

# EarSketch Curriculum Alignment Guide

## Chapter 1: Get Started



CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
1.1. Discover EarSketch	<a href="#">PY</a> <a href="#">JS</a> ■ The Digital Audio Workstation (DAW)	■ Coding Instructions	■ Run a code example ■ Navigate the EarSketch Workspace	1.3. The EarSketch Workspace <a href="#">PY</a> <a href="#">JS</a> 1.6. The DAW in Details <a href="#">PY</a> <a href="#">JS</a>
1.2. Create Your First Script	<a href="#">PY</a> <a href="#">JS</a>	■ Programming Language ■ Script	■ Create an EarSketch Account ■ Create a New Script	1.9. Creating a New Script <a href="#">PY</a> <a href="#">JS</a>
1.3. The fitMedia() Function	<a href="#">PY</a> <a href="#">JS</a> ■ Sound Browser	■ Function ■ Arguments ■ fitMedia()	■ Place a sound in your song using fitMedia()	1.10. Composing in EarSketch <a href="#">PY</a> <a href="#">JS</a>
1.4. Debug your Code	<a href="#">PY</a> <a href="#">JS</a>	■ Debugging ■ Types of Errors ■ Common Errors	■ Debug your code	3.1. What is Debugging? <a href="#">PY</a> <a href="#">JS</a> 3.2. Using the Console <a href="#">PY</a> <a href="#">JS</a> 3.4. Common Errors <a href="#">PY</a> <a href="#">JS</a> 3.5. Debugging Exercise <a href="#">PY</a> <a href="#">JS</a>

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## Chapter 2: Customize Your First Song



CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter	
2.1. The setTempo() Function <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"> <li>Tempo</li> <li>Genre</li> </ul>	<ul style="list-style-type: none"> <li>Set up Functions in EarSketch</li> <li>setTempo()</li> </ul>	<ul style="list-style-type: none"> <li>Change the tempo of your song</li> <li>Explain what genre your favorite song belongs to</li> </ul>	2.3. Functions 6.1. Tempo	<a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a>
2.2. Add Comments to Your Song <a href="#">PY</a> <a href="#">JS</a>		<ul style="list-style-type: none"> <li>Comments</li> </ul>	<ul style="list-style-type: none"> <li>Comment your code</li> </ul>	1.5. Adding Comments	<a href="#">PY</a> <a href="#">JS</a>
2.3. Upload Your Own Sounds <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"> <li>Messaging</li> <li>Sampling</li> </ul>	<ul style="list-style-type: none"> <li>Processes</li> <li>Memory</li> </ul>	<ul style="list-style-type: none"> <li>Upload your own sounds</li> </ul>	10.1. Recording and Uploading your Own Sounds	<a href="#">PY</a> <a href="#">JS</a>
2.4. Copyright <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"> <li>Copyright</li> <li>Sampling</li> </ul>		<ul style="list-style-type: none"> <li>Respect copyright</li> <li>Choose a license for your song</li> </ul>	7.1. What is Copyright	<a href="#">PY</a> <a href="#">JS</a>

**NOTE: COPYRIGHT NEW CHAPTER LINKS DO NOT WORK.**

2.4. Copyright PY <https://earsketch.gatech.edu/earsketch2/?curriculum=/en/v2/loops-and-layers:copyright&language=python>

2.4. Copyright JS <https://earsketch.gatech.edu/earsketch2/?curriculum=/en/v2/loops-and-layers:copyright&language=javascript>

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## Chapter 3: Add Some Beats!



CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
3.1. Variables <a href="#">PY</a> <a href="#">JS</a>		<ul style="list-style-type: none"> <li>Variables</li> <li>Constants</li> </ul>	<ul style="list-style-type: none"> <li>Assign and call variables (used for sound files)</li> </ul>	2.5. Variables <a href="#">PY</a> <a href="#">JS</a>
3.2. Beat String <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"> <li>Rhythm</li> <li>Measure</li> <li>Beat</li> <li>Subbeat</li> <li>Quarter Notes</li> </ul>	<ul style="list-style-type: none"> <li>Strings</li> </ul>	<ul style="list-style-type: none"> <li>Write a beat string</li> <li>Clap a beat string</li> </ul>	11.1. Strings <a href="#">PY</a> <a href="#">JS</a> 11.2. Beat Patterns with Strings <a href="#">PY</a> <a href="#">JS</a>
3.3. The makeBeat() Function <a href="#">PY</a> <a href="#">JS</a>		<ul style="list-style-type: none"> <li>makeBeat()</li> </ul>	<ul style="list-style-type: none"> <li>Create a custom beat in your song using makeBeat()</li> </ul>	11.3. makeBeat() <a href="#">PY</a> <a href="#">JS</a>
3.4. Create a Beat Based on Your Musical Genre <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"> <li>Examples of Beats by Genre</li> </ul>		<ul style="list-style-type: none"> <li>Create a beat based on your genre's typical beats</li> </ul>	New Material

