

Virginia Department of Education

Virtual Virginia



2009-10 Technology Handbook

<http://www.virtualvirginia.org/>

V 2.0

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Welcome to Virtual Virginia

Welcome to Virtual Virginia! We are excited to have your division's participation in the program for the 2009-10 school year.

You play a very important role in our virtual program! This document briefly describes the history of Virtual Virginia, discusses the role of the Virtual Virginia Support Department, and outlines required hardware and software for schools participating in our program.

Virginia has a long history in providing distance-learning opportunities for its middle and high school students. Beginning in the 1980's, Advanced Placement (AP) and world language courses were offered via satellite to students throughout Virginia. The primary mission of the program was to serve rural and underserved students with courses that were either unavailable because of the lack of highly qualified instructors or there were too few students to offer the course. Thousands of students in Virginia and across the nation have successfully completed courses using the *Virginia Satellite Education Network (VSEN)*. Several years ago, the program added world language and Advanced Placement courses and changed to include web-based delivery. The program became known as the *Virtual Advanced Placement School (VVAPS)*. The Virginia Department of Education saw a need to combine these two programs and move towards embracing online education. Through that process Virtual Virginia was born.

In 2008-2009, Virtual Virginia provided online instruction for students in over 117 school divisions and 238 middle and high schools in Virginia as well as students from 10 states and four nations. Our continually expanding course offerings are evidence that Virtual Virginia today is a program that can help schools meet the individual needs. Schools can improve success in online learning by ensuring that students have access to the necessary hardware and software requirements at the start of their course, as well as providing on-site technical support to students and mentors.

Virtual Virginia/Virginia Department of Education Non-Discrimination Statement

<http://www.doe.virginia.gov/VDOE/non-discrimination.html>

The Virginia Department of Education does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following position has been designated to handle inquiries regarding the department's non-discrimination policies:

Chief Deputy Superintendent of Public Instruction
Virginia Department of Education
P.O. Box 2120
Richmond , Virginia 23218-2120
(804) 225-2979

For further information on Federal non-discrimination regulations, contact the Office for Civil Rights at OCR.DC@ed.gov or call 1(800) 421-3481.

You may also choose to view Executive Order One (2006) (http://www.governor.virginia.gov/initiatives/ExecutiveOrders/2006/EO_1.cfm) , which specifically prohibits discrimination on the basis of race, sex, color, national origin, religion, sexual orientation, age, political affiliation, or against otherwise qualified persons with disabilities. The policy permits appropriate employment preferences for veterans and specifically prohibits discrimination against veterans. You may obtain additional information at the Commonwealth of Virginia's official Web site (www.virginia.gov) concerning this equal opportunity policy.

The Virtual Virginia Support Department

The Virtual Virginia Support Department is available to work with students, local schools, and division staff to ensure that students have assistance in using the necessary computer hardware and software. Local technical staff will need to work with the Virtual Virginia staff to:

- Verify that the students' workstations meets the minimum hardware and software requirements in this document and ensure adequate bandwidth;
- Act as a resource for the installation of programs and problem-solve any technical difficulties throughout the course;
- Communicate with the Virtual Virginia Help Desk as needed.

Students working outside the local school setting must be aware of the need to access equipment that meets the minimum requirements as specified in this document.

The most updated version of these system requirements can be found on the web at: www.virtualvirginia.org/techassistance/downloads/systemrequirements.pdf.

The Virtual Virginia Help Desk

Virtual Virginia operates a toll-free technical support line for students, parents and local school personnel to use for assistance with any technical issues related to Virtual Virginia courses. This toll-free number is 866-650-0027 and is open during the following hours:

August-September	October-June	July
Mon-Thurs: 8:00 a.m.- 8:00 p.m. Fri: 8:00 a.m.- 4:00 p.m.	Mon-Fri: 8:00 a.m.- 4:00 p.m.	Mon-Thurs: 8:00 a.m.-6:00 p.m. Fri: CLOSED

Technical questions can also be sent to support@virtualhelpdesk.org.

