

# CSCI 1304: Programming I

Dr. Nour Almadhoun Alserr

Fall Semester 2023





# About Me

---

- 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).
  
- Contact: [nour.madhoun@gmail.com](mailto:nour.madhoun@gmail.com)



# 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  
**QS** WORLD UNIVERSITY RANKINGS ASIA 2023  
RANKED 307  
**THE** WORLD UNIVERSITY RANKINGS 2024 IN THE TOP 350 IN THE WORLD



# Course Info

---

## ■ **Lecture Times:**

- **Section 201:** Sunday & Tuesday: 12:30-14:00      Room: L217
- **Section 202:** Sunday & Tuesday : 09:30-11:00      Room: L216

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

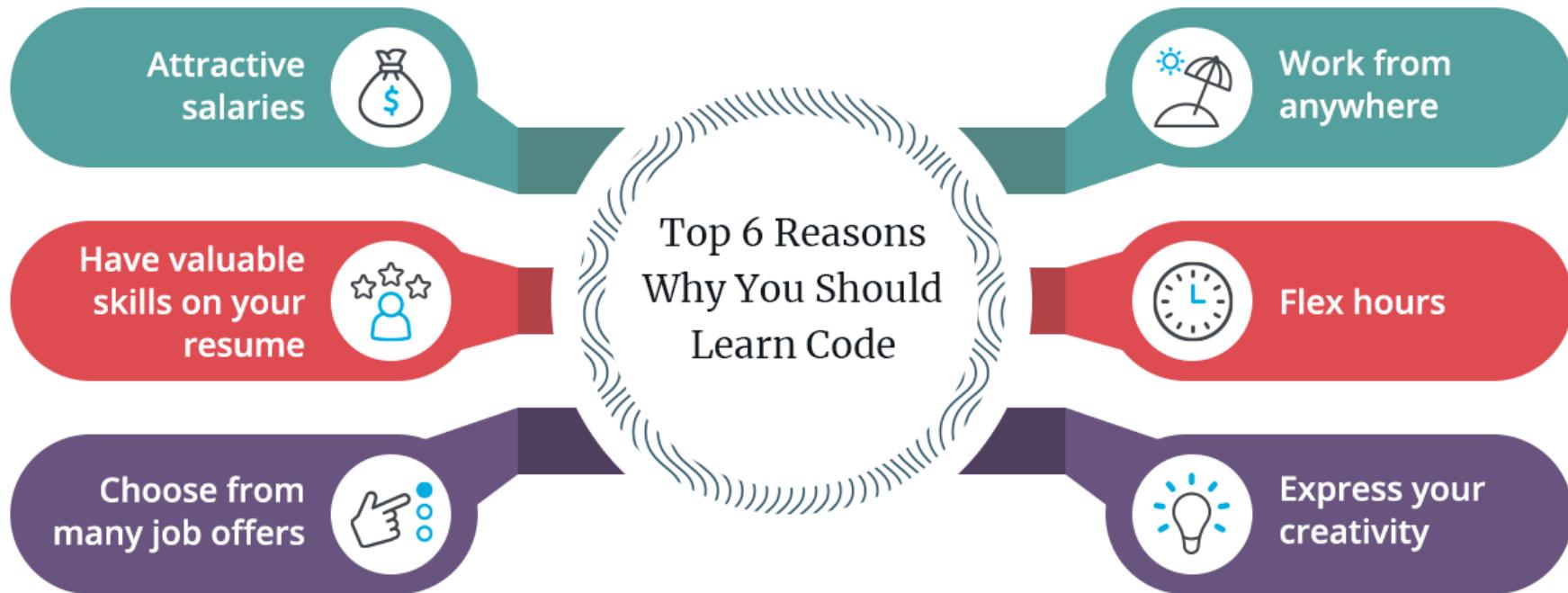
## ■ **Office Location:** TBA.

# Programming

- **Programming** is a process of **designing** and **writing** computer programs that make the workings of a computer more efficient.
- It is a **form of communication** that uses **symbols** to represent **instructions** for making a machine do what you want.
- Programming enables people to solve practical problems by breaking them down into a series of logical steps, known as algorithms or programs.