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## Chapter 4: Loops and Layers



MS HS

CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter	
4.1. For Loops	<a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>For Loops</li><li>Printing to the Console</li></ul>	<ul style="list-style-type: none"><li>Use a for loop to loop your beats</li></ul>	12.1. The For Loop 12.2. Components of a For Loop 12.3. Example Loop	<a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a>
4.2. Print Statements	<a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>Printing to the Console</li></ul>	<ul style="list-style-type: none"><li>Print statements to your console to visualize what happens in your code</li></ul>	15.1. Printing to the Console	<a href="#">PY</a> <a href="#">JS</a>
4.3. Control Flow	<a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>Control Flow</li><li>Incrementing and decrementing</li></ul>	<ul style="list-style-type: none"><li>Use a for loop to loop your sounds with fitMedia()</li></ul>	12.4. Following Control Flow	<a href="#">PY</a> <a href="#">JS</a>
4.4. Debugging Tips	<a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>Debugging with print statements</li><li>More Examples of Common Errors</li></ul>	<ul style="list-style-type: none"><li>Debug your code using print statements</li></ul>	15.2. The Debugging Process 15.3. Common Errors 15.4. More Debugging Exercises	<a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a>

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## Chapter 4: Loops and Layers



CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
4.5. Musical Tips <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>■ Pitch ■ Scale</li><li>■ Major and Minor Keys</li><li>■ Basic Tracks</li><li>■ Repetition and Contrast</li></ul>		<ul style="list-style-type: none"><li>■ Add texture to your music by using different layers</li></ul>	New Material 6.2. Pitch <a href="#">PY</a> <a href="#">JS</a> 14.1. Repetition in Music <a href="#">PY</a> <a href="#">JS</a> 14.2. Contrast <a href="#">PY</a> <a href="#">JS</a>

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## Chapter 5: Effects and Envelopes



MS HS

CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
5.1. Use Effects in EarSketch <a href="#">PY</a> <a href="#">JS</a>	■ Effects <i>Examples: volume and delay</i>	■ <code>setEffect()</code> <i>4 parameters</i>	■ Add effects to your own song using the <code>setEffect()</code> function	4.1. Using Effects in EarSketch <a href="#">PY</a> <a href="#">JS</a>
5.2. Functions and More Effects <a href="#">PY</a> <a href="#">JS</a>	■ Reverb	■ Functions ■ Arguments ■ API ■ Datatypes	■ Look for effects in the EarSketch API	2.3. Functions <a href="#">PY</a> <a href="#">JS</a> 5.3. More Effects <a href="#">PY</a> <a href="#">JS</a>
5.3. Effects and Envelopes <a href="#">PY</a> <a href="#">JS</a>	■ Envelope	■ Optional Parameters ■ <code>setEffect()</code> <i>7 parameters</i>	■ Create effect variations over time using the <code>setEffect()</code> function and its 7 parameters	5.1. Envelopes <a href="#">PY</a> <a href="#">JS</a> 5.2. Envelopes with <code>setEffect()</code> <a href="#">PY</a> <a href="#">JS</a>

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## Chapter 6: Mix with Conditionals



CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
6.1. Use <code>analyzeTrack()</code> <a href="#">PY</a> <a href="#">JS</a>	■ Reminder: Volume versus Pitch	■ <code>analyzeTrack()</code> ■ Scientific Notation	■ Determine the loudness of a track using the <code>analyzeTrack()</code> function	New Material
6.2. Booleans and Comparisons <a href="#">PY</a> <a href="#">JS</a>		■ Booleans ■ Comparison Operators	■ Compare the loudness of 2 tracks	17.2. Booleans <a href="#">PY</a> <a href="#">JS</a>
6.3. Conditional Statements <a href="#">PY</a> <a href="#">JS</a>		■ Conditional Statement	■ Print a boolean using a conditional statement	17.3. Conditional Statements <a href="#">PY</a> <a href="#">JS</a>
6.4. Mix Your Tracks <a href="#">PY</a> <a href="#">JS</a>	■ Mixing		■ Change the volume of tracks if they are too loud	New Material

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## Chapter 7: Custom Functions, Song Structure

HS

CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
7.1. A Song's Structure	<a href="#">PY</a> <a href="#">JS</a>	■ Sections of a Song	■ Determine the different sections of a song	9.1. Sections and Form <a href="#">PY</a> <a href="#">JS</a> 9.2. ABA Form <a href="#">PY</a> <a href="#">JS</a>
7.2. Create Your Custom Functions	<a href="#">PY</a> <a href="#">JS</a>	■ Custom Function Definition	■ Create a custom function with parameters and call the function	9.3. Custom Functions <a href="#">PY</a> <a href="#">JS</a>
7.3. Transition Strategies	<a href="#">PY</a> <a href="#">JS</a>	■ Examples of Transition in Music	■ Write code to create a transition in your song	6.3. Transition Strategies <a href="#">PY</a> <a href="#">JS</a> 14.3. Advanced Transition Techniques <a href="#">PY</a> <a href="#">JS</a>
7.4. Your Full Song	<a href="#">PY</a> <a href="#">JS</a>	■ Abstractions	■ Write a full song with a structure and transitions between sections	New Material



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## Chapter 8: Get User Input

HS

CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter	
8.1. Return Statement <a href="#">PY</a> <a href="#">JS</a>	■ Adapting Music to the listener's liking	■ Return Statements	■ Define a function with a return statement and call the function	13.1. Return Statements	<a href="#">PY</a> <a href="#">JS</a>
8.2. Get User Input <a href="#">PY</a> <a href="#">JS</a>		■ I/O ■ Data Conversion	■ Get user input using readInput()	13.2. String Concatenation 17.1. Console Input	<a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a>
8.3. Boolean Logic <a href="#">PY</a> <a href="#">JS</a>		■ Boolean Operators	■ Use user input to modify your song	17.2. Booleans 17.3. Conditional Statements	<a href="#">PY</a> <a href="#">JS</a> <a href="#">PY</a> <a href="#">JS</a>

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## Chapter 9: Data Structures

HS

CSP Core Curriculum	Music Concepts	Coding Concepts	Skills	Archived CSP Chapter
9.1. What is a Data Structure <a href="#">PY</a> <a href="#">JS</a>		<ul style="list-style-type: none"><li>Lists / Arrays</li></ul>	<ul style="list-style-type: none"><li>Create a list/array</li><li>Call or replace an element in the list/array</li><li>Get the length of the list/array</li></ul>	18.1. Data Structure Basics <a href="#">PY</a> <a href="#">JS</a> 18.2. Iterating through a Data Structure <a href="#">PY</a> <a href="#">JS</a>
9.2. Use Data Structures with makeBeat() <a href="#">PY</a> <a href="#">JS</a>	<ul style="list-style-type: none"><li>Multiple Instrument Beats</li></ul>	<ul style="list-style-type: none"><li>String Operations</li><li>Concatenation of lists/arrays or strings</li></ul>	<ul style="list-style-type: none"><li>Create lengthy beats using concatenation</li><li>Use the full potential of makeBeat() with multiple instruments in the same beat</li></ul>	18.3. Using Data Structure with makeBeat() <a href="#">PY</a> <a href="#">JS</a>
9.3. Evaluate Correctness <a href="#">PY</a> <a href="#">JS</a>		<ul style="list-style-type: none"><li>Correctness: conciseness, clarity, peer feedback</li></ul>	<ul style="list-style-type: none"><li>Combine all your knowledge in EarSketch to create a full song that is soul changing</li></ul>	16.1. Conciseness <a href="#">PY</a> <a href="#">JS</a> 16.2. Clarity <a href="#">PY</a> <a href="#">JS</a> 21.1. Peer Feedback <a href="#">PY</a> <a href="#">JS</a>

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