

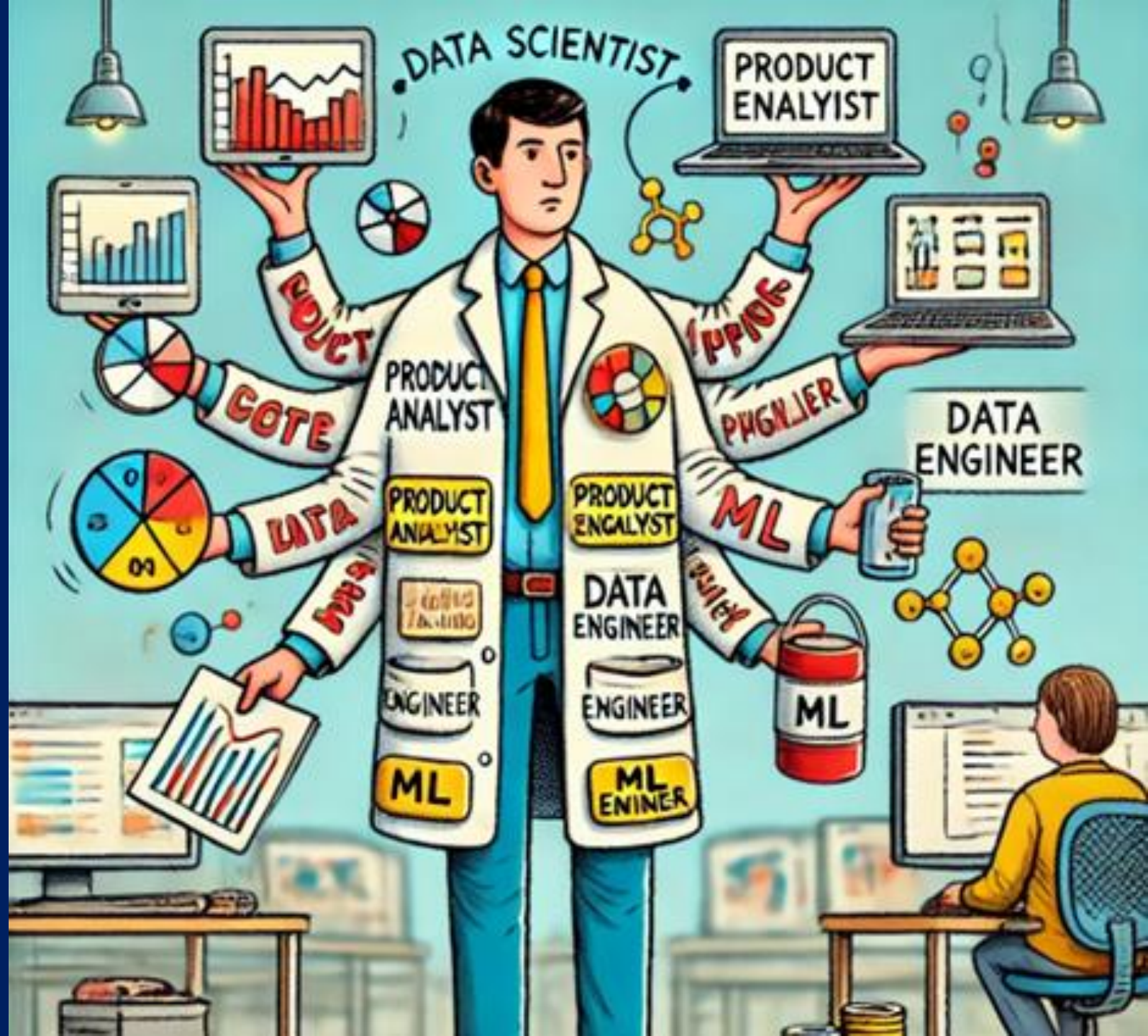
CS 51 Computer Science Principles

Module 3: Data, Internet, Computer and Programming

Unit 1: Creative Development

SYLLABUS

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IEEE

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National
Taiwan
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Curriculum Overview and Goals

Computing affects almost all aspects of modern life and *all* students deserve access to a computing education that prepares them to pursue the wide array of intellectual and career opportunities that computing has made possible. Here is a brief summary of each of the units in the Code.org CSP curriculum.

