

# **WDMM 3314**

## **Web and Multimedia Engineering**

# **SDEV 2301**

## **Principles of Software Engineering**

**Dr. Nour Almadhoun Alserr**

**Fall Semester 2023**





# About Me

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- PhD in Computer Engineering @Bilkent University, Turkey (August 2020).
- Summer School CGSI @UCLA, United States (July 2017).
- MSc in Computer and Information Sciences @UTP, Malaysia, (December 2013).
- BSc in Computer Engineering @IUG, Palestine (February 2010).
  
- Research interest: **data privacy, bioinformatics, and computational genomics.**



# About Me

- Senior Researcher @[SAFARI](#) research group-  
[ETH Zurich](#), Switzerland (September 2020-June 2022).
- Research Intern @[Case Western Reserve University](#), United States (February 2020-August 2020).
- Teaching Assistant @[ETH Zurich](#) @[Bilkent University](#) @[UTP](#) (2011-2022).
- Research Assistant @[Bilkent University](#) @[UTP](#) (2011-2020).
  
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# Top Universities

**THE Times Higher Education**

Home News Rankings Jobs Students Events

Rankings < By subject Reputation Rankings Arab Rankings China Subject Ratings Japan Univer

## World University Rankings 2023 by subject: computer science

The computer science subject table uses the same trusted and rigorous performance indicators as the *Times Higher Education* World University Rankings 2023, but the methodology has been recalibrated to suit the discipline.

This year's table includes 974 universities, up from 892 last year.

[Read more ...](#)

Show me universities best for overall in any country / region

Or, find specific universities by name

RANKING		SCORES			
Rank	Name Country/Region	No. of FTE Students	No. of students per staff	International Students	Female:Male Ratio
1	University of Oxford United Kingdom	20,965	10.6	42%	48 : 52
2	Massachusetts Institute of Technology United States	11,415	8.2	33%	40 : 60
3	Stanford University United States	16,164	7.1	24%	46 : 54
4	ETH Zurich Switzerland	21,665	14.8	41%	33 : 67
5	Carnegie Mellon University United States	14,305	12.9	47%	44 : 56
6	University of Cambridge United Kingdom	20,185	11.3	39%	47 : 53

Engineering & Computer Science > Computer Engineering > Asia > Turkey

### 25 Best universities for Computer Engineering in Turkey

Show Cities ▾

Ranking by academic field

Computer Science Computer Engineering Go

Below is a list of best universities in Turkey ranked based on their research performance in Computer Engineering. A graph of 11.9M citations received by 1.01M academic papers made by 25 universities in Turkey was used to calculate publications' ratings, which then were adjusted for release dates and added to final scores.

We don't distinguish between undergraduate and graduate programs nor do we adjust for current majors offered. You can find information about granted degrees on a university page but always double-check with the university website.

**1. Bilkent University**

For Computer Engineering  
#108 in Asia  
#348 in the World

Turkey | Ankara

Enrollment 11,701 Founded 1984

Statistics ▾ Rankings ▾



**No. 1**  
University in Malaysia  
**No. 1**  
Private University in ASEAN



RANKED 63  
**THE** World University Rankings 2023 Asia

RANKED 79  
**THE** World University Young 2023 TOP 80  
**THE** World University Rankings 2023 TOP 500