# Reasons to Learn Programming



# Reasons to Learn Programming



1. MATH SKILLS



2. WRITING SKILLS



3. CREATIVITY



4. CONFIDENCE



5. ORGANIZATION



6. RESILIENCE



7. COMMUNICATION



8. EMPOWERMENT



9. LIFE SKILLS



10. CAREER PREPARATION

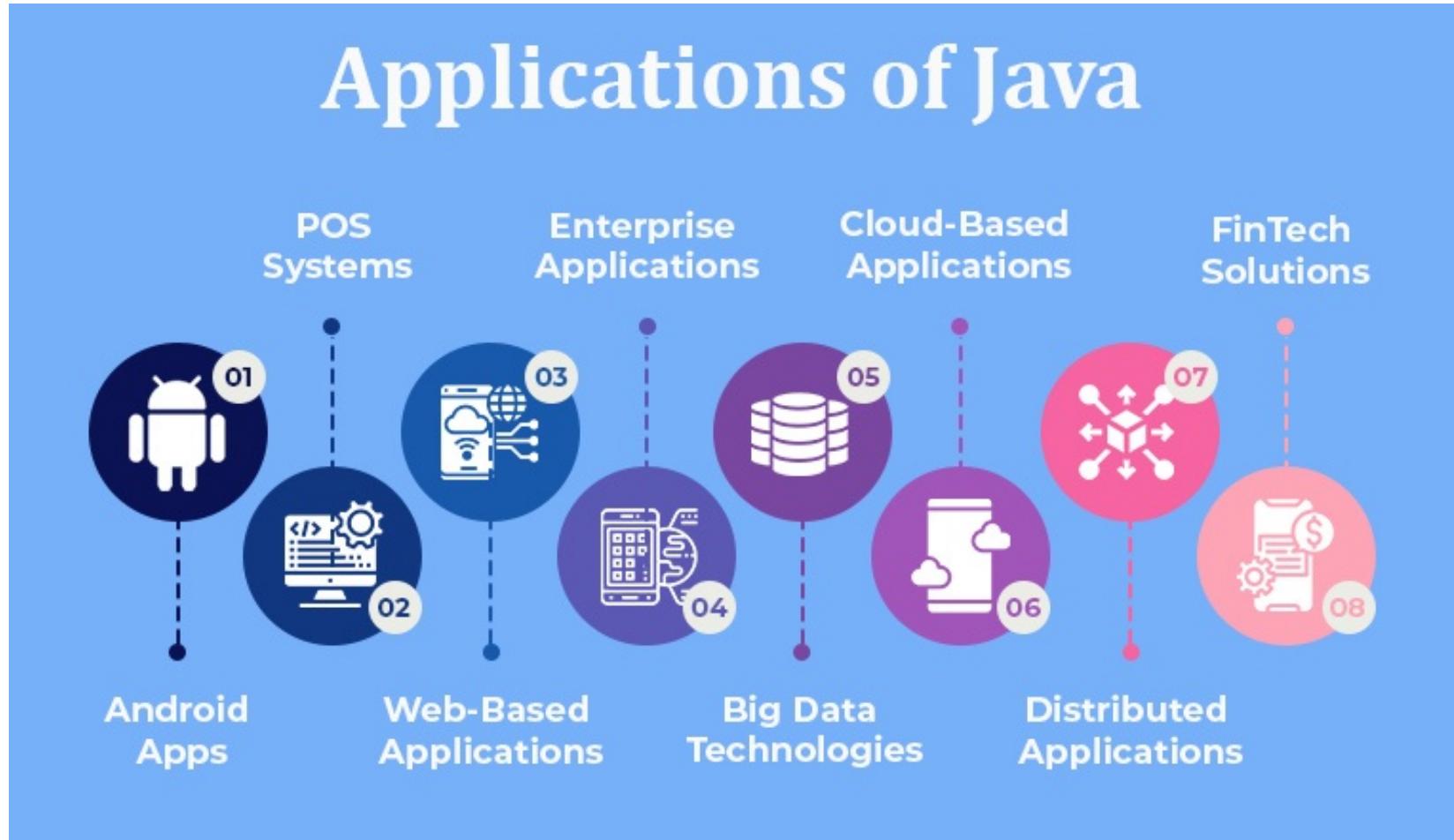
# Java

---

- **Java** is a widely used class-based, object-oriented programming language and software platform that runs on billions of devices, including **notebook computers, mobile devices, gaming consoles, medical devices and many others.**
- When the language was invented in 1991, the primary goal was to be able to "**write once, run anywhere (WORA)**".



