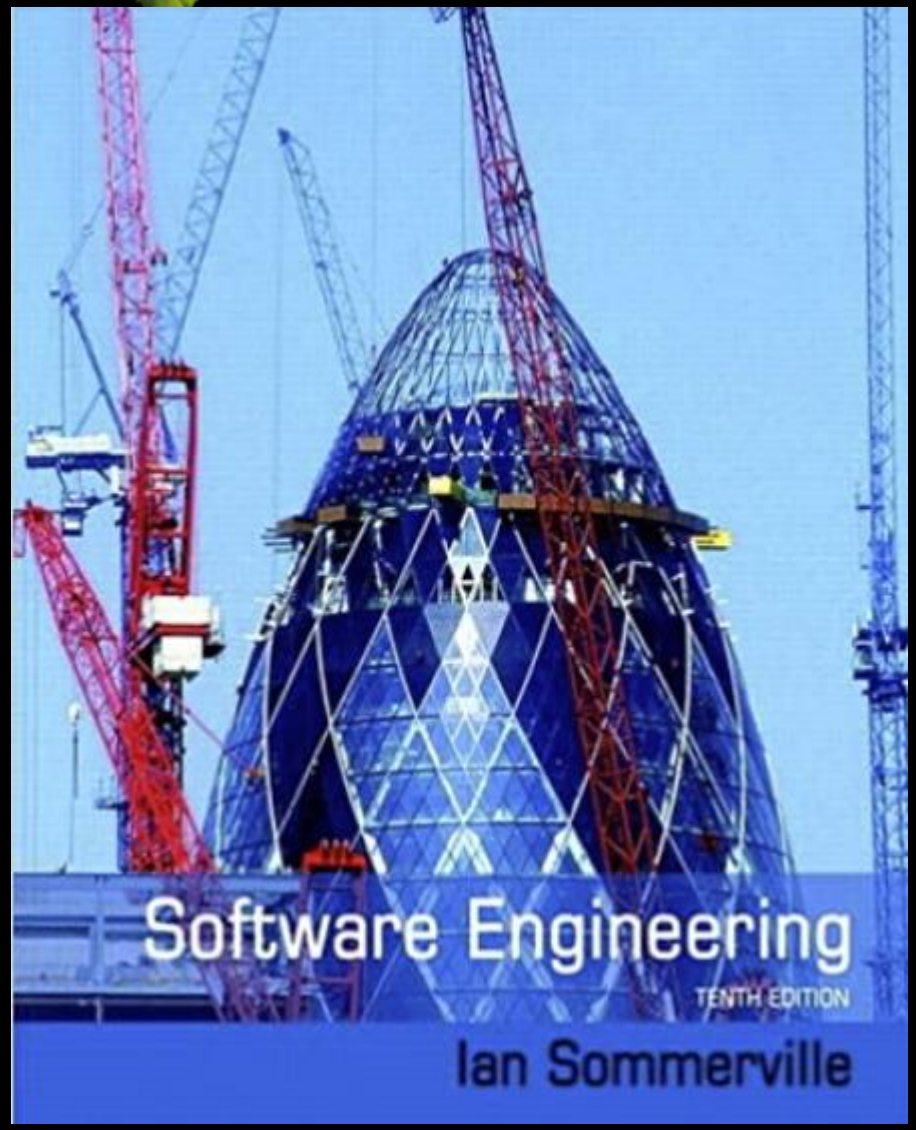
WHAT IS SOFTWARE ENGINEERING?

GO TO : MENTI.COM

COURSE PRACTICALITIES

SOFTWARE ENGINEERING - CONTENTS

- What is software engineering
- Software processes
- Agile software engineering
- Requirements engineering
- Architectural Design
- Modeling and implementation
- Testing & quality
- Software evolution and Configuration Management
- Software project management
- Software project planning
- Global software engineering
- Software business



COURSE PRACTICALITIES:

- Weekly lectures
- Weekly exercises
  - Individual
  - Graded – Deadline each Monday at 10:00 am in Moodle
- Small group project
- Book and articles
- No Exam

