

**Fairfax Collegiate
2026 Summer Program
Minecraft Modding Course Syllabus
Rising Grades 4-6**



Course Description

Make your own Minecraft world.

Create new blocks, items, creatures, environments, achievements, and events with MCcreator.

Go home with your Minecraft mod.

Students get to explore how the world of Minecraft can be altered using beginner-friendly modding tools. The class blends guided exploration with structured, creative projects, helping students work their way up from simple edits to more advanced game changes.

Students create custom blocks, items, textures, tools, and mobs using MCcreator, then test their creations inside Minecraft to see their ideas come to life. They experiment with events, animation, modeling, and simple AI behavior, and try projects inspired by RPG design such as building quests and interactive characters. Fairfax Collegiate provides laptops for students to use, and students work individually on their mods while sharing and testing them together in class.

At the end of the course, families receive digital copies of all student work (mods require a PC with Minecraft Java edition to play at home). Students leave ready to keep experimenting with modding at home and more confident in exploring programming, digital design, and game creation.

Learning Objectives

Course Goals	<p>Modding: Students use MCcreator and other programs to modify, or “mod,” the Minecraft software by adding or altering aspects of in-game content.</p> <p>Computer Design: Students learn the basics of computer design by working with programs such as Paint.net, to create custom textures, and Techne, to create custom models for characters, enemies, and animals.</p> <p>Digital Organization: Students learn computer organization and the importance of carefully labeling and storing files through naming and organizing the various components of their</p>
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	<p>mods.</p> <p>Creativity & Problem-Solving: Students bring their ideas to life in the colorful, endlessly customizable world of Minecraft by thinking through each step and applying their knowledge of the software.</p>
Course Topics	<p>Texture Editing: Students use various art programs, including paint.net and MCreator's built-in drawing tools, to create custom textures for blocks, tools, and other items.</p> <p>MCreator: Students use this accessible software to create mods, designing custom blocks, items, tools, mobs, and other game components.</p> <p>Minecraft Server: Students connect to the Minecraft server to allow them to play with other students and form connections while exploring and testing their mods.</p> <p>Modeling: Students use the program MCreator to create custom models, the "bodies" used for entities from creepers to ocelots to Steve, the player character.</p> <p>Skins: Students use PMCSkin3D to create more advanced texture "skins" to suit their MCreator models.</p> <p>Events / AI: Students apply rules of logic to manipulate in-game "events" and the basics of entities' artificial intelligence. These rudiments will start students thinking like computer programmers.</p> <p>RPG Design: Students use the mod CustomNPCs to learn about principles of game design, including the creation of "quest" missions, imposing enemies and treacherous obstacles.</p>

Course Schedule

Class Meeting 1	<p>Student and Course Introductions: Students are introduced to the instructor, each other, and the topics and planned schedule of the course.</p> <p>What Is a Mod?: Students consider and discuss the question, and the instructor offers a tentative definition.</p> <p>What Can Mods "Mod?": Students suggest elements of the game which might be altered by a mod, preparing them to identify and discuss which elements are changed or added by a given mod.</p> <p>Downloading & Installing Mods: Students receive an instructional document with steps to downloading and installing mods and create a dedicated "mods" shortcut folder on their desktop.</p> <p>Mod Demos: Students spend the remainder of class playing an assortment of mods made with MCreator. The class discusses which elements of Minecraft are modified by each.</p>
Class	<p>Editing Textures: Students learn to edit in-game textures by referring to the "How to Modify</p>

