An abstract network diagram with white nodes and lines on a dark blue background, representing a complex system or network.

# CS1101

# Programming and Problem Solving

Dr. Gina Bai

Fall 2022

# Instructor

- Dr. Gina Bai
- [rui.bai@vanderbilt.edu](mailto:rui.bai@vanderbilt.edu)
- Office: FGH 381
- Office Hours:
  - Mon/Wed, 10:00am – 11:30am
  - OR by appointment

# Teaching Assistants (TAs)

We have a group of TAs!

- Names, emails, office hours will be posted on Brightspace > Staff
- ALL TA office hours will be held in **FGH 201**
- **SHARED** TA office hours



# Piazza

- <https://piazza.com/vanderbilt/fall2022/cs1101>
- **Preferred** communication method
- Class discussions & Questions
  - All questions related to **programming assignment**
  - You are encouraged to **ask** questions and **answer** other's questions
  - **NEVER post your code publicly**

# What is Computer Science?

- Computer science is the study of computation
- Computer science and engineering is the systematic study of algorithmic processes that describe and transform information: their theory, analysis, design, efficiency, implementation, and application.

by ACM (Denning, et al., 1988)

# Challenges when dealing with computers

- Computers have no rational thought.
- Computers require steps of instructions that are very specific.
- Computers do not understand natural languages.

# What is computer programming?

- Computer Science is not just programming
- Computer Programming
  - The art of **designing** and **writing** a group of **instructions** that the computer's processor executes.
    - Program: a list of instructions to be carried out by a computer

# How do we interact with computers?

- Programming languages
  - allow us to write code that uses mostly English and arithmetic operators.
- Compiler
  - translates code we can understand into 0's and 1's that the processor can understand.



# What will you learn in CS1101?

- Problem Solving
  - the purpose of writing a program is to solve a problem
- Java programming language
- Concepts of Object-Oriented Programming (OOP)
  - encapsulated collection of data variables and methods
- Documentation techniques

# Course Resources – Required



## **Brightspace**

Grades, announcement, ...



## **TopHat**

In-class activities / Participation

# Course GitHub Repo

## Lectures ▾

Course materials are also available on [Course GitHub Repo](#).



## Tentative Schedule

📌 Slides will be posted before the class meetings, check often.

Week	Date	Topics	Assignments (Central Time)
1	Aug 24	<ul style="list-style-type: none"><li>• <a href="#">Introduction</a></li></ul>	HW0-A , HW0-B on Brightspace > First Week <b>DUE:</b> Monday, Aug 29, at 11:59 pm
	Aug 26	<ul style="list-style-type: none"><li>• Structure of Java</li><li>• Write-Compile-Execute</li></ul>	<ul style="list-style-type: none"><li>•  PA00-A , PA00-B in zyBook &gt; Chap 12 <b>DUE:</b> Thursday, Sept 1, at 11:59 pm</li><li>•  ZY-1 , ZY-2A in zyBook &gt; Assignments <b>DUE:</b> Saturday, Sept 3, at 11:59 pm</li></ul>
2	Aug 29	<ul style="list-style-type: none"><li>• Debugging</li><li>• Program Errors</li><li>• Primitive Data Type</li></ul> <p> Recommended Reading:</p> <ul style="list-style-type: none"><li>• <a href="#">Oracle - Java Tutorial: Primitive Data Types</a></li></ul>	
	Aug 31	<ul style="list-style-type: none"><li>• Expressions</li><li>• Variables</li><li>• Scanner with integers</li></ul>	
	Sept 2	<ul style="list-style-type: none"><li>• Math Class</li><li>• Constant &amp; Class Constant</li></ul>	
3	Sept 5	<ul style="list-style-type: none"><li>• Strings</li><li>• Scanner with Strings</li></ul>	
	Sept 7	<ul style="list-style-type: none"><li>• Static Method Parameter &amp; Return Value</li></ul>	
	Sept 9	<ul style="list-style-type: none"><li>• Passing Parameters</li><li>• Verify Parameter Values</li><li>• Scanner as a Parameter</li></ul>	
4	Sept 12	<ul style="list-style-type: none"><li>• Boolean</li><li>• Equality, Relational, Logic Operators</li></ul>	
	Sept 14	<ul style="list-style-type: none"><li>• Conditionals</li><li>• Conditional expressions</li></ul>	
	Sept 16	<ul style="list-style-type: none"><li>• TBD: 1) Finish the topics above if needed, or 2) Exam 1 review, or 3) more conditionals</li></ul>	
5	Sept 19	Exam 1 Review and/or Q&A	
	Sept 21	Midterm Exam 1	