The Virtual Virginia Help Desk does not take the place of your school's on-site technical support team. The Help Desk cannot answer course content related questions or questions about enrollments; these questions should be directed to your students' online course instructor or the Virtual Virginia Registrar.

When contacting the Virtual Virginia Help Desk, it's important to have the following information available:

- ✓ The Name of the Tool/Area Affected (classlist, content, etc)
- ✓ Information About Your Web Browser (name and version)
- ✓ Information About Your Operating System (name and version)
- ✓ A Detailed Description of the Problem (i.e. assignment, grade item, content links/topics)
- ✓ The Course Name
- ✓ The Usernames of Students Experiencing the Issue
- ✓ Any Screen Shots (these are extremely helpful)

The Virtual Virginia Support representative will respond based on the severity of the students' issues (please see the chart below). The time frames listed below are suggested response times; it may take longer to implement a resolution.

Security Level	Description	Preferred Contact Method	Response Times
Urgent	Outage or Significant Impact Threatening Students' Productivity; Very Difficult to Work Around; System Is Unusable.	Phone	Immediate
Important	Problem Impact Is High; Productivity Is Proceeding, But In an Impaired Fashion; Workarounds Are Available.	Phone or Email	4-24 Hours
Non-Urgent	Issue Does Not Have Productivity Impact; Examples Include Product Enhancements, Usage Questions, and Cosmetic Problems.	Email	Within 24 Hours

General Hardware and Software Requirements

System Requirements

	Windows/PC	Mac
Operating System	Windows 2000, 2003, XP, or Vista	OS X (up to 10.4)
Video	Minimum Resolution of 800x600 Recommended Resolution (1024x768)	Minimum Resolution of 800x600 Recommended Resolution (1024x768)
Audio	Sound card; headphone and microphone capability	Sound card; headphone and microphone capability
Cookies	Enabled	Enabled
Java	Enabled Sun Java 1.6.0 JRE or higher Sun Java 3D 1.3.1*	Enabled Sun Java J2SE 5.0 or higher Sun Java 3D 1.3.1*
Supported Browsers	Internet Explorer 7.0* Firefox 3.0*	Firefox 3.0* Safari 3.1
Pop-Up Blocker	Pop-up or ad blockers must be disabled.	
Other Required Hardware	<ul style="list-style-type: none"> • Headphones and microphone • Telephone and telephone connection • Scanner 	

Other Required Software

	Windows/PC	Mac
Adobe Reader	Adobe Reader 9.0 or higher*	Adobe Reader 9.0 or higher*
Media Players	Windows Media Player 10.0* AND Quick Time 7.6.2 or higher*	Windows Media Player 9.0 and Flip4Mac* AND Quick Time 7.6.2 or higher*
Adobe Flash Player	Adobe Flash Player 10.0 or higher*	Adobe Flash Player 10.0 or higher*
Audio Recording	Audacity Recorder* LAME mp3 encoder*	Audacity Recorder* LAME mp3 encoder*

Internet Connection

Internet access is required to take any of the courses. To take full advantage of the interactivity of the courses, broadband access is recommended. While internet access is not required at home for school-based students, it is strongly recommended.

Website/Domain Access

All students will need access to the following websites and sub-pages:

- <http://www.virtualvirginia.org>
- <https://d2l.virtualvirginia.org>
- <http://streaming.discoveryeducation.com/>
- <http://virtualvavoice.wimba.com>
- <http://illuminate.com>

Other necessary URL's are outlined by course starting on page 11.

Email Access

All division personnel will need to be able to receive email from and send email to students and instructors from the @virtualvirginia.org domain.

CD ROM Drives

Students will need access to the computers' CD ROM drive.

ElluminateLive! and Division/School Firewall Configuration

Virtual Virginia students and instructors utilize web conferencing software called *ElluminateLive!*. In order for students to be able to access this necessary piece of software, please make the following adjustments to your school or division firewall.

