

# Computer Architecture and Organization

CS 115

## Course Orientation

Instructor: **Gerald John M. Sotto**

Last Updated: August 11, 2025



# **Agenda**

- **Introduction and Welcome**
- **Navigating the Course**
- **Questions and Discussion**

# **Introduction and Welcome**

# Meet the Instructor

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**Gerald John M. Sotto**

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BSCS 2024 – Graduate

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## **Current Affiliation:**

- CAO Instructor – Computer Science Department

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BSCS 2024 – Graduate

## **Current Affiliation:**

- CAO Instructor – Computer Science Department
- Programmer – BU Health Sync Project

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**Gerald John M. Sotto**

BSCS 2024 – Graduate

## **Current Affiliation:**

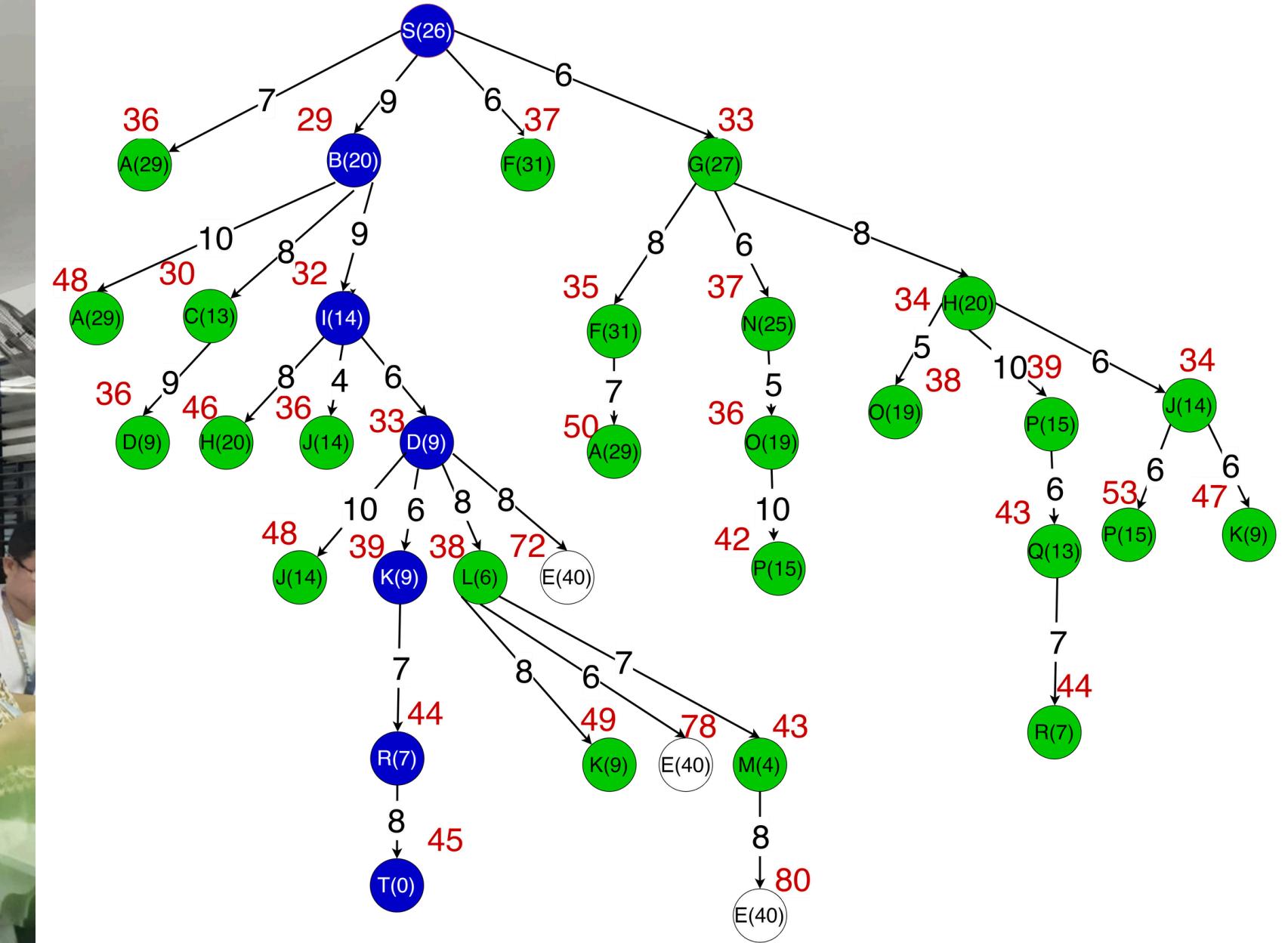
- CAO Instructor – BU Computer Science Department
- Programmer – BU Health Sync Project