RANKED 68  
TOP 100 2023  
**QS** WORLD UNIVERSITY RANKINGS ASIA

RANKED 307  
**QS** WORLD UNIVERSITY RANKINGS 2024 IN THE TOP 350 IN THE WORLD



# Course Info

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## ■ **Lecture Times:**

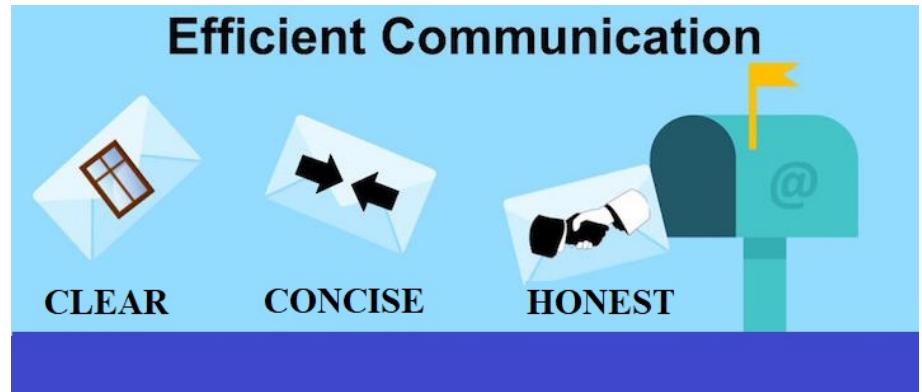
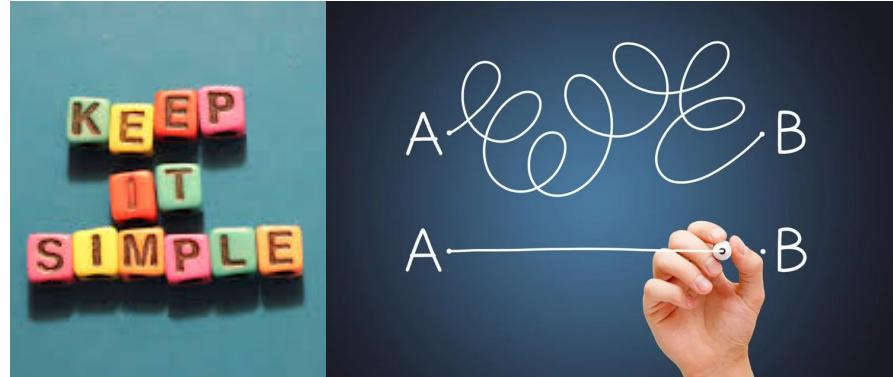
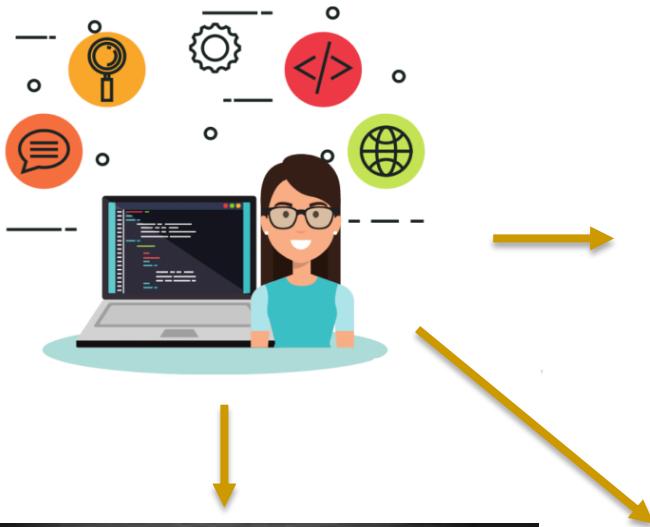
- **Section 201:** Sat, Mon & Wed: 08:00-09:00      Room: L304
- **Section 201:** Sat, Mon & Wed: 9:00-10:00      Room: I102
- **Section 202:** Sat, Mon & Wed: 11:00-12:00      Room: L317