Since Elluminate uses dynamic server assignment, it is not possible to state in advance precisely which server will host a session. This means that the IP Address is known only when the session actually starts. As a result, please ensure firewalls (and proxy systems) allow access to the entire set of Elluminate hosts in the domain **elluminate.com** and to the following IP Address ranges:

216.220.49.208 with netmask 255.255.255.240 (in CIDR notation: 216.220.49.208/28)

65.110.166.160 with netmask 255.255.255.224 (in CIDR notation: 65.110.166.160/27)

74.200.25.224 with netmask 255.255.255.224 (in CIDR notation 74.200.25.224/27)

Enabling access to both of the address blocks listed will reduce the impact of any configuration changes that Elluminate might make.

Elluminate *Live!* connects on one of two ports (2187 or 80) for unencrypted sessions; when session encryption is used, port 443 is used instead of 2187. We need to establish a connection on one of these two ports. Once this connection has been made it will remain open and transfer all communication which is a proprietary protocol called the Collaborative Communication Framework (CCF), which is layered on a TCP transport protocol.

Firewall and web content filters must allow the download of both JNLP files (or content types) and JAVA application archive (JAR) files. The desktop client system must be configured to allow the download, installation, and execution of JAVA network applications. In addition, the end user must have the necessary permissions.

APPENDIX A:

Additional Requirements for Virtual Virginia Courses

In addition to the general requirements for all courses listed in this document, Virtual Virginia courses may require access to additional technology resources. Additional technology resources are either purchased by Virtual Virginia for installation and/or use by the student enrolled in the associated Virtual Virginia course, or are free downloads from other providers. In the next several pages we will outline the different types of software access required, organized by course.

Since much of this software is proprietary, download or access instructions will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

The information in Appendix A represents the current technology requirements; however, there may be alterations throughout the school year due to curricular and/or instructional changes.

Visit www.virtualvirginia.org/techassistance/downloads/systemrequirements.pdf for the most current Virtual Virginia Technology Handbook.

Additional Technology Resources: Advanced Placement Biology

Resource Name	Description of Resource
Campbell Biology Website	The Campbell Biology website is offered free with new copies of Campbell/Reece's <i>Biology, Seventh Edition</i> . The website offers interactive tutorials, quizzes, movies, flashcards and other resources. All quizzes except the Cumulative Quiz will send results to your personal Results Reporter (see the Results Reporter link on the left side of the website). Instructions on registering for this resource will be sent to the students once the course begins. Students will need access to the URL www.campbellbiology and all sub-websites.

Additional Technology Resources: Advanced Placement Calculus AB

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Graphmatica	Graphmatica is a powerful, easy-to-use, equation plotter with numerical and calculus features.	Users will be provided with a link to the AP Calculus AB resource page with a link to a zipped file. Users will need to download the zipped folder to their hard drive and extract an executable file. Running the executable file will install the program. **NOTE: This software is currently unavailable for Mac users.
MathType	MathType allows the creation of mathematical notation for word processing, web pages, desktop publishing, and presentations.	Users will be provided with a link to the AP Calculus AB resource page with a link to an executable file. Running the executable file and entering a license key will install the program.

Since the software listed above is proprietary, the link to the AP Calculus AB resource page will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

Additional Technology Resources: Advanced Placement Calculus BC

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Graphmatica	Graphmatica is a powerful, easy-to-use, equation plotter with numerical and calculus features.	Users will be provided with a link to the AP Calculus BC resource page with a link to a zipped file. Users will need to download the zipped folder to their hard drive and extract an executable file. Running the executable file will install the program. **NOTE: This software is currently unavailable for Mac users.
MathType	MathType allows the creation of mathematical notation for word processing, web pages, desktop publishing, and presentations.	Users will be provided with a link to the AP Calculus BC resource page with a link to an executable file. Running the executable file and entering a license key will install the program.

Since the software listed above is proprietary, the link to the AP Calculus BC resource page will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

Additional Technology Resources: Advanced Placement Chemistry

Resource Name	Description of Resource	Notes on Installation/ System Requirements
SmartScience	SmartScience is an online lab resource for students to apply learned principles, theories, and concepts from course content to virtual labs.	SmartScience is a web-based lab software. Students will need to be able to access to the SmartScience URL at: http://smartsciencelab.com/VVAPS . Students' usernames and passwords for this resource will be sent to the student after the start of the course.

