

CS 106B Calendar

Monday	Wednesday	Friday
<p>January 9</p> <p>Course overview The big ideas in CS 106B The C++ language C++ vs. Java</p> <p>Read: Chapter 1</p>	<p>11</p> <p>Functions in C++ Call by reference Libraries and interfaces Recursive functions</p> <p>Read: Chapters 2 and 7</p>	<p>13</p> <p>Using the <code>string</code> class File streams Class hierarchies</p> <p>Read: Chapters 3 and 4</p>
<p>16</p> <p>Martin Luther King, Jr. Day</p> <p>Optional film: Dr. King's 1963 speech "I Have A Dream"</p>	<p>18</p> <p>Abstract data types Using <code>vector</code> and <code>Grid</code> Stacks and queues</p> <p>Read: Sections 5.1-5.3</p>	<p>20</p> <p><code>Map</code>, <code>Set</code>, and <code>Lexicon</code> The <code>foreach</code> macro</p> <p>Read: Sections 5.4-5.6</p>
<p>23</p> <p>Designing classes The <code>TokenScanner</code> class</p> <p>Read: Chapter 6 Due: HW #1 (Simple C++)</p>	<p>25</p> <p>Procedural recursion The Towers of Hanoi Graphical recursion</p> <p>Read: Chapter 8</p>	<p>27</p> <p>Recursive backtracking Solving a maze</p> <p>Read: Section 9.1</p>
<p>30</p> <p>Backtracking and games The minimax algorithm</p> <p>Read: Sections 9.2-9.3 Due: HW #2 (ADTs)</p>	<p>February 1</p> <p>Algorithmic efficiency Big-O notation Sorting algorithms</p> <p>Read: Chapter 10</p>	<p>3</p> <p>The C++ memory model Pointers Pointers to functions</p> <p>Read: Chapter 11 Due: RandomWriter contest</p>
<p>6</p> <p>Dynamic allocation Using destructors The <code>CharStack</code> class</p> <p>Read: Chapter 12 Due: HW #3 (Recursion)</p>	<p>8</p> <p>The <code>editor.h</code> interface</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Midterm exam Thursday, February 9 3:15 or 7:00 P.M.</p> </div> <p>Read: Sections 13.1-13.3</p>	<p>10</p> <p>Implementing editors</p> <p>Read: Sections 13.4-13.5</p>

Monday	Wednesday	Friday		
February 13 Templates Implementing stacks Read: Sections 14.1-14.2	15 Implementing queues Implementing vectors Read: Sections 14.3-14.4	17 Iterators Library algorithms Read: Sections 14.5-14.6		
20 Presidents' Day (no class)	22 Implementing Map Hash tables Read: Chapter 15 Due: HW #4 (Boggle)	24 Expression trees Inheritance Representing expressions Read: Section 16.1 Sections 17.1-17.5		
27 Parsing strategies Overview of BASIC Read: Section 17.6 Due: Recursion contest	29 Binary search trees Balancing strategies Read: Sections 16.2-16.4	March 2 Sets in mathematics Implementing sets Read: Chapter 18		
5 Graphs Standard traversals Read: Sections 19.1-19.3	7 Graph algorithms Shortest-path algorithms Minimum spanning trees Read: Sections 19.4-19.6 Due: HW #5 (BASIC)	9 More algorithms Google's page rank DAWGs and lexicons Heaps and priority queues		
12 C++ in the real world Standard Template Library (optional) Due: BASIC contest	14 Further adventures in CS (optional)	16 Due: HW #6 (Pathfinder)		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 10px; text-align: center;"> Alternate Final Monday, March 19 12:15–3:15 P.M. </td> <td style="width: 50%; padding: 10px; text-align: center;"> Regular Final Wednesday, March 21 12:15–3:15 P.M. </td> </tr> </table>			Alternate Final Monday, March 19 12:15–3:15 P.M.	Regular Final Wednesday, March 21 12:15–3:15 P.M.
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