## **Past Affiliation:**

- CFP Instructor – BU Civil Engineering Department
- Former SL Instructor – Automata, Data Structures and Algorithm, Artificial Intelligence, and Intelligent Systems









# **Navigating the Course**

# Course Overview

## **CS 115 – Computer Architecture and Organization**

# Course Overview

## CS 115 – Computer Architecture and Organization

Think of computer architecture as the "**what**", and computer organization as the "**how**"

# Course Overview

## CS 115 – Computer Architecture and Organization

### Computer architecture

- Conceptual design and fundamental operational structure
- **Functional behavior.**

### Computer Organization

- Focuses on the structural relationships and the operational units
- **Physical components**

# Course Overview

## **CS 115 – Computer Architecture and Organization**

- **Unit I:** Introduction to computer development, component and organization
- **Unit II:** Machine Level Representation of Data
- **Unit III:** Digital Logic and Digital Systems
- **Unit IV:** Assembly Level Machine Language and Functional Organization
- **Unit V:** Memory System Organization and Architecture
- **Unit VI:** Interfacing and Communication

# Course Overview

## Course Requirements

Type of Requirements	Specific Requirements	Modality of Submission
Tests and Examinations	Midterm Examination	ONSITE
	Final Examination	ONSITE
Report/Cases	Case Studies	ONSITE/link, gDrive or through eMail
Major Output	Assembly Programming Problems	ONLINE

# Course Overview

## Course Assessment

### BU Grading System

*Midterm/Tentative Final Grade:*

Discussion Forums	20%
Lesson Activities	25%
Major Output	25%
Major Exam	30%
Total	100%

*System of Computing Grades:*

Midterm Grade  
Tentative Final Grade

$$\text{Final Grade} = 1/2 \text{ (Midterm Grade)} + 1/2(\text{Tentative Final Grade})$$

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# Course Overview

## References:

- Patterson, D. A., & Hennessy, J. L. (2022). **Computer Organization and Design RISC-V Edition: The Hardware/Software Interface** (2nd ed.). Morgan Kaufmann.
- Stallings, W. (2018). **Computer Organization and Architecture: Designing for Performance** (11th ed.). Pearson.
- Harris, D. M., & Harris, S. L. (2021). **Digital Design and Computer Architecture, RISC-V Edition**. Morgan Kaufmann.
- Tanenbaum, A. S., & Austin, T. (2016). **Structured Computer Organization** (6th ed.). Pearson.
- Other IT books or online reference

# Course Overview

## Policies:

- It is a part of your education to learn responsibility and self-discipline, particularly with regards to academic honesty. The most important issue of academic honesty is cheating. Cheating is defined to include an attempt to defraud, deceive, or mislead the instructor in arriving at an honest grade assessment. Plagiarism is a form of cheating that involves presenting as one's own work the ideas or work of another.
- All portions of any test, project, laboratory reports or final exam submitted by you for a grade must be your own work, unless you are instructed to work collaboratively. Specific requirements will be described for collaborative projects, but all work presented must be the work of members of that group. Research materials used must be properly cited. Cheating in a major course examination by a student will entail a failing mark of 5.0 for the given course. Cheating, dishonesty or plagiarism in papers and other works will entail zero (0 or its equivalent) score for the said requirement. All laboratory activity shall be submitted at the end of the laboratory schedule.

# Course Overview

## Policies:

- Policies on Absences and Tardiness:
  - According to CHED policy, total number of absences by the students **should not be more than 20% of the total number of meetings or 9 hrs** for a three-unit-course. Students incurring more than 9 hours of **unexcused absences automatically gets a failing grade** regardless of class standing.

# **Questions and Discussion**

# Next Meeting

Please bring:

