

APEX Technology Grades 9-12 - 2.5 credits

Technology Electives (unweighted)



3D Game Development

In 3D Game Development, students learn the fundamentals of Coding in C# and game development skills by using Unity®, an industry-standard tool. Students will design their own custom video game just like the pros. 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.

Mod Design 1

In Mod Design 1, students learn the fundamentals of Java™ programming by creating their own Minecraft® Mod for the PC/Mac version of Minecraft®. For every item, block, or creature they want to add, students will first design and then code their object in Java. At the end of the course, they will have their own polished Mod that they created from scratch. 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.

Mod Design 2

Mod Design 2 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.

Server Design

In Server Design, students learn the fundamentals of Java™ programming, while coding their own custom Minecraft® multiplayer server. 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.

App Design

In App Design, students learn how to create a real mobile app that can be played on both Apple® and Android® mobile devices. At the end of the course, students have the basic skills to create their own app and potentially publish it to the Apple® App Store or the Google® Play Store. 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.

3D Animation

3D Animation teaches students how to create their own animated 3D movie while also learning the fundamentals of animation. Using Blender®, a professional open-source 3D animation software, students use the same industry-standard techniques and workflows as animators in leading animation studios. By the end of the course, students will complete an incredible 3D Animation that they created from scratch. 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.

3D Character Animation

In 3D Character Animation, students will animate their own Minecraft® story. Using professional animation software, they will learn concepts of storytelling, cinematography, and composition, along with key principles of animation, to create an exciting, unique story. 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.

3D Game Design

In 3D Game Design, students learn the basics of 3D video game design including models, textures, volumes, lighting, and more. Students will create their own amazing 3D world from start to finish. 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 will use a 3D game design program called OWL Game Creator, which mirrors professional tools and allows students to quickly create complex 3D games. 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.

3D Printing & Modeling

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.

Fashion Design

In this course students learn both the conceptual and technical side of fashion design as they design their own complete fashion collection. 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.