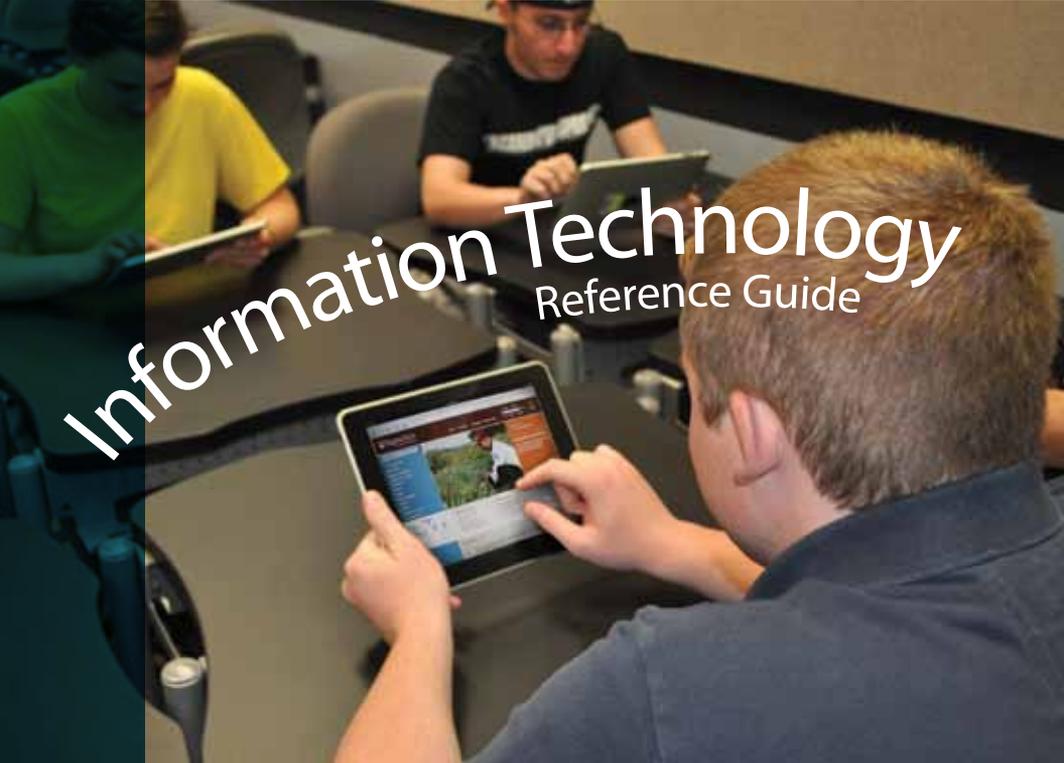VirginiaTech
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Invent the Future

Information Technology
Reference Guide

Office of the Vice President for Information Technology

This guide is posted at www.computing.vt.edu with detailed links to additional information and support.

Acceptable use of information technology is ethical, reflects academic honesty, and shows restraint in the consumption of shared resources. It demonstrates respect for intellectual property, ownership of data, system security mechanisms, and individuals' rights to privacy and to freedom from intimidation and harassment.

Virginia Tech is an equal opportunity/affirmative action employer.

Getting started with information technology

Start with these basic steps, and for more detailed information, see "Getting Started" in Services A-Z on www.computing.vt.edu. Your department will assist with hardware for computing and communications.

- Read the Acceptable Use Standard to understand your responsibilities—www.policies.vt.edu/acceptableuse.php.

- Create your personal online identifier—your PID. It is your key to email, course management systems, library databases, online personal information, and many other services. See www.my.vt.edu.

- You or your departmental system administrator need to be sure your computer has appropriate security settings. Download the VTNet 2011 software package (www.antivirus.vt.edu) to establish security settings and computer configuration helpful at the university.

- Connect to the Internet from office connections established by your department or through the wireless network.

- If you use Windows, consider VT WSUS to automatically install locally tested updates (See VT WSUS in Services A-Z on www.computing.vt.edu).