Unit 1: The Internet	Learn how the multi-layered systems of the Internet function as you collaboratively solve problems and puzzles about encoding and transmitting data, both 'unplugged' and using Code.org's Internet Simulator.
Unit 2: Digital Information	Use a variety of digital tools to look at, generate, clean, and manipulate data to explore the relationship between information and data. Create and use visualizations to identify patterns and trends.
Unit 3: Algorithms and programming	Learn the JavaScript language with turtle programming in Code.org's App Lab. Learn general principles of algorithms and program design that are applicable to any programming language.
Unit 4: Big Data and Privacy	Research current events around the complex questions related to public policy, law, ethics, and societal impact. Learn the basics of how and why modern encryption works.
Unit 5: Building Apps	Continue learning how to program in the JavaScript language. Use Code.org's App Lab environment to create a series of applications that live on the web. Each app highlights a core concept of programming.

This course is not a tour of current events and technologies. Rather, it seeks to provide students with a "future proof" foundation in computing principles so that they are adequately prepared with both the knowledge and skills to live and meaningfully participate in our increasingly digital society, economy, and culture.

Unit 1 Creative Development

Unit 2 Data and Information

Lecture 2 Data Types

Lecture 3 Data Compression

Lecture 4 Information

Unit 3 Programming and Algorithm