## ■ **Office Hours:** TBA (to be announced) .

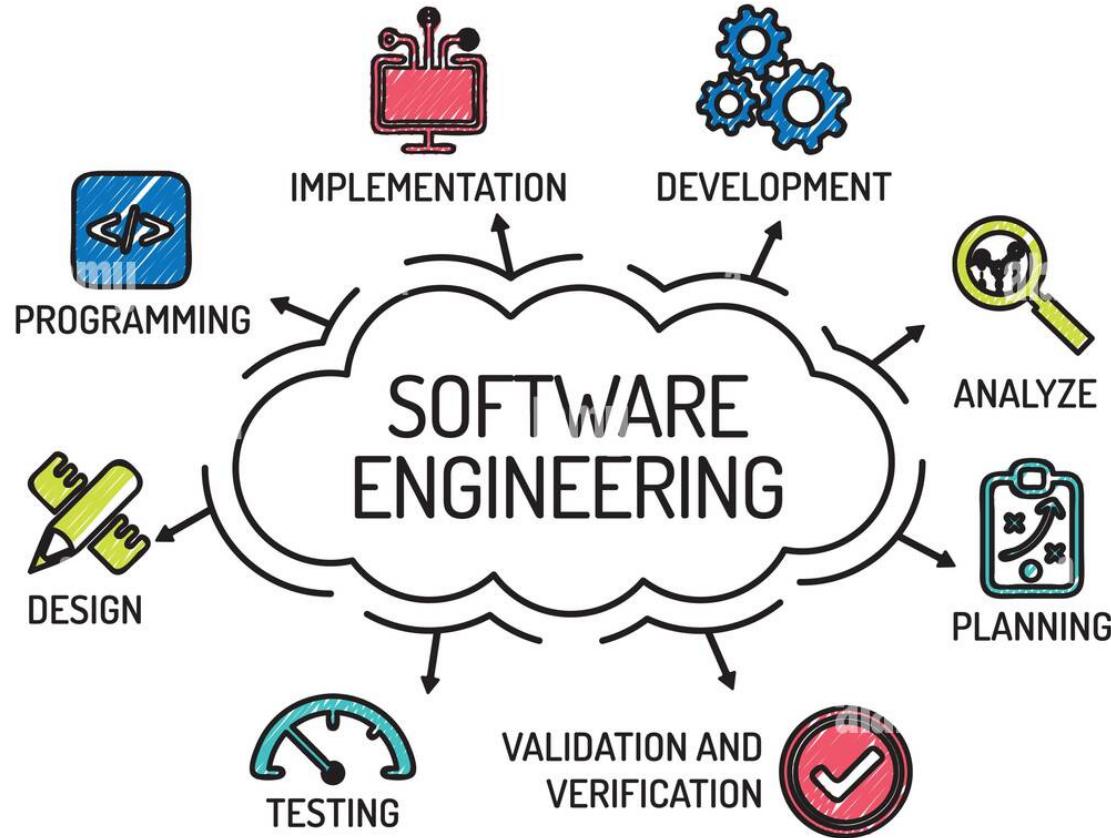
## ■ **Office Location:** TBA.

