The following requirements outline the minimal requirements to use Technology Courses. The table that follows provides more information and additional requirements by course title.

Minimal Requirements

Hardware requirements
- PC or Mac (not tablet or Chromebook)
- Windows 10, 8, or 7, or Vista, or Mac OS10.8 or higher, 64-bit (after 2008)
- CPU Intel® Pentium® CPU N3530 (or better)
- CPU: SSE2 instruction set support
- 4 GBs RAM
- 7 GBs free disk space

Graphics requirements
- GPU: (Integrated) Intel HD Graphics (Bay Trail) or Radeon HD 6230 (or better)
- GPU: (Discrete) GeForce 710 or Radeon HD 6450 (or better)
- Graphics card must have OpenGL 3.2 compatible graphics with 1 GB RAM
- Monitor that allows for at least a 1280 x 768 resolution

Network requirements
- At least 1mbps

Other
- Headphones
- Mouse with scroll wheel
- Students need access to email to send project files to their teacher and to Apex support.
- Because students must access their saved project files from one session to the next, students need:
  o Access to the same computer each session
  o Ability to save and access saved files on the desktop

Course-Specific Requirements
This table provides an overview of additional requirements for each course. For specifics, please see the Installation Guides.

Available January 2019			
Title (links to syllabus)	**Student Project**	**Tools**	**Additional Requirements**
3D Animation	Create a 3D movie	Blender	• See Installation Guide
3D Character Animation	Create a Minecraft animated short movie	Blender	• See Installation Guide • Systems should meet minimum hardware requirements of Minecraft which can be found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements • Latest version of Java installed
3D Game Design	Create a basic 3D video game	OWL Game Creator	• See Installation Guide Note: This course has stricter OS requirements than general requirements: • Windows Vista not applicable • MAC OS 10.9 or above
Mod Design 2	Create an advanced Minecraft mod using Java	Eclipse, GIMP, Tabula	• See Installation Guide • Systems should meet minimum hardware requirements of Minecraft which can be found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements • Latest version of Java installed

Available for the 2019-2020 School Year			
Title (links to syllabus)	Student Project	Tools	Additional Requirements
3D Game Development	Design a custom video game using C#	Unity	Graphics card must have dX10 (shader model 4.0) capabilities (note: most cards produced after 2007 meet this requirement)
3D Printing & Modeling	Design 3D models suitable for printing	Blender	Optional: Use Shapeways for printing
App Design	Create a downloadable app for iOS or Android	Clickteam Fusion 2.5	Older graphics cards may be used for this course.
Fashion Design	Design a fashion collection	Inkscape	Older graphics cards may be used for this course.
Mod Design I	Create a Minecraft mod using Java	Eclipse, GIMP	• Systems should meet minimum hardware requirements of Minecraft which can be found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements • Latest version of Java installed • MAC students may need a legacy version of Java installed which can be found here: http://support.apple.com/kb/DL1572
Server Design	Code a custom Minecraft multiplayer server	Eclipse	• Systems should meet minimum hardware requirements of Minecraft which can be found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements • Minecraft subscription, cubedhost (hosting environment) running 6 hrs/day 2GB • Latest version of Java • If utilizing online servers: Must allow outgoing traffic on port 21 for online servers • If local online servers: Must allow access to private network for local servers

For specifics regarding each course, please see the Installation Guides.