Unit 7: Searching & Sorting (3 weeks)

The following curriculum map is a day-by-day listing of the AP Computer Science course in chronological order. Each row represents one day of class, based on a medium-paced class. Readings from the textbook and homework assignments are included on the day when they should be assigned. Refer to the Introduction document for information about how to adjust this pacing for your specific classroom.

- Unit 7 Slides
- Unit 7 Word Bank
- Curriculum Assets
- Elevens Lab

LP	Title	In Class	Reading	Homework
7.00	Test Review & Reteach	Review test	13.1 up to "Sorting"	Test corrections
7.01	Searching Algorithms	(CS Unplugged Battleship) WS 7.1	13.1 "Sorting"	SC 2, E 13.1-13.3
7.02	Sorting Algorithms		13.1 "Shuffling"	
7.03 01	[Elevens Lab][] (day 1)	Elevens Lab Activity 1	"13.3 skip""Recursive Binary Search"""	SC 13.16-13.18, 13.21, 13.22
7.03 02	[Elevens Lab][] (day 2)	Elevens Lab Activity 2 (begin)		
7.03 03	[Elevens Lab][] (day 3)	Elevens Lab Activity 2 (end)		Summarize notes since last exam
7.03 04	[Elevens Lab][] (day 4)	Elevens Lab Activity 3 (begin), notebook checks		Outline Ch. 13
7.03 05	[Elevens Lab][] (day 5)	Elevens Lab Activity 3 (end), notebook checks	Read and outline Barron's Ch. 8	
7.03 06	[Elevens Lab][] (day 6)	Elevens Lab Activity 4		Barron's Ch. 8 exam, self-grade
7.03 07	[Elevens Lab][] (day 7)	Elevens Lab Activity 5 (begin), Barron's checks		
7.03 08	[Elevens Lab][] (day 8)	Elevens Lab Activity 5 (end)		
7.03 09	[Elevens Lab][] (day 9)	Elevens Lab Activity 6		(Fix HW)
7.03 10	[Elevens Lab][] (day 10)	Elevens Lab Activity 7		(Fix HW)
7.03 11	[Elevens Lab][] (day 11)	Elevens Lab Activity 8, re-grade fixed HW		

LP	Title	In Class	Reading	Homework
7.03 12	[Elevens Lab][] (day 12)	Elevens Lab Activity 9 (begin), re-grade fixed HW		
7.03 13	[Elevens Lab][] (day 13)	Elevens Lab Activity 9 (end), re-grade fixed HW		Submit questions for review
7.03 14	[Elevens Lab][] (day 14)	Elevens Lab Activity 10, re-grade fixed HW		
7.03 15	[Elevens Lab][] (day 15)	Elevens Lab Activity 11 (begin)		
7.03 16	[Elevens Lab][] (day 16)	Elevens Lab Activity 11 (end)		
7.04	Review	Review questions		Study
7.99	Unit 7 test	Test 6 Guide Test 6 Section I Test 6 Section II		

7.00

Lesson 7.00	*Test Review & Reteach*
Objectives	Students will re-learn or strengthen content knowledge and skills from Unit 6.
Assessments	Students will re-submit test answers with updated corrections for partial or full credit, depending on instructor preference.
In Class	Review test
Reading	13.1 up to "*Sorting*"
Homework	Test corrections

7.01

Lesson 7.01	*Searching Algorithms*
Objectives	Students will compare and contrast the different search algorithms.
Assessments	Students will complete some short answer questions.
In Class	CS Unplugged Battleship WS 7.1
Reading	13.1 "*Sorting*"
Homework	SC 13.4–6 E 13.1–3

7.02

Lesson 7.02	*Sorting Algorithms*
Objectives	Students will compare and contrast different sorting methods and evaluate their relative speed and efficiency.
Assessments	Students will complete some short answer questions on worksheets.
In Class	
Reading	13.1 "*Shuffling*"
Homework	

7.03.1

Lesson 7.03	*Elevens lab (Day 1)*
Objectives	Students will complete a long-form lab, demonstrating effective use of object oriented program design, program implementation and analysis, and standard data structures and algorithms.
Assessments	Elevens Lab
In Class	Elevens Lab Activity 1
Reading	13.3 (skip "*Recursive Binary Search*")
Homework	SC 13.16–21,23–24

7.03.2

Lesson 7.03	*Elevens lab (Day 2)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 2 (begin)
Reading	
Homework	

7.03.3

Lesson 7.03	*Elevens lab (Day 3)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 2 (end)
Reading	
Homework	Summarize notes since last exam

7.03.4

Lesson 7.03	*Elevens lab (Day 4)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 3 (begin) Notebook checks
Reading	
Homework	Outline Ch. 13

7.03.5

Lesson 7.03	*Elevens lab (Day 5)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 3 (end) Notebook checks
Reading	Read and outline Barron's Ch. 8
Homework	

7.03.6

Lesson 7.03	*Elevens lab (Day 6)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 4
Reading	
Homework	Barron's Ch. 8 exam, self-grade

7.03.7

Lesson 7.03	*Elevens lab (Day 7)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 5 (begin) Barron's checks
Reading	
Homework	

7.03.8

Lesson 7.03	*Elevens lab (Day 8)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 5 (end)
Reading	
Homework	

7.03.9

Lesson 7.03	*Elevens lab (Day 9)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 6
Reading	
Homework	Fix homework

7.03.10

Lesson 7.03	*Elevens lab (Day 10)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 7
Reading	
Homework	Fix homework

7.03.11

Lesson 7.03	*Elevens lab (Day 11)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 8 Re-grade fixed homework
Reading	
Homework	

7.03.12

Lesson 7.03	*Elevens lab (Day 12)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 9 (begin) Re-grade fixed homework
Reading	
Homework	

7.03.13

Lesson 7.03	*Elevens lab (Day 13)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 9 (end) Re-grade fixed homework
Reading	
Homework	Submit questions for review

7.03.14

Lesson 7.03	*Elevens lab (Day 14)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 10 Re-grade fixed homework
Reading	
Homework	

7.03.15

Lesson 7.03	*Elevens lab (Day 15)*
Objectives	
Assessments	

Lesson 7.03	*Elevens lab (Day 15)*
In Class	Elevens Lab Activity 11 (begin)
Reading	
Homework	

7.03.16

Lesson 7.03	*Elevens lab (Day 16)*
Objectives	
Assessments	
In Class	Elevens Lab Activity 11 (end)
Reading	
Homework	

7.04

Lesson 7.04	*Review*
Objectives	Students will identify weaknesses in their Unit 7 knowledge.
Assessments	Students will create a personalized list of review topics to guide tonight's study session.
In Class	Review questions
Reading	
Homework	Study

7.99

Unit 7 Test	*Searching & Sorting*
Guide	Test 6 Guide
In Class	Test 6 Section I Test 6 Section II

Abbreviations

- **WS** — Worksheet
- **SC** — Self-Check problem (in the textbook)
- **EX** — Exercise (in the textbook)
- **PP** — Programming Project (in the textbook)