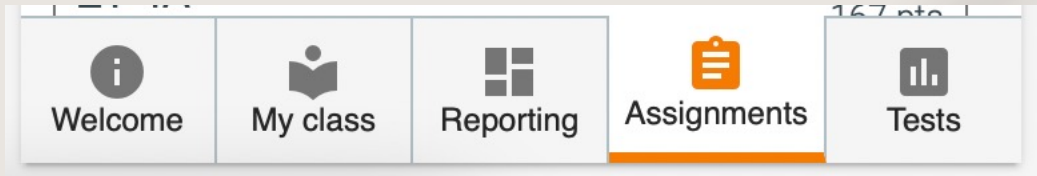
# Course Resources – Required



**zyBook**

Textbook

"ZY" assignments: Assignment



"PA" assignments: Chapter 12

12. Programming Assignments (PAs) | zyLabs

# Course Resources – Required



**codePost**

Assignment grading



**Gradescope**

Exam grading

# Course Structure

- Assignments
  - Activities (Participation & Challenge) on zyBook ("ZY", ~10 in total) – **10%**
  - Programming Assignments ("PA", ~11 in total) – **45%**
- Participation – **5%**

# Course Structure

- Exams
  - Midterm 1 – **10%**
    - Sept 21
  - Midterm 2 – **15%**
    - Oct 26
  - Final – **15%**
    - Dec 13

# Grading Disputes

- Regrade requests MUST be submitted **within TWO weeks** after grades are released
  - **Where** do I find the grades?
    - For assignments, visit **codePost**
    - For exams, visit **Gradescope**
  - **Who** do I contact about the grading disputes?
    - For assignments, contact TAs
    - For exams, contact your instructor (yea that's me)



# Late Work Policy

- Penalty
  - 20% for (0, 24] hours late
  - 50% for (24, 48] hours late
- Assignments will be accepted late **up to 48 hours**.

# Late Work Policy

**FOUR** *free* late days for programming assignments ("PA")

- One late day extends a deadline by 24 hours
- Regardless of the use of free late days or not, **no submissions** will be accepted **48 hours after** the due date
  - Also means we only allow **up to two late days per assignment**
- Two free late days are given at the beginning, the remaining two will be given at the start of Week 8

# Exam make-up policy

- Midterms
  - Makeups only for *serious* (**documented**) reasons
  - A student sending an email or leaving a phone message does not constitute permission
  - Otherwise, 20-100% penalty may be assessed
- Final
  - No alternate dates

# Grading Scale

97.0	$\leq$	A+	$\leq$	100.0
93.0	$\leq$	A	$<$	97.0
90.0	$\leq$	A-	$<$	93.0
87.0	$\leq$	B+	$<$	90.0
83.0	$\leq$	B	$<$	87.0
80.0	$\leq$	B-	$<$	83.0
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# Academic Integrity

**ALL** violations will be reported to the Honor Council

Read the Academic Honesty Policy (Brightspace > Content > Course Documents) carefully for examples of academic misconduct in CS1101

- Cheating
- Plagiarism
- Aiding & Abetting
- Destruction of Academic Materials

# Protect yourself

- Do not leave your workstation and/or laptop unattended or forget to log yourself out
- Do not email, ftp, or post your code on the Internet, message boards, etc.
- Do not discuss implementation details of individual assignments with your peers
- ...
- Ask the instructor for clarification of any questions or concerns about academic integrity policies before submitting an assignment

# What You Should Do After Class

- Purchase your [zyBook subscription](#) – We start this week!
- Complete **Homework 0-A and 0-B** by Monday (08/29, at 11:59pm)
  - On Brightspace under **Content > First Week**
  - HW0-A
    - Read the **Academic Honesty Policy** (under **Content > Course Documents**)
    - Must receive [all 10 pts](#) to be considered for completing the quiz
  - HW0-B
    - An informal student survey