Since the software listed above is proprietary, login information will be sent to the student after the start of the student's course.

Additional Technology Resources: Advanced Placement Computer Science A

NOTE: Students taking Advanced Placement Computer Science A must have access to hardware running MS Windows or Linux.

Resource Name	Description of Resource	Notes on Installation/ System Requirements
GridWorld Case Study	The GridWorld case study provides a graphical environment in which students can experiment with different types of objects and observe how programming changes will affect the object behavior.	Download the GridWorld Case Study at: http://apcentral.collegeboard.com/apc/public/courses/teachers_corner/151155.html
Java Compiler JDK 6.0 Update 3	The JDK includes the JRE plus command-line development tools such as compilers and debuggers that are necessary or useful in assisting students in <i>developing</i> applets and applications.	Download the Java Compiler JDK 6.0 Update 3 at: http://java.sun.com/javase/downloads/index.jsp
JCreator LE	JCreator is a powerful interactive development environment (IDE) for Java technologies.	Download JCreator LE at: http://www.icreator.com/download.htm

Additional Technology Resources: Advanced Placement Physics B

Resource Name	Description of Resource	Notes on Installation/ System Requirements
MathType	MathType allows the creation of mathematical notation for word processing, web pages, desktop publishing, and presentations.	Users will be provided with a link to the AP Calculus AB resource page with a link to an executable file. Running the executable file and entering a license key will install the program.
SmartScience	SmartScience is an online lab resource for students to apply learned principles, theories, and concepts from course content to virtual labs.	SmartScience is a web-based lab software. Students will need to be able to access to the SmartScience URL at: http://smartsciencelab.com/VVAPS . Students' usernames and passwords for this resource will be sent to the student after the start of the course.

Since the software listed above is proprietary, login information will be sent to the student after the start of the student's course.

Additional Technology Resources: Advanced Placement Statistics

Resource Name	Description of Resource	Notes on Installation/ System Requirements
MathType	MathType allows the creation of mathematical notation for word processing, web pages, desktop publishing, and presentations.	Users will be provided with a link to the AP Statistics resource page with a link to an executable file. Running the executable file and entering a license key will install the program.
<i>Against All Odds: Inside Statistics</i> Video Series	<i>Against All Odds: Inside Statistics</i> is an instructional video series with an emphasis on “doing statistics”. These 26 half-hour programs will be streamed from the Annenberg Media site.	Students will need to register to view the series at http://www.learner.org . Instructions to assist them in registration will be sent the first week of their course. Ports 80 and 1755 (TCP) outbound — and, if using Windows Media Player 10, port 554 outbound as well — need to be open in order to view the <i>Against All Odds</i> series. Students will be streaming video directly from the Annenberg Media website, so the bandwidth to do so will be necessary. Schools with more than three to four students viewing these videos concurrently may need to schedule alternating video viewing times.

Since the software listed above is proprietary, the link to the AP Statistics resource page will be sent to the mentor, student, and building technology personnel upon the start of the student’s course.

Additional Technology Resources: Advanced Placement United States History

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Curriculum Pathways/ SAS	Curriculum Pathways/SAS provides innovative, web-based resources in the core disciplines. Topics are mapped to state & national standards.	Curriculum Pathways/SAS is web-based instructional software. Students will need to be able to access the SAS URL: http://www.sasinschool.com/ProductEn trance/Login/login.jsp . Students' usernames for this resource will be sent to the student after the start of the course.

Since the software listed above is proprietary, login information will be sent to the student after the start of the student's course.

Additional Technology Resources: Chemistry (Honors)

Resource Name	Description of Resource	Notes on Installation/ System Requirements
ChemLab	ChemLab is a collection of interactive lab simulations.	Users will be provided with a link to the Chemistry (Honors) resource page with a link to an executable file. Running the executable file will install the program on the computer's hard drive.
Graphical Analysis	Graphical Analysis 3 is an easy-to-learn program for producing, analyzing, and printing graphs.	Users will be provided with a link to the Chemistry (Honors) resource page with a link to an executable file. Running the executable file will install the program on the computer's hard drive.