# Java Applications



# Top Java Apps

## Top Java Applications



The Mars Rover



Google



eBay



Minecraft



Netflix

UBER

Uber



Eclipse IDE



Twitter



Spotify



CashApp



Signal



NASA WorldWind

# Why Java?

## Features of Java

Simple

Object-oriented

High-performance

Secure

Architecture – Neutral

Portable

Robust

Dynamic

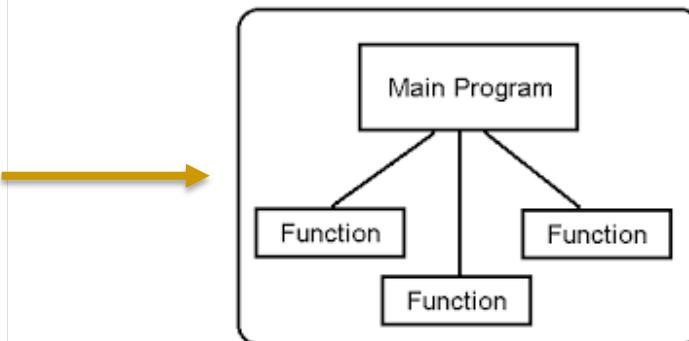
Multithreaded

Distributed



# Course Description

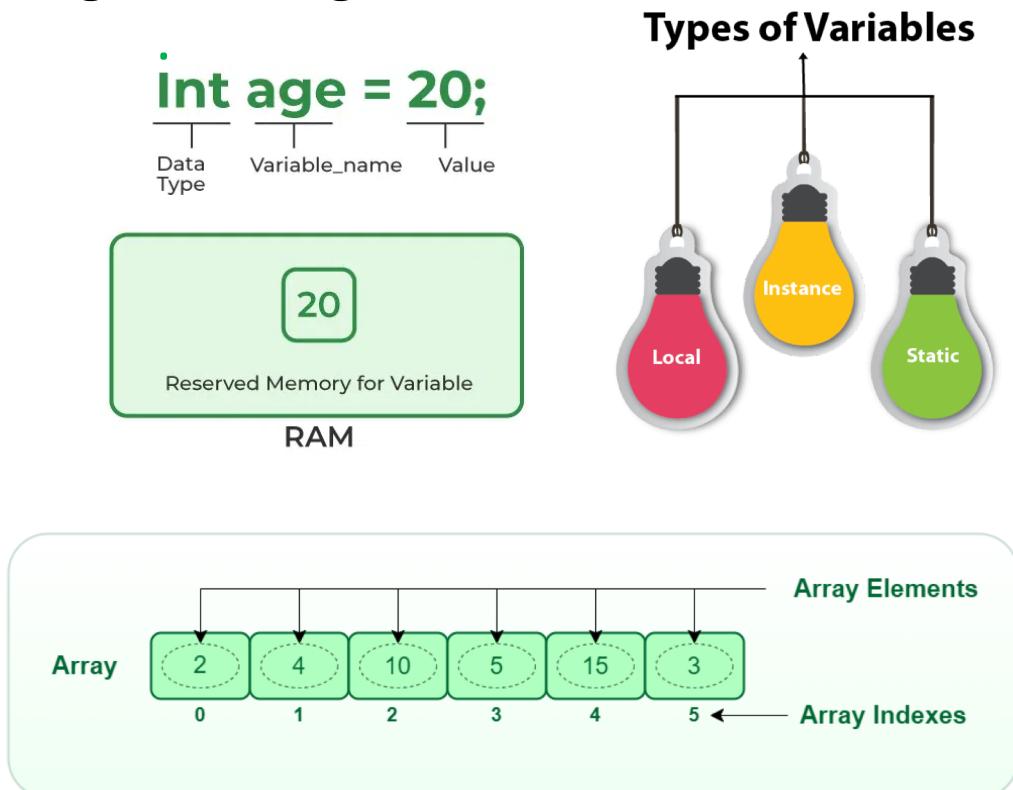
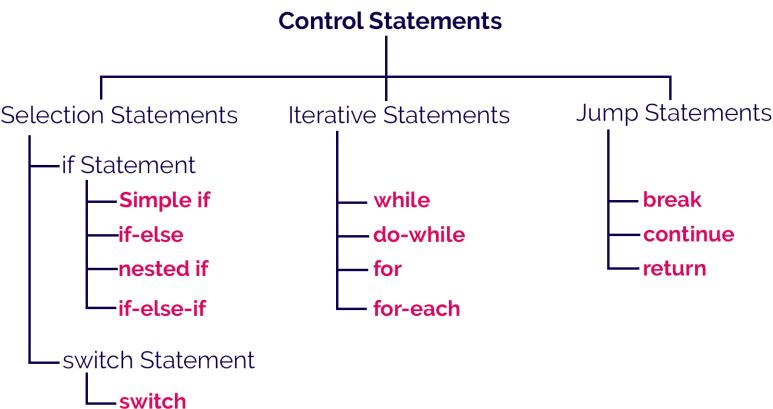
- **This course covers the following topics:**
- Introduction to the fundamentals of programming and problem solving techniques.
- Teaching the process of building a project in a modular fashion.



