

Mod Design teaches students how to use Java™, a professional programming language to code their own Advanced mod in Minecraft®. Students will use Eclipse, an industry-standard Java Development program, to create their own creatures with fully customized artificial intelligence and 3D Models, their own interfaces (GUIs) like crafting tables and furnaces. They will also learn advanced Java workflows to create items, blocks, and biomes. Students will have full control over the design and functionality of their Minecraft Mod.

This is a project-based course where students take on the role of creator. In addition to technical skills, students develop the creative, critical thinking, and problem-solving skills necessary to build amazing projects from start to finish. Throughout the course, students work with industry-standard tools used by professionals. If they need any help along the way with their coursework or projects, students can reach out to experts for support by e-mail, chat, or phone.

By the end of this course, students will have built an original, professional-grade project and developed the knowledge, skills, and confidence to become creators on their own, in further study, or professionally.

Course Materials

All required materials are included with this course.

Length: One semester

UNIT 1: WELCOME TO MOD DESIGN 2

- Lesson 1: Run Your Mod
- Lesson 2: Brand New Item
- Lesson 3: Wrap Up

UNIT 2: POWER SWORD

- Lesson 1: The Pencil is Mightier
- Lesson 2: A Superclass of Swords
- Lesson 3: Operation Override
- Lesson 4: Wrap Up

UNIT 3: START YOUR ENGINES

- Lesson 1: License & Registration
- Lesson 2: New Paint Job
- Lesson 3: Supe Up your Ride
- Lesson 4: Wrap Up

UNIT 4: READY, AIM, FIRE

- Lesson 1: Pull Some Strings
- Lesson 2: Lock and Load
- Lesson 3: A Big Impact
- Lesson 4: Wrap Up

UNIT 5: MEGA MOBS

- Lesson 1: Bring it to Life
- Lesson 2: War Paint
- Lesson 3: Mob Mentality
- Lesson 4: Wrap Up

UNIT 6: ARMOR UPGRADE

- Lesson 1: Far More Armor
- Lesson 2: Fight in Shining Armor
- Lesson 3: Potion-Powered
- Lesson 4: Wrap Up

UNIT 7: BLOCK, CROP, & BIOME

- Lesson 1: Ore-nimation
- Lesson 2: Crop Growth
- Lesson 3: Beyond Biomes
- Lesson 4: Wrap Up

UNIT 8: STOCK YOUR INVENTORY

- Lesson 1: Power Tools
- Lesson 2: Project Projectile
- Lesson 3: Magic Wand
- Lesson 4: Wrap Up

UNIT 9: IN YOUR INTERFACE

- Lesson 1: Recipes for Success
- Lesson 2: Tool Tips
- Lesson 3: Wrap Up

UNIT 10: CUSTOM GUI

- Lesson 1: Sketch the Screen
- Lesson 2: Tie in your Tile Entity
- Lesson 3: Finesse the Furnace
- Lesson 4: Wrap Up

UNIT 11: BIG BAD BOSS

- Lesson 1: Bring in the Boss
- Lesson 2: Special Spawning
- Lesson 3: Advanced AI
- Lesson 4: Wrap Up

UNIT 12: MOD FINALE

- Lesson 1: Standards of Excellence
- Lesson 2: Upload for Review

UNIT 13: ADVANCED TOPICS

- Lesson 1: Custom Entities Part 1: Modeling
- Lesson 2: Custom Entities Part 2: Animating
- Lesson 3: Mob-Piloted Vehicle
- Lesson 4: Custom Methods