COURSE LECTURE SCHEDULE

Date	Topic	Book Chapter(s)
Wed 8.9.	Course introduction	
Tue 14.9.	Introduction to Software Engineering	Chapter 1
Tue 21.9.	Software Processes	Chapter 2
Mon 27.9	Agile Software Engineering	Chapter 3
Tue 5.10.	Requirements Engineering	Chapter 4
Mon 11.10.	Architectural Design	Chapter 6
Wed 20.10.	Modeling and implementation	Chapters 5 & 7
Mon 1.11.	Testing & Quality	Chapters 8 & 24
Mon 8.11.	Software Evolution & Configuration Management	Chapters 9 & 25
Mon 15.11.	Software Project Management	Chapter 22
Mon 22.11.	Software Project Planning	Chapter 23
Mon 29.11.	Global Software Engineering	
Wed 8.12.	Software Business	
Mon 13.12.	Last topics	

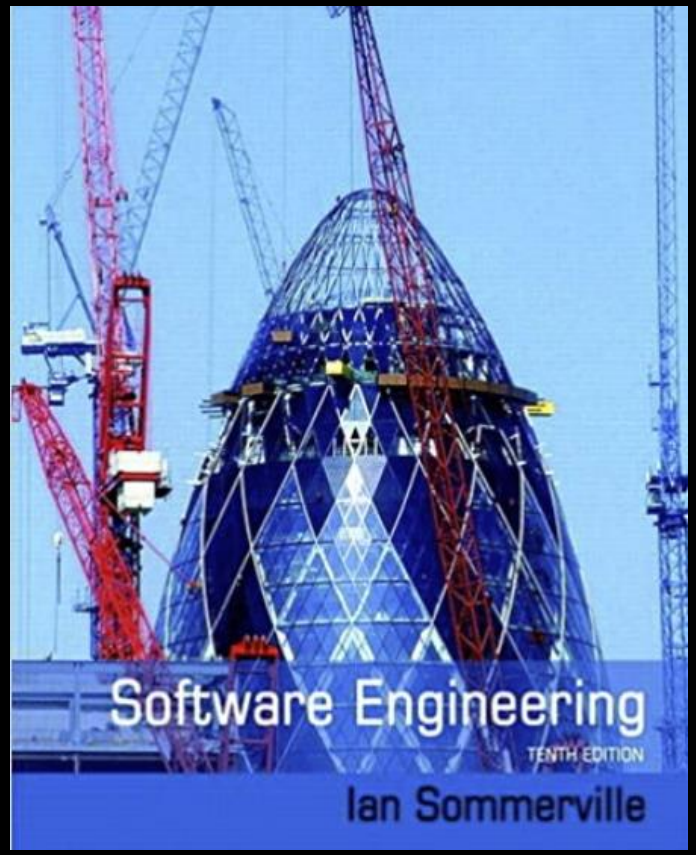
COURSE LECTURE SCHEDULE

Teachers:
Maria
Susan
Sami
Hyrynsalmi

Date	Topic	Book Chapter(s)
Wed 8.9.	Course introduction	
Tue 14.9.	Introduction to Software Engineering	Chapter 1
Tue 21.9.	Software Processes	Chapter 2
Mon 27.9	Agile Software Engineering	Chapter 3
Tue 5.10.	Requirements Engineering	Chapter 4
Mon 11.10.	Architectural Design	Chapter 6
Wed 20.10.	Modeling and implementation	Chapters 5 & 7
Mon 1.11.	Testing & Quality	Chapters 8 & 24
Mon 8.11.	Software Evolution & Configuration Management	Chapters 9 & 25
Mon 15.11.	Software Project Management	Chapter 22
Mon 22.11.	Software Project Planning	Chapter 23
Mon 29.11.	Global Software Engineering	
Wed 8.12.	Software Business	
Mon 13.12.	Last topics	

COURSE BOOK: SOFTWARE ENGINEERING

- by Ian Sommerville
- 10th edition, global edition
  - The course is based on this edition - all quizzes and exercises are based upon it. Use older editions at your own risk.
- Can be found as eBook from PRIMO.LUT.FI (limited number of simultaneous users)
- 4 Hard copies coming to LUT Lahti library
- Additional reading materials provided in Moodle each week



