

# CS 4530: Fundamentals of Software Engineering

## Lesson 1.1 Course Introduction

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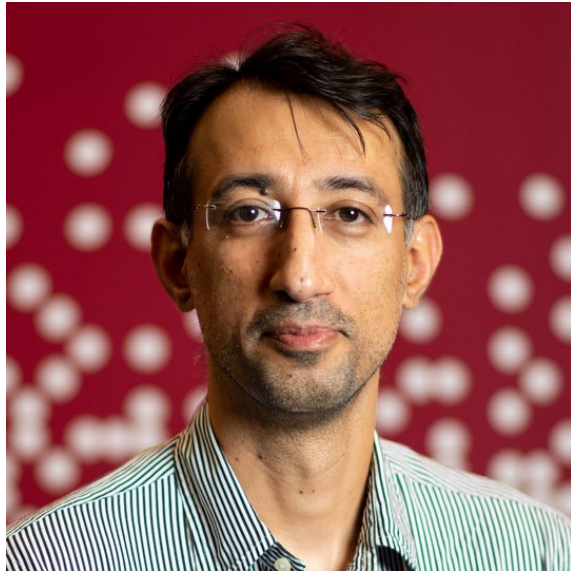
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Khoury College of Computer Sciences

# Instructors

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Jonathan Bell



Adeel Bhutta



Ferdinand  
Vesely



Mitch Wand

# Teaching Assistants

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- We have around 360 students and 18 teaching assistants.
- Their pictures are on the website as soon as we collect them
- They will have office hours online, using Khoury Office Hours app.

# Learning Objectives for this Lesson

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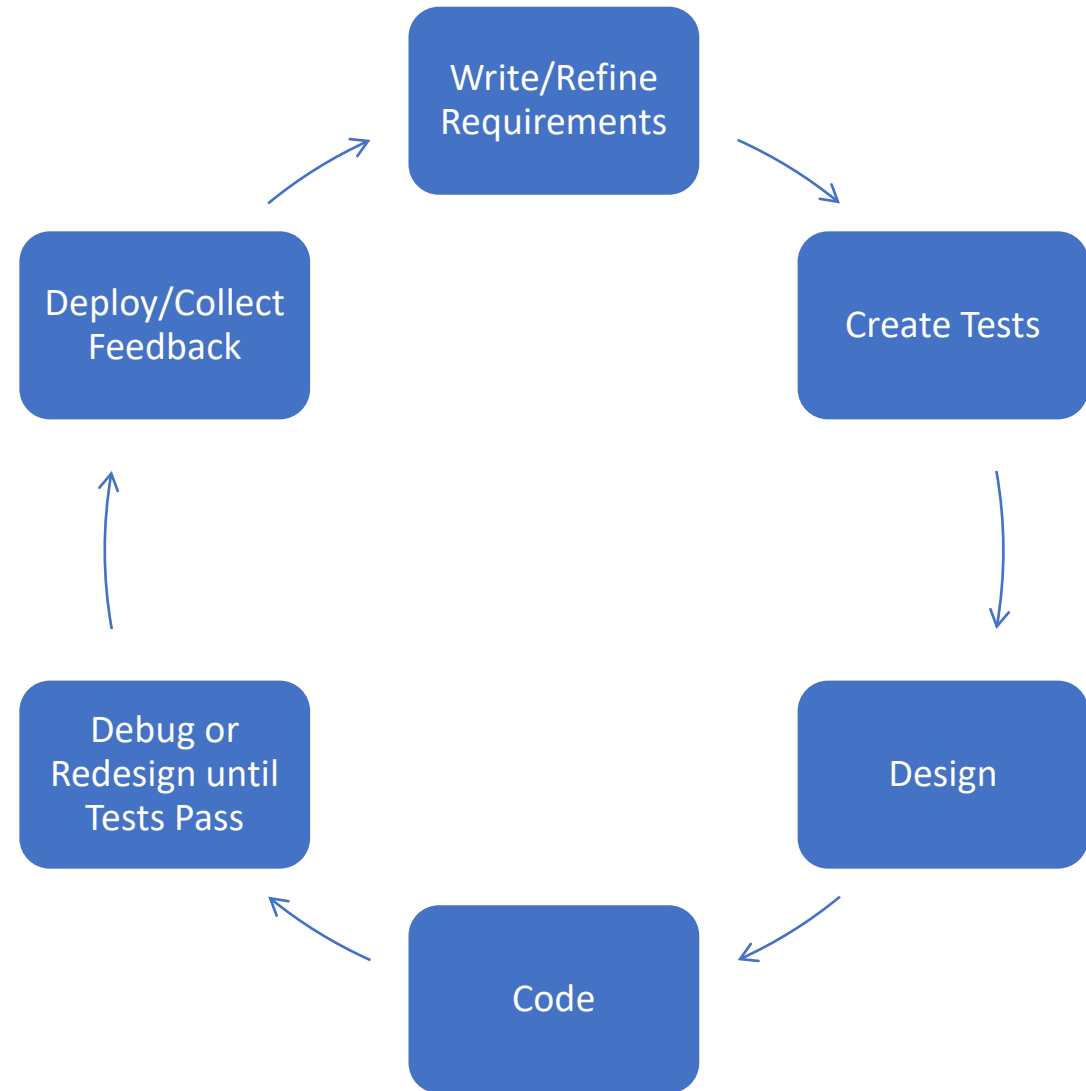
- By the end of this lesson you should be able to:
  - Explain in general terms what software engineering is
  - List your weekly obligations as a student
  - List the requirements for completing the course

# What is software engineering?

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- Software Engineering refers to the tools and processes that we use to
  - design,
  - construct, and
  - maintain programs
  - over time.