Since the software listed above is proprietary, the link to the Chemistry (Honors) resource page will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

Additional Technology Resources: Chinese I, II, III, IV

Resource Name	Description of Resource	Notes on Installation/ System Requirements
MS Chinese Language Pack (Simplified PRC Characters)	<p>The MS Chinese Language Pack (Simplified PRC characters) allows students to type Chinese characters into a Word document. They can type in the pinyin Romanization and then choose the character they would like to use.</p>	<p>Visit the Microsoft downloads website, and use the “Search” tool to search for Chinese Language Pack. Choose the language pack that is appropriate for your version of Windows (i.e. XP, Vista/2007). Download the language pack. Instructions on how to use MS Word to type in Chinese will be provided to the student in the first week of class.</p>

Additional Technology Resources: Earth Science I

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Curriculum Pathways/ SAS	Curriculum Pathways/SAS provides innovative, web-based resources in the core disciplines. Topics are mapped to state & national standards.	Curriculum Pathways/SAS is web-based instructional software. Students will need to be able to access the SAS URL: http://www.sasinschool.com/ProductEn trance/Login/login.jsp . Students' usernames for this resource will be sent to the student after the start of the course.

Since the software listed above is proprietary, login information will be sent to the student after the start of the student's course.

Additional Technology Resources: Physics (Honors)

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Graphical Analysis	Graphical Analysis 3 is an easy-to-learn program for producing, analyzing, and printing graphs.	Users will be provided with a link to the Chemistry (Honors) resource page with a link to an executable file. Running the executable file will install the program on the computer's hard drive.

Since the software listed above is proprietary, the link to the Physics (Honors) resource page will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

Additional Technology Resources: Pre-Calculus/Mathematical Analysis

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Graphmatica	Graphmatica is a powerful, easy-to-use, equation plotter with numerical and calculus features.	Users will be provided with a link to the AP Calculus BC resource page with a link to a zipped file. Users will need to download the zipped folder to their hard drive and extract an executable file. Running the executable file will install the program. **NOTE: This software is currently unavailable for Mac users.
MathType	MathType allows the creation of mathematical notation for word processing, web pages, desktop publishing, and presentations.	Users will be provided with a link to the AP Calculus BC resource page with a link to an executable file. Running the executable file and entering a license key will install the program.

Since the software listed above is proprietary, the link to the Pre-Calculus/Math Analysis resource page will be sent to the mentor, student, and building technology personnel upon the start of the student's course.

Additional Technology Resources: SAT Prep

Resource Name	Description of Resource	Notes on Installation/ System Requirements
Get A Clue	Get A Clue is an award-winning web-based educational program designed for the contemporary Language Arts classroom.	Get A Clue is web-based instructional software. Students will need to be able to access the Get A Clue URL: http://www.getaclue.com/wbe/index.php . Students' usernames and passwords for this resource will be sent to the student after the start of the course.

Since the software listed above is proprietary, login information will be sent to the student after the start of the student's course.

Helpful Technology Links

	Windows/PC	Mac
Adobe Acrobat Reader	http://get.adobe.com/reader/	http://get.adobe.com/reader/
Adobe Flash Player	http://get.adobe.com/flashplayer	http://get.adobe.com/flashplayer
Audacity Recorder and LAME mp3 Encoder	http://audacity.sourceforge.net/download/ AND http://lame.buanzo.com.ar/	http://audacity.sourceforge.net/download/ AND http://lame.buanzo.com.ar/
Internet Explorer 7.0	http://www.microsoft.com/windows/internet-explorer/ie7/	N/A
Java	http://www.java.com/en/download/index.jsp	http://www.java.com/en/download/index.jsp
Mozilla Firefox 3.0	http://www.mozilla.com/en-US/firefox/all.html	http://www.mozilla.com/en-US/firefox/all.html
QuickTime Player	http://www.apple.com/quicktime/download/	http://www.apple.com/quicktime/download/
Windows Media Player	http://www.microsoft.com/windows/windows-media/player/10/default.aspx	http://www.microsoft.com/windows/windows-media/player/mac/default.aspx