# Software Engineers

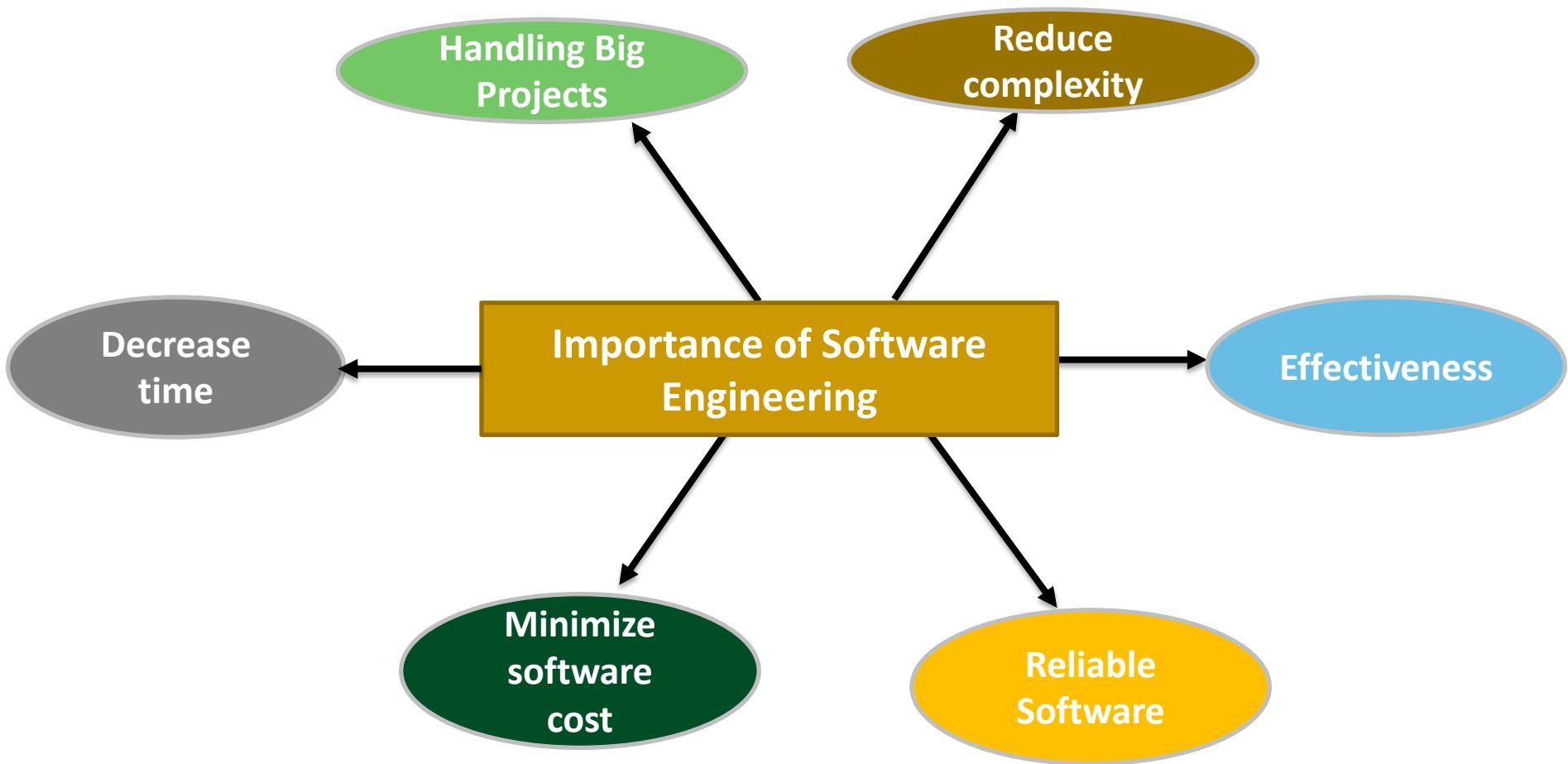
- **Software Engineers** apply **Engineering Principles** to software creation.



# Software Engineering



# Need for Software Engineering





# Course Description

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- **This course covers the following topics:**
  - Introduction to the concepts, methods, and current practices of software engineering and web engineering.
  - Software engineering process and process models.
  - Project management and planning.
  - Requirements engineering.
  - System modeling.
  - Detailed design and implementation issues.
  - Verification and validation.
  - Software application framework.
  - Documentation.

# Course Objectives



Together Achieves Everyone  
T E A M More



# Course Schedule

Week	Topic	Readings
1	Introduction	Chapter 1
2,3	Software Processes	Chapter 2
4,5	Project Management & Planning	Chapter 22&23
6,7	Software Process Models	Chapter 3
8,9	Requirements Engineering	Chapter 4
10,11	System Modeling (Unified Modeling Language (UML))	Chapter 5
12	Design and Implementation	Chapter 7
13	Software Testing	Chapter 8
14	Software Applications Frameworks	Chapter 15
15	Review and Course Project Discussion	