Lecture 5 App Lab

Lecture 6 Programming

Lecture 7 Algorithms

Lecture 8 Projects

Unit 4 Hardware

Lecture 9 Computers

Lecture 10 Internet

Unit 5 Global Impacts

Lecture 11 Global Impacts

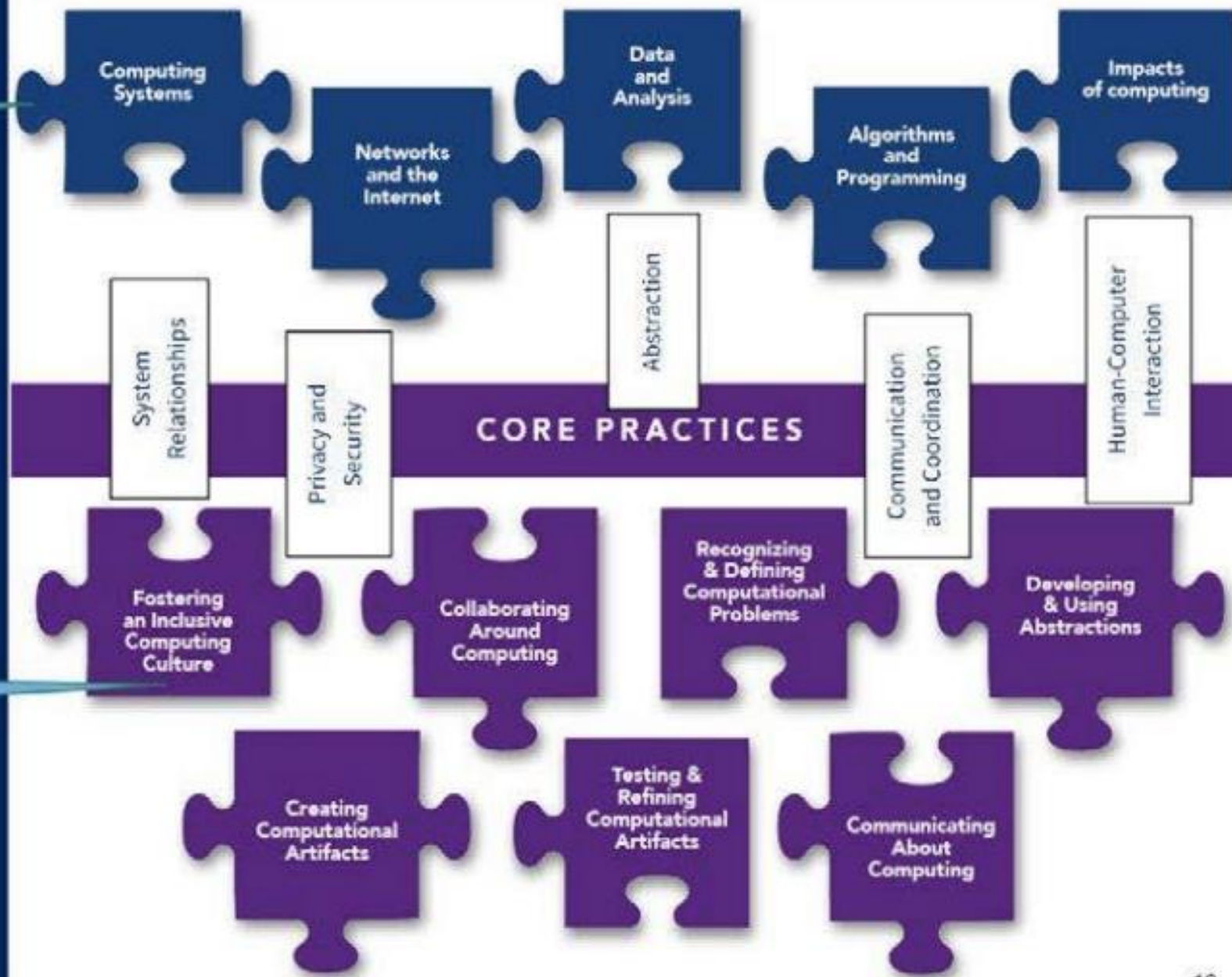
Lecture 12 Security

Know

Core Concepts and Practices

Do

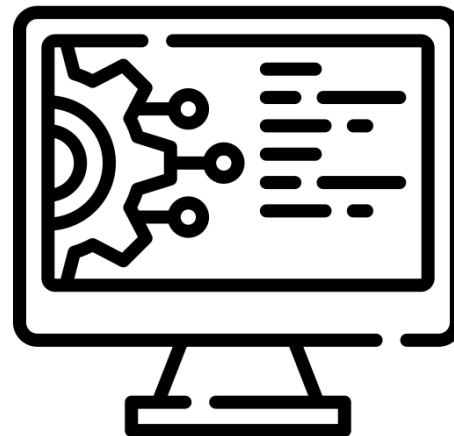
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CS 51 AP Computer Science Principles Course Schedule Spring 2025

Date	Topic	Quiz	Practice Chapters	Practice Exam
W1-01/11	Lecture 1 Creative Development (Unit 1)	X	Barron's Unit 1	
W2-01/19	Lecture 2 Data Types (Unit 2)	X	Barron's Unit 2	
W3-01/25	Lecture 3 Data Compression (Unit 2)	X		
W4-02/01	Lecture 4 Information (Unit 2)	X		
W5-02/08	Lecture 5 App Lab Overview (Unit 3)	X	Barron's Unit 3 Part 1	
W6-02/15	Lecture 6 Program Structure (Unit 3)	X		
W7-02/22	Lecture 7 List and Loop (Unit 3)	X	Barron's Unit 3 Part 2	
W8-03/01	Lecture 8 Algorithm and Library (Unit 3)	X		
W9-03/08	Lecture 9 Computer and Network Hardware	X	Barron's Unit 4	College Board Sample Questions
W10-03/15	Lecture 10 Internet (Layer 4-7) (Unit 4)	X		Barron Diag
W11-03/22	Lecture 11 Global Impacts (Unit 5)	X	Barron's Unit 5	Barron 1
W12-03/29	Lecture 12 Ethics and Security (Unit 5)	X		Barron 2
W13-04/05	APCSP College Board 2016 Discussion			APCSP College Board 2016
W14-04/12	APCSP College Board 2018 Discussion			APCSP College Board 2018
W15-04/19	APCSP College Board 2020 Discussion			APCSP College Board 2020
W16-04/26	APCSP College Board 2021 Discussion			APCSP College Board 2021
Total				