

Course at a Glance

Plan

The Course at a Glance provides a useful visual organization of the AP Computer Science Principles curricular components, including the following:

- Big ideas, along with approximate weighting
- Progression of topics within each big idea
- Spiraling of practices across big ideas

This Course at a Glance is organized by big ideas rather than units of instruction. Within each big idea are topics. Teachers and AP endorsed providers can group topics together to create units or modules.

Teach

COMPUTATIONAL THINKING PRACTICES

Practices spiral across big ideas.

- | | |
|---|--------------------------------|
| 1 Computational Solution Design | 4 Code Analysis |
| 2 Algorithms and Program Development | 5 Computing Innovations |
| 3 Abstraction in Program Development | 6 Responsible Computing |

Assess

Assign the Topic Questions—either as homework or in class—for each big idea. The Topic Questions are formative AP questions that provide feedback to students on the areas where they need to focus.

BIG IDEA

1

Creative Development

10–13% AP Exam Weighting

1

6

1.1 Collaboration

1

3

4

1.2 Program Function and Purpose

1

4

6

1.3 Program Design and Development

1

4

1.4 Identifying and Correcting Errors

1

2

3

2.1 Binary Numbers

1

2.2 Data Compression

5

2.3 Extracting Information from Data

2

5

2.4 Using Programs with Data

1

2

3

2.1 Binary Numbers

1

2.2 Data Compression

5

2.3 Extracting Information from Data

2

5

2.4 Using Programs with Data

Topic Questions

Multiple-choice: ~20 questions

BIG IDEA

2

Data

17–22% AP Exam Weighting

1

2

3

2.1 Binary Numbers

1

2.2 Data Compression

5

2.3 Extracting Information from Data

2

5

2.4 Using Programs with Data

1

2

3

2.1 Binary Numbers

1

2.2 Data Compression

5

2.3 Extracting Information from Data

2

5

2.4 Using Programs with Data

Topic Questions

Multiple-choice: ~20 questions

BIG IDEA 3

Algorithms and Programming

30–35% AP Exam Weighting

3	3.1 Variables and Assignments
4	
3	3.2 Data Abstraction
2	3.3 Mathematical Expressions
4	
4	3.4 Strings
2	3.5 Boolean Expressions
4	
2	3.6 Conditionals
4	
2	3.7 Nested Conditionals
4	
2	3.8 Iteration
4	
1	3.9 Developing Algorithms
2	
2	3.10 Lists
4	
1	3.11 Binary Search
3	3.12 Calling Procedures
4	
3	3.13 Developing Procedures
2	3.14 Libraries
2	3.15 Random Values
4	
1	3.16 Simulations
1	3.17 Algorithmic Efficiency
1	3.18 Undecidable Problems

Topic Questions

Multiple-choice: ~90 questions
Performance Task: ~20 prompts

BIG IDEA 4

Computer Systems and Networks

11–15% AP Exam Weighting

5	4.1 The Internet
1	4.2 Fault Tolerance
5	
1	4.3 Parallel and Distributed Computing

Topic Questions

Multiple-choice: ~10 questions

BIG IDEA 5

Impact of Computing

21–26% AP Exam Weighting

5	5.1 Beneficial and Harmful Effects
5	5.2 Digital Divide
5	5.3 Computing Bias
1	5.4 Crowdsourcing
5	5.5 Legal and Ethical Concerns
5	5.6 Safe Computing

Topic Questions

Multiple-choice: ~20 questions