Overview
This document outlines the network and hardware recommendations for the following Apex Learning solutions:
- Courses
- Tutorials
- Technology Courses
- Apex Learning Virtual School (ALVS)

Network Configuration

Bandwidth
All Apex Learning products require internet access. A broadband connection is highly recommended and should provide adequate bandwidth to support the following:
- Streaming Video (multi-bitrate)
- Voice Translation
- Text-to-Speech

Access
Access firewalls, content filters, and other network infrastructure must allow secure HTTP connections (port 443) to the following URLs and domains:
- *.apexvs.com (root domain + all subdomains)
- *.apexlearning.com
- correlation.edgate.com

Some courses may also contain references to external URLs for instructional purposes. For an updated list of these URLs, please contact support@apexlearning.com.

HTTPS Support
Apex Learning makes exclusive use of HTTP/1.1 over TLS 1.2 for all communications.

Content Caching

<table>
<thead>
<tr>
<th>Cache Setting</th>
<th>Courses, ALVS</th>
<th>Tutorials</th>
</tr>
</thead>
</table>
| Domains that may be cached, but should be refreshed weekly | media.apexlearning.com  
assets.apexlearning.com  
acecontent.apexlearning.com | Not applicable |
| Domains that must NOT be cached                    | apexvs.com  
courses.apexlearning.com  
course.apexlearning.com  
course-api.apexlearning.com | apexvs.com 
tutorials2.apexvs.com |
Hardware Configuration

Supported Operating Systems
Versions of the following operating systems which have received vendor security updates within the last year:

- Microsoft Windows
- Apple macOS
- Google Chrome OS

Supported Web Browsers
Versions of the following browsers which have received vendor security updates within the last year:

- Microsoft Edge
- Apple Safari
- Mozilla Firefox
- Google Chrome
- Microsoft Internet Explorer (support ends March 2021)
- Microsoft Edge Legacy (support ends March 2021)

Supported Tablet Configuration
Versions of the following configurations which have received vendor security updates within the last year:

- Apple iOS + Safari
- Google Android + Chrome

Additional Recommendations and Requirements

- Speakers/Headphones (for media, interactive assets and text-to-speech)
- Microphone (for World Language courses only)
- Printer (optional for supplemental resources and written assignments)

Technology Courses

The following sections outline the minimum requirements for Technology Courses. The table that follows provides additional requirements and information by course title.

Hardware Requirements

- PC or Mac (not tablet or Chromebook)
- Windows 10, 8, or 7, Mac OS10.8 or higher (Note: Mac OS Catalina and Big Sur are not compatible with some courses)
- Intel® Pentium® CPU N3530 (or better)
- OpenGL 3.2 compatible graphics with 1 GB VRAM
- 4 GB RAM
- 7 GB free disk space
Additional Requirements
- Headphones/Speakers
- E-mail access
- Access to local storage for saving/loading of student project files
- Broadband internet connection (1mbps or higher)

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

<table>
<thead>
<tr>
<th>Title (links to syllabus)</th>
<th>Student Project</th>
<th>Tools</th>
<th>Software Access</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Animation</td>
<td>Create a 3D movie</td>
<td>Blender®</td>
<td></td>
<td>• See Installation Guide</td>
</tr>
</tbody>
</table>
| 3D Character Animation   | Create a Minecraft® animated short movie | Blender® |                 | • See Installation Guide
|                          |                 |       |                 | • Systems should meet minimum hardware requirements of Minecraft found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements
|                          |                 |       |                 | • The 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 |
| 3D Game Development      | Design a custom video game using C# | Unity® |       | • See Installation Guide
|                          |                 |       |                 | • Graphics card must support DirectX10 or higher and support Shader Model 4.0 or higher. Most graphic cards manufactured after 2007 should meet these requirements. |
| 3D Printing & Modeling   | Design 3D models suitable for printing | Blender® |       | • See Installation Guide |
| Adventure Maps            | Design a Minecraft® world using command block programming | Minecraft® (Java edition) |       | • See Installation Guide
|                          |                 |       |                 | • Systems should meet minimum hardware requirements of Minecraft found here: https://help.mojang.com/customer/en/portal/articles/325948-minecraft-java-edition-system-requirements
|                          |                 |       |                 | • The latest version of Java installed
<p>|                          |                 |       |                 | • Contact Apex Learning Support to gain access to needed licenses |</p>
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| App Design               | Create a downloadable app for iOS or Android | Clickteam Fusion 2.5 | Fusion 2.5 is required. Licenses will be provided based on enrollment in the course but limited by overall seats purchased. | • See Installation Guide  
• Older graphics cards are compatible with this course.  
• Contact Apex Learning Support to gain access to needed licenses |
| Fashion Design           | Design a fashion collection | Inkscape™ | | • See Installation Guide  
• Older graphics cards are compatible with this course. |
| Mod Design               | Create an advanced Minecraft® mod using Java™ | Eclipse™, GIMP, Tabula | Access to Minecraft (Java edition) is not required, therefore not provided by Apex. | • See Installation Guide  
• The latest version of Java installed |
| Server Design            | Code a custom Minecraft® multiplayer server | Eclipse™, Minecraft® (Java edition) | Minecraft (Java edition) is required. Licenses will be provided based on enrollment in the course but limited by overall seats purchased. | • See Installation Guide  
• The latest version of Java  
• Must allow access to a private network for local servers  
• Contact Apex Learning Support to gain access to needed licenses |

“Minecraft” and “Mojang” are registered trademarks of Microsoft Corporation. “Unity” is a registered trademark of Unity Technologies. Apex Learning Technology Courses are not sponsored by or affiliated with Microsoft Corporation or Unity Technologies.

**Getting Support**

To access online help at any time, sign in to Apex Learning and click Help in the main menu.

Apex Learning Support:

- Monday – Friday. 5:00 AM – 7:00 PM Pacific Time
- 1-800-453-1454 option 2
- support@apexlearning.com