- Establish your email on Exchange through Hokies Self-Service (https://selfservice.w2k.vt.edu) or use VT Mail on Webmail or an email software program.

- Set your preferences for VT Alerts (www.alerts.vt.edu).

- Verify your emergency contacts (From www.my.vt.edu, select the "Personal Info" tab).

- Your first source for more information: www.computing.vt.edu.

- Your source for help with computing: www.4help.vt.edu or 540-231-4357, or contact your departmental support staff.

You will find additional services and sources of help in this guide.

What's new

Password changes

Passwords for enterprise IDs must now be changed at least annually. These IDs include the widely used PIDs (Scholar, VT Mail/Webmail, My VT, many more), Hokies IDs (including Exchange/WebOutlook, NAS), and Banner/Oracle IDs.

If you login with your PID through the Central Authentication Service—CAS—and if your PID password is more than 1 year old, you will be prompted to change it before you can proceed to your destination application. Separate notices will be provided to holders of Hokies accounts. Review your expiration dates using MyVT or Hokies Self Service.

With Account Recovery Options, you can securely establish means to reset a forgotten password. Establish a phone number to receive a text message or call back with a one-time password, or use the OpenID protocol with a Google or Yahoo account. If you forget your password, use the mechanism you established to create a new password. Account Recovery Options is in place for PIDs and will be available later this fall for Banner/Oracle IDs.

Identity Finder

The IT Security Office strongly encourages faculty and staff members to download Identity Finder (http://network.software.vt.edu). This commercial software searches for Social Security numbers, credit card numbers, and a variety of other personal identifying data elements.

TelePresence

TelePresence videoconferencing is supported by Cisco technology and provides a sense of physical presence for individuals working remotely from one another. TelePresence sessions will be carried via National LambdaRail as part of the 4VA project with George Mason University, James Madison University, and the University of Virginia. Two TelePresence spaces will be available for conferencing, collaboration, and instruction.

Trusted certificates

Virginia Tech Global Web Server certificates provide a way of ensuring that the Virginia Tech Web application you're visiting can be trusted, that your browser—Internet Explorer, Firefox, etc.—recognizes the site, and that appropriate encryption to the site is being applied. University developers can obtain a certificate at no charge (www.pki.vt.edu).

VT Alerts

University Relations and Information Technology have enhanced VT Alerts to support the multiple locations of Virginia Tech facilities. You may sign up for VT Alerts whether you are located in Blacksburg or another location. Notifications for specific university sites can be targeted to any region of the commonwealth.

Discovery Commons

The new research repository, Discovery Commons, is accepting proposals for use. The first completed project involves Civil War-era editions of the Macon Telegraph newspaper. Researchers can examine the content, as well as the look, of the 1860s papers, with search and browsing capabilities (https://dcr.emd.vt.edu).

Hokie Mobile

Hokie Mobile, a free application, provides campus news, events, maps, and a directory search from iPhones and iPod Touches. Login with your PID to access personalized information.