# Course Description

## ■ This course covers the following topics:

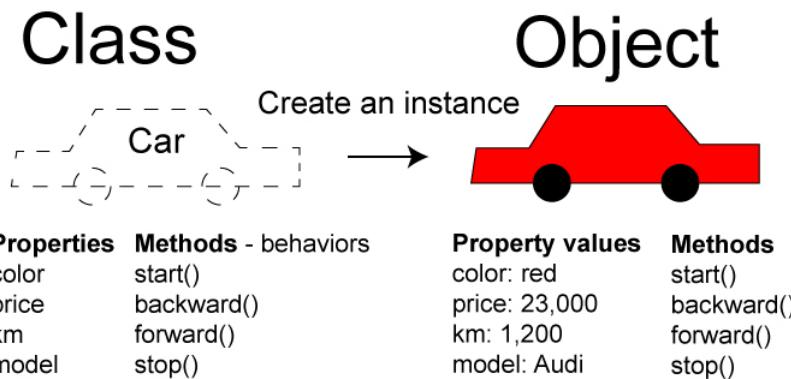
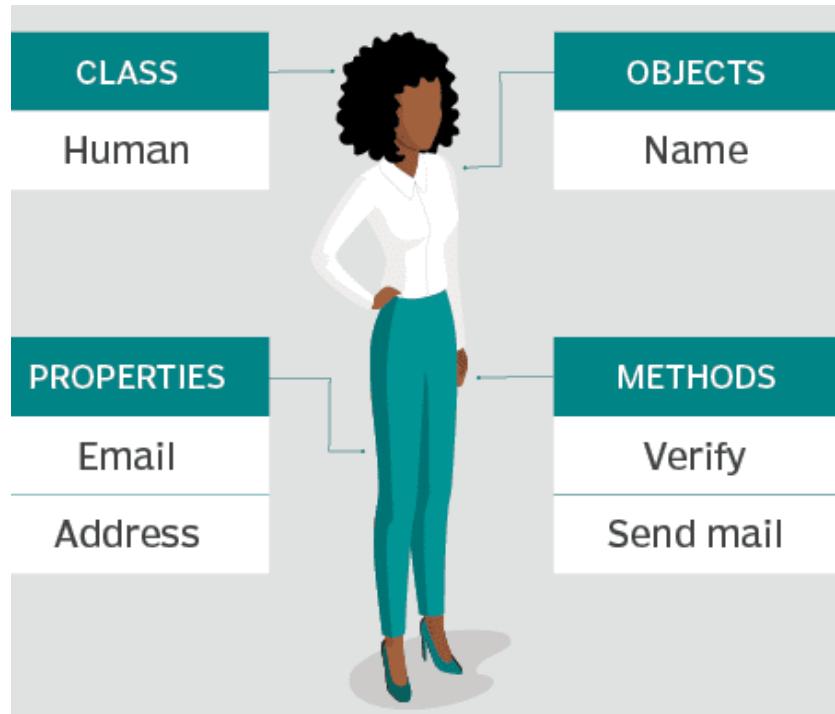
- Fundamentals of programming including
  - Variables.
  - Control statements.
  - Arrays.