# Course Teaching Method

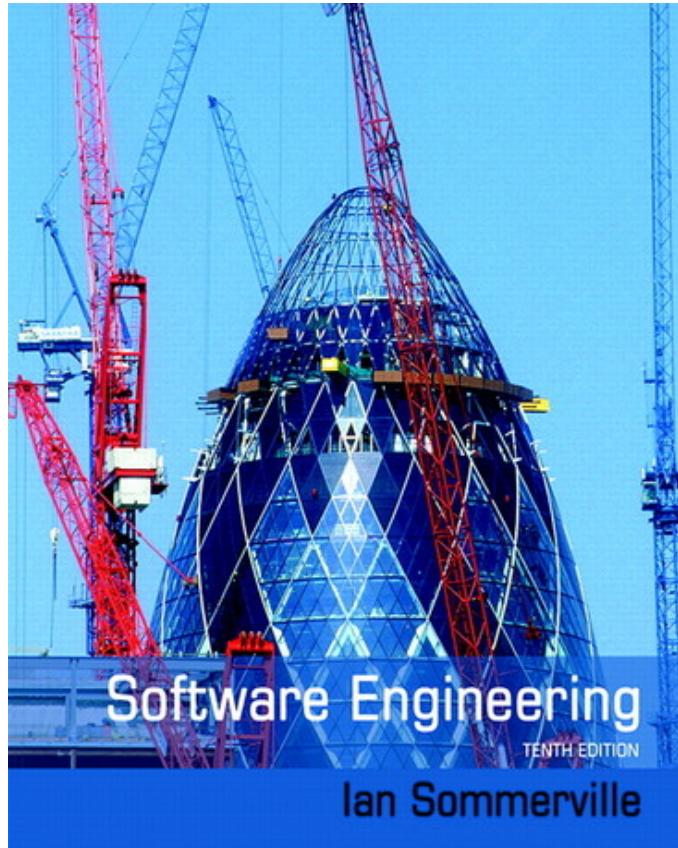
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- The class will be taught as a combination of:
  - Lectures.
  - Software presentations.
  - Group discussion.
  - Exercises and discussion of real world cases.
  - Online learning using Moodle.
  - A project describes the development of a real-world software application.

# Main Textbook

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- Ian Somerville, “Software Engineering”, 10th edition, Pearson, 2016.



# Course requirements

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- Include attendance of all lecturers, demonstrations and review of assignments given in previous classes. Excessive absences that exceed 25% of the lectures will be reported to the college administration.
  
- The students must learn and use the following software tools carefully: [MS Project](#), [Visual Paradigm](#), [Visual Studio Code](#), [NetBeans](#) and must have good experience with at least one of the following programming languages: [Java](#), [JavaScript](#), [PHP](#) and/or [Python](#).

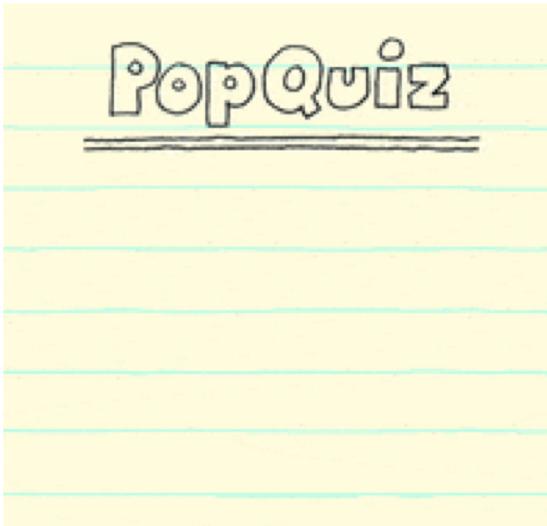
# Grading

Criterion	Percentage
Attendance, Assignments and Quizzes	20%
Project	20%
Midterm	20%
Final exam	40%
<b>Total</b>	<b>100%</b>

# Assignments and Quizzes

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- The assignments will be provided throughout the course.
- An assignment at the end of each chapter.
- Hand written answers are required.
- Several pop quizzes throughout the course.



Do you have  
any QUESTION?