The university has also obtained an iTunes App Store license. Contact Information Technology Acquisitions for more information.
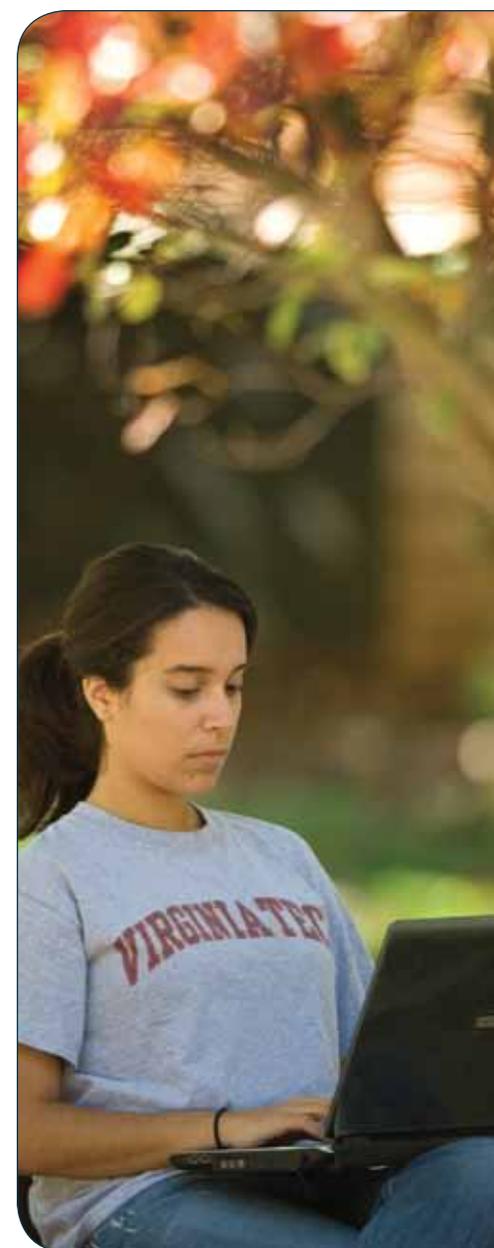
Security

Stay safe

For up-to-date information on keeping your systems and data secure, check the IT Security website (www.security.vt.edu) for resources to protect hardware and data from attacks and inappropriate exposure.

Download (www.antivirus.vt.edu) or pick up the VTNet 2011 software package to set your computer for security and for computer configurations helpful at the university. Bring your Hokie Passport to pick up a copy from Software Distribution on Torgersen Bridge.

VT Windows Software Update Service reduces the number of vulnerable and exploited Windows systems and core Microsoft applications through testing and automatically installing security, operating system, and application updates. Check Services A-Z for VT WSUS on computing.vt.edu.

Scan your system for vulnerabilities using the Virginia Tech intrusion detection system at www.ids.cirt.vt.edu.

Set your self-service Account Recovery Options, now available for PID passwords, before you forget your password. From www.my.vt.edu, navigate to "Personal Info," and then "Manage your profile." Use the self-service reset option if you need it. Call 4Help to reset Hokies passwords or Banner/Oracle passwords—540-231-HELP (540-231-4357).

Select a secure password for access to accounts at Virginia Tech. Don't share your password, don't leave it exposed for someone to see; do create a difficult-to-guess password, and use different passwords for non-university systems.

Personal and sensitive data

Personally identifying information (PII)—Social Security numbers, credit/debit card numbers, bank account numbers, passport numbers, driver's license numbers, and names in combination with full dates of birth—is attractive to identity thieves. Use Identity Finder (www.security.vt.edu) to find PII. Remove or encrypt PII on desktops, laptops, and portable storage media.

Other sensitive data must also be carefully protected—research data, medical records, student records, detailed personnel records, and many other types.

The IT Security Office offers Microsoft Rights Management Service—RMS—to assist in the protection of sensitive data contained within some Microsoft Office products.

Remember that mobile "phones" have become multipurpose devices, receiving and storing data. Be careful about storing university information.

If you suspect an unauthorized exposure of personal information, report it immediately by calling 540-231-HELP (540-231-4357).

Threats

Be aware of online security threats. The IT Security Office staff is available for presentations (540-231-1688). Also, see the FDI material on security—search for "computer security" at www.fdi.vt.edu.

Virginia Tech will never request your PID and password in an email note. Don't be fooled by ever-more-sophisticated phishing attacks.

Apply the privacy settings on social networking sites you use (Hokie Nation Network, Facebook, LinkedIn, many more) to prevent would-be identity thieves from harvesting your personal information.

Communications

Emergency messages
Subscribe to Virginia Tech's emergency notification system using VT Phone Alerts and VT Desktop Alerts (www.alerts.vt.edu).

Accessing the network
Wired Ethernet ports and wireless provide access to the university network. Subscribers may use the centrally provided virtual private network for access to services that are restricted to the campus network. Departments may sponsor guests to use wireless network access. See www.cns.vt.edu.

