

BJC Pacing Guide 2020

This pacing guide is designed for **first-year BJC teachers** who will only do the minimal pages required to cover the AP CSP standards. Experienced teachers are encouraged to complete all labs and pages in the course. All teachers are encouraged to offer students time to explore the Optional Projects included in each unit.

Unit pacing suggestions are calculated by adding the days required to cover the required lab pages, 2–3 days of class time spent on Computing in the News, and 2 days for review and assessment.

Unit 1: Introduction to Programming (14-25 days)

- Lab 1 Click Alonzo Game: 1-2 days (40-80 minutes) for required pages
- Lab 2 Gossip: 2-4 days (90-180 minutes)
- Lab 3 Modern Art with Polygons: 3-6 days (115-230 minutes)
- Lab 4 Protecting Your Privacy: 3-6 days (120-240 minutes)
- Lab 5 Follow the Leader: 1-2 days (35-70) minutes)

Unit 2: Abstraction (16-26 days)

- Lab 1 Games: 2-4 days (75-150 minutes)
- Lab 2 Making Lists: 2-4 days (75-150 minutes)
- Lab 3 Making Decisions: 4-7 days (140-280 minutes)
- Lab 4 Making Computers Do Math: 2-3 days (60-120 minutes)
- Lab 5 Copyrights: 2-3 days (50-100 minutes)

Unit 3: Data Structures (13-22 days)

- Lab 1 Dealing with Complexity: 3-5 days (110-220 minutes)
- Lab 2 Contact List: 2-4 days (85-170 minutes) for required pages
- Lab 3 Tic-Tac-Toe: no required pages
- Lab 4 Robots and Artificial Intelligence: 2-4 days (85-170 minutes) for required pages
- Lab 5 Computers and Work: 2-4 days (70-140 minutes)

Practice AP Create Task (8 days; at least 6 hours)

Unit 4: How the Internet Works (19-32 days)

- Lab 1 Computer Networks: 2-4 days (80-160 minutes)
- Lab 2 Cybersecurity: 4-7 days (145-290 minutes) for required pages
- Lab 3 Community and Online Interactions: 5-9 days (185-370 minutes) for required pages
- Lab 4 Data Representation and Compression: 4-7 days (150-300 minutes)

Unit 5: Algorithms and Simulations (15-26 days)

- Lab 1 Search Algorithms and Efficiency: 4–7 days (150–300 minutes) for required pages
- Lab 2 Simulations: 1–2 days (40–80 minutes)
- Lab 3 Turning Data into Information: 3–6 days (125–250 minutes)
- Lab 4 Unsolvable and Undecidable Problems: no required pages
- Lab 5 Computing in War: 3–6 days (120–240 minutes)

AP Create Task (16 days; at least 12 hours)

Notes: Units 1-5, the Practice Create Task, and the Create Task cover all of the 2020 AP CSP curriculum framework. Units 6-8 focus on the abstraction hierarchy of how computers work and recursion, a beautiful and powerful CS idea that goes beyond the AP CSP Framework and exam. Students can begin the Create Task after Units 4 or 5 depending on pacing of the class.

Unit 6: How Computers Work (9-15 days)

- Lab 1 Computer Abstraction Hierarchy: 4–8 days (180–360 minutes)
- Lab 2 History and Impact of Computers: 1–2 days (35–70 minutes)

Unit 7: Fractals and Recursion (9-14 days)

- Lab 1 Trees: 2–4 days (70–140 minutes)
- Lab 2 Recursion Projects: 3–5 days (95–190 minutes) for required pages

Unit 8: Recursive Functions (11-19 days)

- Lab 1 Recursive Reporters: 2–4 days (80–160 minutes)
- Lab 2 Base Conversion: 1–2 days (45–90 minutes)
- Lab 3 Subsets: 2–4 days (70–140 minutes)
- Lab 4 Building Higher Order Functions: 2–4 days (80–160 minutes)