Software Engineering encompasses the entire software development life cycle



# But this raises many questions

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- How big is each cycle?
  - In code to be written?
  - In time?
  - In person-power?
- Can you have multiple cycles going at once?
- What artifacts need to be produced at the end of each stage?
  - Need to prepare for the next time through the cycle.
  - Need to document what was done, so that others can build on your work.

# The answers depend on many factors

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- Depends on things like:
  - the size of the team
  - the size of the product
  - the longevity of the product
- There's no one "right" way; there are always tradeoffs.
- But there are best practices, which we will expect you to follow.



# Software Engineering is about People

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“Any fool can write code that a computer can understand. Good programmers write code that humans can understand”

- Martin Fowler



# Learning Objectives for this course:

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- By the end of this course you will--
  - Be able to define and describe the phases of the software engineering lifecycle.
  - Be able to explain the role of key processes and technologies in modern software development.
  - Be able to productively apply instances of major tools used in elementary SE tasks.
  - Design and implement a portfolio-worthy software engineering project in a small team environment that can be showcased to recruiters.

# Approach

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- The course will mirror the steps of the software engineering life cycle
  - starting with requirements, through testing and deployment
  - we will move some material forward to make sure that you have the learning you need when you need it
  - Will start with several individual homework assignments
  - Then a group project, done in teams of about 4 people

# Technology

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- We will use:
  - TypeScript as implementation language
  - Visual Studio Code as our IDE
  - REACT for web pages
  - Also git, and other miscellaneous tools

# Course Mechanics

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- Our goal is to provide a productive learning environment to both remote and on-the-ground students
- 100% attendance is expected for both on-the-ground and remote sections
- Classes will include both lectures and in-class activities.
- Be sure to bring your laptop
- Weekly slides will be posted in advance, so be prepared to ask and answer questions about the material.

# Course Mechanics: In-Class Exercises and Tutorials

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- There will often be in-class exercises to give you practice with the technologies we will use.
- In addition, there will be tutorials posted on the web.
- Typically, will consist of structured steps that will guide you through a typical task

# Course Mechanics (Wand section)

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- Professor Wand's section will be remote-only.
- Students in this section will be expected to leave their cameras ON for the duration of the class.
- Students in this section will be expected to read the slides before coming to class.
- Students in this section will be expected to come to class prepared with **two questions** to ask about the week's material.

# Course Requirements

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- There will be four homework assignments due during the first half of the term, plus a final project that will be due at the end of the term.
- You will complete the assignments individually, and the project in a group of 4 or 5.
- The overall grading breakdown is:
  - 35% Homeworks
  - 35% Team Project
  - 10% Quizzes and in-class activities
  - 20% Final Exam



# Grade Appeal Policy

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- If you have concerns regarding the grading of your work, please let us know right away by opening a regrade request in GradeScope.
  - Do **not** post on Piazza or email your TA or instructor
    - GradeScope provides an interface that allows us to review all regrade requests in one place.
  - All regrade requests must be submitted within 7 days from your receipt of the graded work.
  - If your regrade request is closed and you feel that the response was not satisfactory, you may appeal to the instructor via email within 48 hours

# Late Policy

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- Your work is late if it is not turned in by the deadline.
  - 10% will be deducted for late HW assignments turned in within 24 hours after the due date
  - HW assignments submitted more than 24 hours late will receive a zero.
  - If you're worried about being busy around the time of a HW submission, please plan ahead and get started early.
  - If you have an accommodation from Disability Services, you must request it for each assignment.

# Academic Integrity (1)

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- Students must work individually on all homework assignments.
- We encourage you to have high-level discussions with other students in the class about the assignments, however, we require that when you turn in an assignment, it is only your work. That is, copying any part of another student's assignment is strictly prohibited.
- If you steal someone else's work, you fail the class.
- You are responsible for protecting your work. If someone uses your work, with or without your permission, you fail the class.

# Academic Integrity (2)

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- You are free to reuse small snippets of example code found on the Internet (e.g. via StackOverflow) provided that it is attributed.
- If you are concerned that by reusing and attributing that copied code it may appear that you didn't complete the assignment yourself, then please raise a discussion with the instructor.
- If you are in doubt whether using others' work is allowed, you should assume that it is NOT allowed unless the instructors confirm otherwise.

# Communication

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- Canvas
- Course web page (<https://neu-se.github.io/CS4530-CS5500-Spring-2022>)
  - Canvas and the course web site will mirror each other.
  - Assignments, important notices, etc., will appear in both places.
- Piazza (see Canvas for link)
  - for questions about assignments, etc.
- Slack (for Prof. Wand's section only)
  - For communication when we are in Zoom breakout rooms.

# Review

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- Now that you've studied this lesson, you should be able to:
  - Explain in general terms what software engineering is
  - List your weekly obligations as a student
  - List the requirements for completing the course