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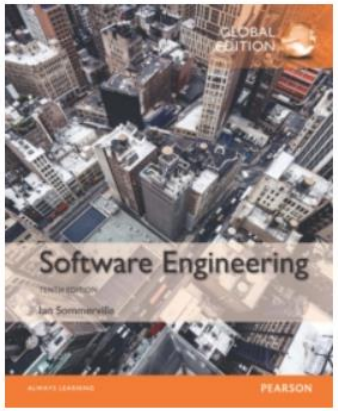

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WEEKLY SCHEDULE

Each week we have:

- One lecture: face-to-face (Zoom + recording)
- One exercise slot (no guided activity, Marianne will be there to answer your questions)
- Readings: Typically, 1-2 Chapters from the book and 1-2 articles
- Quizzes – testing the learning from the readings and lecture
- A written assignment: Typically, an essay of 1-2 pages.
  - Peer-review of a few student assignments

QUIZZES

- The quizzes test your understanding of the material from that week (readings / lecture)
- You should read / listen to the material prior to taking a quiz
- Details:
  - 8-10 questions (multiple choice, matching, true/false)
  - Is timed (max 30 min)
  - Will not show you which questions were answered correctly or incorrectly in order to make you avoid trial-and-error answering
  - Can be taken twice – the score from the best attempt will be your final score
  - The questions have been designed to be easy to answer if you are familiar with the material, but difficult otherwise

WRITTEN ASSIGNMENTS

- Based mainly upon the readings (sometimes might require you to look for extra material by yourself)
  - Theoretical or practical assignments
  - Typically essays of 500-1000 words in length
- The assignments are peer graded
  - Each student grades the assignments of three other students
  - Grading criteria given
  - You get 4 points for your essay, and 2 points for grading
  - **You must both write and grade an essay to get any points**
- The course personnel will assess both the grades given as well as the assignments
  - We aim to give feedback on the written assignments to support your learning (jointly to all or sometimes individual)

PROJECT

- Will be done in small teams (around 4 persons) – teams will be assigned by the course personnel
- Timing:
  - Topics given in November
  - Submission in December
- Topic: planning & requirements engineering of a small project (does not include development/coding)

COURSE FLOW

- Exercise deadline: Monday 10:00 am (hard deadline) - **Late deliveries are not graded!**
  - Submit assignments given on the previous week
    - Written assignment
    - Quiz
    - Peer grading – of written assignments of the week before last week
- New assignments published after each lecture

AMOUNT OF WORK

- 6 ECTS
- 1 ECTS = 27 hours of work
- 6 x 27 = 162 hours
- Around 10 hours per week for this course
- Recommendation: work every week!

GRADING

- Points:
  - 5 points from the honor code and referencing guide assignment (this week)
  - 10 points from other 12 weeks (4 from quiz, 6 from essay (including 3 from peer review)) = 120 points
  - 20 points from the group project
  - **In total: 145 points**

- Extra points:
  - 5 points from the course feedback
  - One extra essay to gain 6 additional points

125-145	**5**
112-124	4
99-111	3
86-98	2
73-85	1
0-72	0

HONOR CODE

- You must accept the honor code to take the course
- Read Moodle for the details
- In practice:
  - You must do all assignment by yourself, without help or collaboration with other students, unless explicitly allowed or required
  - You must write your own assignments, and take the quizzes by yourself, without discussing them with other students until you have submitted your own and the other students have submitted theirs
  - Some activities may require collaboration (e.g. project), if you are required to do something in small teams, it will be mentioned separately
  - You must **reference** any sources you use, including the course textbook