# Course Description

## ■ This course covers the following topics:

- Fundamentals of programming including
  - Object-oriented programming (OPP) in Java.
  - Principles of object oriented classes, and objects.



1 <https://ambmfam.com/what-is-object-oriented-programming/>

2 <https://codersite.dev/understanding-oop-concepts/>

# Course Objectives

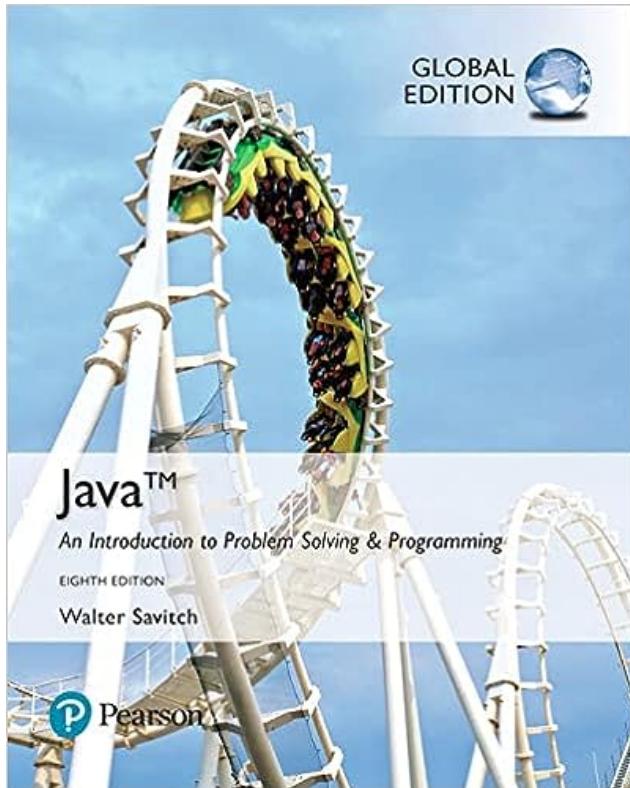


Together Everyone Achieves More

# Main Textbook

---

- Java: An Introduction to Problem Solving and Programming, 8th Edition, By Walter Savitch, Pearson (2017).





# Course Schedule

Serial	Topic	Readings
1	Introduction to Programming	CH1
2	Introduction to Computer, Program, and Java	
3	Elementary Programming	
4	Fundamentals of Programming	
5	Primitive Data Types, Variables, constants, assignments	CH2
6	Expressions and operators	
7	Conditional (selection) statements	CH3
8	Mathematical Functions, characters and String	
9	Loops	CH4
10	Methods	CH6
11	Arrays	CH7
12	Introduction to Classes and objects	CH5
13	Defining Classes , Constructors, and Methods	CH5 & CH8
14	Course Closing	



# Course Teaching Method

---

- The class will be taught as a combination of:
  - Lectures.
  - Software presentations.
  - Group discussion.
  - Exercises and discussion of real-world coding examples.
  - Online learning using Moodle.
  - A project.



# Course requirements

---

- 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.

# Grading

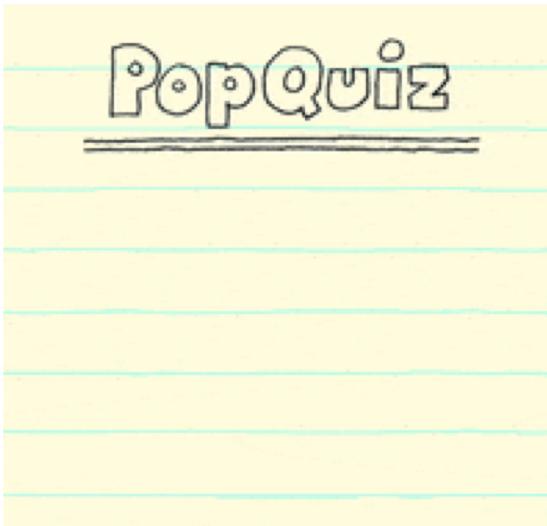
---

Criterion	Percentage
Attendance, Assignments and Quizzes	15%
Project	25%
Midterm	20%
Final exam	40%
<b>Total</b>	<b>100%</b>

# Assignments and Quizzes

---

- 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?

