In 3D Printing & Modeling, students learn how to sculpt, texture, arrange, and render 3D models in preparation for 3D printing. They learn to use Blender®, a powerful open-source, professional 3D Design software used in a variety of disciplines, including design, animation, visual effects and engineering. In doing so, students learn the most important concepts for creating within a digital 3D environment, including navigating the XYZ Axes, the importance of low-poly designs, combining and modifying simple shapes to create complex designs, and more.

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 3D PRINTING AND MODELING

- Lesson 1: Moving Around in 3D
- Lesson 2: Blender Blunders
- Lesson 3: Wrap Up

UNIT 2: MAKING A HERO 101

- Lesson 1: Body and Eyes
- Lesson 2: Arms and Feet
- Lesson 3: The Hero's Materials
- Lesson 4: Eyes in Edit Mode
- Lesson 5: Wrap Up

UNIT 3: BUILD IN EDIT MODE

- Lesson 1: Build in Edit Mode
- Lesson 2: Make Some Windows
- Lesson 3: Creating Glass
- Lesson 4: Wrap Up

UNIT 4: A BRAND NEW CAR

- Lesson 1: Mirror Tool
- Lesson 2: A Smooth Ride
- Lesson 3: A Fresh Coat of Paint
- Lesson 4: Wrap Up

UNIT 5: MODEL WITH MOTHER NATURE

- Lesson 1: Modeling a Tree
- Lesson 2: Bending a Tree

- Lesson 3: Wrap Up

UNIT 6: MAKE A SCENE

- Lesson 1: Sculpt the Terrain
- Lesson 2: Roads and Arrays
- Lesson 3: Curving the Road
- Lesson 4: Wrap Up

UNIT 7: SPICE UP THE SCENE

- Lesson 1: The Car Dealer
- Lesson 2: The Architect
- Lesson 3: The Landscape Artist
- Lesson 4: Wrap Up

UNIT 8: BEST SUPPORTING ACTOR

- Lesson 1: Sculpt an Expression
- Lesson 2: Make a Helmet
- Lesson 3: Supporting Actor
- Lesson 4: Wrap Up

UNIT 9: STORY TIME

- Lesson 1: Arranging Everything
- Lesson 2: Make a Sign
- Lesson 3: Props
- Lesson 4: Wrap Up

UNIT 10: LIGHTING AND EFFECTS

- Lesson 1: Cloudy with Metaballs
- Lesson 2: The Node Editor
- Lesson 3: Wrap Up

UNIT 11: OFF TO THE PRINTERS

- Lesson 1: The Epic Screenshot
- Lesson 2: The Turntable
- Lesson 3: Optimize for 3D Printing
- Lesson 4: Wrap Up

UNIT 12: WRAPPING IT UP

- Lesson 1: Standards of Excellence
- Lesson 2: Submit For Review

UNIT 13: ADVANCED TOPICS

- Lesson 1: Extra Modifiers
- Lesson 2: Growing Hair