Meeting 2	<p>Textures" document.</p> <p>New Blocks in MCreator: Students learn the basic layout of MCreator and go over how to create a custom block.</p> <p>One Block, Two Block, New Block, Blue Block: Students spend the rest of class creating new blocks in MCreator and testing them in Minecraft.</p> <p>New Blocks in MCreator: Students learn the basic layout of MCreator and go over how to create a custom block.</p> <p>One Block, Two Block, New Block, Blue Block: Students spend the rest of class creating new blocks in MCreator and testing them in Minecraft.</p>
Class Meeting 3	<p>Intro to Minecraft Servers: Students discover Minecraft's server feature.</p> <p>WorldEdit: Students terraform their server world with WorldEdit, a powerful mod.</p> <p>Let's Get Eventful: Students return to MCreator and learn about the addition of "events" to custom blocks.</p> <p>The Main Event: Blocks Go Boom: Students spend time creating blocks with associated events and exploring their effects in the game.</p> <p>Let's Get Eventful: Students return to MCreator and learn about the addition of "events" to custom blocks.</p> <p>The Main Event: Blocks Go Boom: Students spend time creating blocks with associated events and exploring their effects in the game.</p>
Class Meeting 4	<p>TX Blocks: Students go through the creation of custom TX Blocks, block components with nonstandard shapes.</p> <p>Torches, Staircases and Doors! Oh My!: Students spend time creating TX blocks of various kinds, manipulating their material properties, appearance, and associated events.</p> <p>Tool Time: Students go through creating tools and other custom items in MCreator.</p> <p>Gonna Take Up My Sword and Shield: Students spend time creating a variety of tools, items, and weapons, including guns (weapons capable of launching projectiles).</p> <p>Tool Time: Students go through creating tools and other custom items in MCreator.</p> <p>Gonna Take Up My Sword and Shield: Students spend time creating a variety of tools, items, and weapons, including guns (weapons capable of launching projectiles).</p>
Class Meeting 5	<p>Armor: Students learn how to create pieces of armor.</p> <p>Ye Olde Smithy: Students spend time creating pieces of armor and manipulating its properties.</p> <p>Lesson: The Space Between Spaces: Students go through the basics of creating a new dimension, similar to the Nether or the End.</p> <p>Thinking 4th-Dimensionally: Students spend time creating a dimension of their own.</p> <p>Lesson: The Space Between Spaces: Students go through the basics of creating a new dimension, similar to the Nether or the End.</p>

	Thinking 4th-Dimensionally: Students spend time creating a dimension of their own.
Class Meeting 6	<p>Lesson: Minecraft's Next Top Model: Students learn how to manipulate or create models for characters, animals, and enemies.</p> <p>Modeling in MCreator: Students create or alter mobs using MCreator.</p> <p>Lesson: There's More Than One Way to Skin a Steve: Students learn about PMCSkin3D and other means of altering or creating custom skin textures.</p> <p>Texture Editing in PMCSkin3D: Students work from a number of different perspectives to create a custom skin for their MCreator model.</p> <p>Lesson: Making a Monster: Students go through creating a hostile mob in MCreator by importing their PMCSkin texture.</p> <p>Kill the Beast: Students combine their models and skin textures to create custom mobs, then battle them.</p> <p>Texture Editing in PMCSkin3D: Students work from a number of different perspectives to create a custom skin for their MCreator model.</p> <p>Lesson: Making a Monster: Students go through creating a hostile mob in MCreator by importing their PMCSkin texture.</p> <p>Kill the Beast: Students combine their models and skin textures to create custom mobs, then battle them.</p>
Class Meeting 7	<p>Lesson: CustomNPCs: Students learn about the basic features of CustomNPCs, another expansive mod which can be used with the Minecraftedu server.</p> <p>Exploring CustomNPCs: Students spend time creating characters and structural features in the CustomNPCs mob.</p> <p>Lesson: What Is Your Quest?: Students learn how to construct an RPG-style quest in CustomNPCs as well as how to implement the rewards and achievements it triggers.</p> <p>Questing Practice: Students use the last part of class constructing a rudimentary quest based on the instructor's demonstration.</p> <p>Exploring CustomNPCs: Students spend time creating characters and structural features in the CustomNPCs mob.</p> <p>Lesson: What Is Your Quest?: Students learn how to construct an RPG-style quest in CustomNPCs as well as how to implement the rewards and achievements it triggers.</p> <p>Questing Practice: Students use the last part of class constructing a rudimentary quest based on the instructor's demonstration.</p>
Class Meeting 8	Final Project: Students create an elaborate RPG world, complete with several quests of various types, fantastic architecture, and custom textures and models.
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Class Meeting 10	<p>Adventure Time: Playtesting RPGs: Students receive a USB thumb drive containing everyone's final projects and spend the majority of class playtesting classmates' RPGs.</p> <p>Taking What's Yours: Students locate their various mods and files and save these files to their thumb drives.</p> <p>Taking What's Yours: Students locate their various mods and files and save these files to their thumb drives.</p>
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