CONSEQUENCES OF VIOLATING THE HONOR CODE

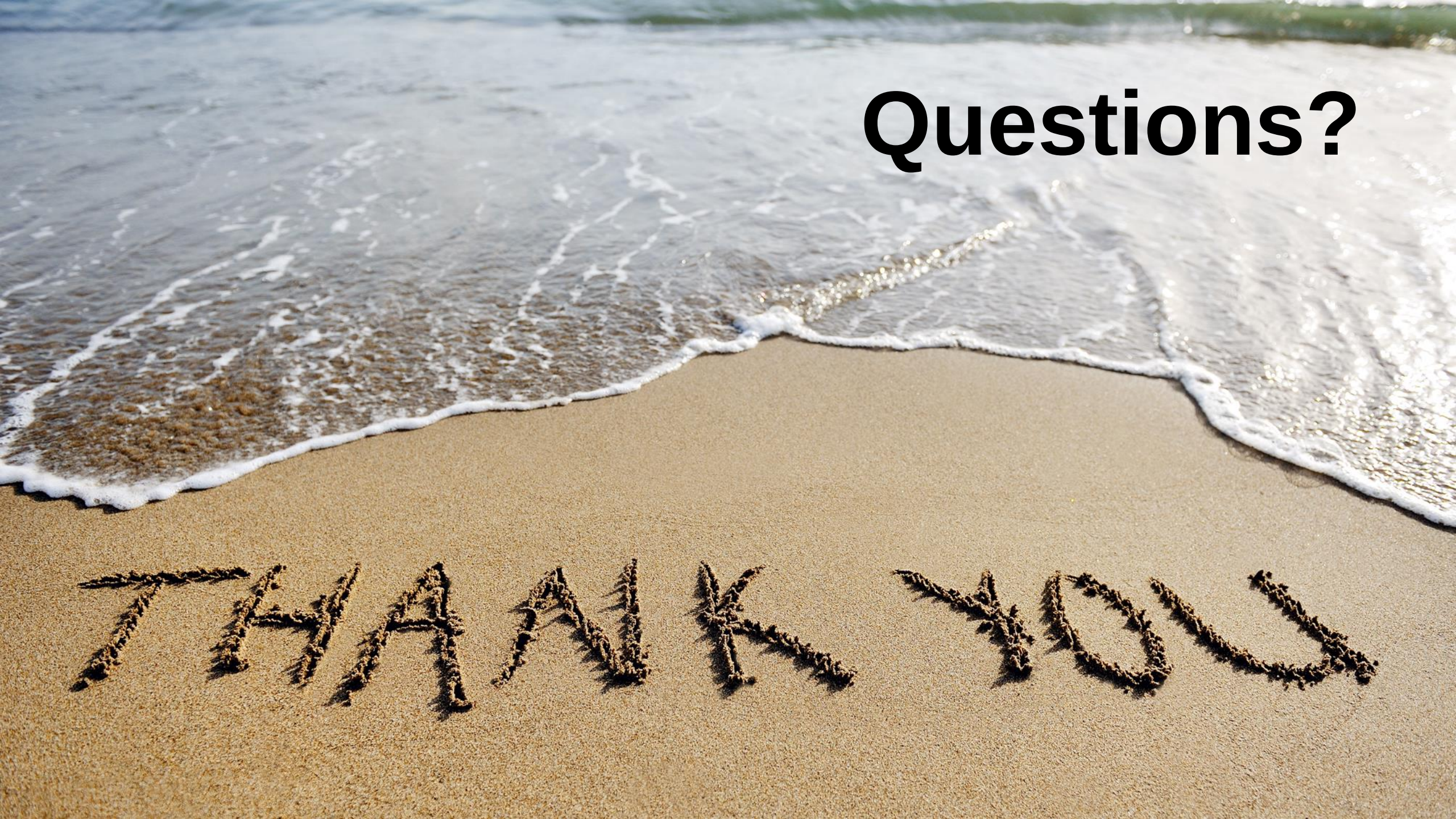
- Failing the course
- Any penalty given by the school committee dealing with academic fraud

REFERENCING

- A way to show where you got your ideas from
- Even if you reference, direct copying of text is not acceptable, unless clearly marked as a quote – large passages should not be quoted
- You should also reference the textbook, when you use it
- Use the Harvard system, as described in the instructions
- When you express your own opinions or experiences, please mention that clearly, e.g.
  - “According to my experience in a small software project…”
  - “I disagree with these authors, because I think that…”

QUESTIONS TO COURSE PERSONNEL

- Prefer asking during lectures: others may have the same question and can hear the answer
- Personal questions:
  - To teachers: during lecture breaks
  - To course assistant: during exercise slots


Questions?
THANK YOU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