Email, calendaring, and instant messaging
VT Mail is the email service available to students. During the fall semester, VT Mail will be enhanced to provide collaboration tools and to retain more email. VT Mail is also available to faculty and staff members.

Employees may prefer to use Exchange for email, calendar management, and related tools, including delegation to co-workers. Establish Exchange services at https://selfservice.w2k.vt.edu.

Using the "Personal Info" tab at www.my.vt.edu, you may create up to three additional alternate addresses or aliases for your "PID@vt.edu" email address.

Versatile mailing lists—LISTSERVs—can be configured for classes, discussions, event notifications, and news delivery. (See "LISTSERV" in Services A-Z on computing.vt.edu).

Information Technology offers mobile messaging capabilities for faculty and staff with continuous wireless synchronization of email, address lists, and other information from the Exchange server. Check "Mobile messaging" in Services A-Z on computing.vt.edu.

Point your instant messaging client to Virginia Tech's service (see "Instant Messaging" in Services A-Z on computing.vt.edu).

Remote conferencing
The university phone system facilitates conference calling for up to eight participants. Use the state's teleconferencing service (www.cns.vt.edu) for more complex calls.

Interactive video conferencing facilities enable Virginia Tech faculty and staff to offer classes and share expertise with peers worldwide (www.vbs.vt.edu).

TelePresence videoconferencing supports a sense of physical presence for research, learning, and other collaboration by individuals working at a distance from one another. See "TelePresence" in Services A-Z on computing.vt.edu.

Instruction

Scholar
Scholar is Virginia Tech's online system for learning and collaboration. Tools include announcements, assignments, discussion forums, chat tools, tests and quizzes, grade book, wikis, blogs, podcasts, polls, RSS feeds, and an appointment tool for office hours. See https://scholar.vt.edu.

The ePortfolio tools within Scholar provide a way for faculty to assess learning directly, while encouraging reflective growth and professional development from students. Combining a matrix-based assessment tool with customizable templates, students and faculty may share materials and create attractive, useful websites for highlighting student learning. Visit http://eportfolio.vt.edu, or contact ePortfolio@scholar.vt.edu.

Faculty Access
Instructors of record may access rosters, grade sheets, class listservs, and related tools by selecting the "Courses" tab in My VT (www.my.vt), or "Faculty Access" on Services A-Z on computing.vt.edu.

Enhancing instruction
Faculty Development Institute short courses and summer workshops provide participants with guidance in integrating technology into courses. Faculty members are eligible to receive new hardware and software on a four-year cycle (www.fdi.vt.edu).

The Graduate Education Development Institute contributes to graduate students' professional development, with a focus on technology-enriched active learning (www.gedi.vt.edu).

InnovationSpace resources can assist with technology-enhanced teaching and learning and multimedia development. The lab is available to explore emerging technologies and their classroom applications (www.is.vt.edu).

Find over 600 software tutorials at Software Skills Gateway. See Services A-Z on computing.vt.edu.

Check with Information Technology Acquisitions regarding possibilities for specialized software (www.ita.vt.edu).

Digital Imaging and Archiving provides scanning for image collections for instructional and research purposes. To submit a proposal, see www.emd.vt.edu.

Video/Broadcast Services assists with streaming files, downloadable files, and video conferencing (www.vbs.vt.edu).

Evaluation and assessment
Testing and Data Services provides optical mark reader processing of forms (opscans) used for exams and course evaluations (www.testscoring.vt.edu). ePortfolio within Scholar offers student and programmatic assessment tools.

Computer-Integrated Learning Spaces
The staff of Computer-Integrated Learning Spaces supports instruction needing specialized software or controlled environments—including online test-taking. Find it in Service A-Z on computing.vt.edu.

Assistive Technologies
The Assistive Technologies unit supports accommodations by applying assistive technologies for students, faculty, and staff. Email assist@vt.edu, see www.assist.vt.edu, or call 540-231-3461.

Research

High-performance computing

Virginia Tech offers a suite of high-performance computers to university researchers. Find information on access, training, and support of the System X supercomputer under "Systems and Resources" on www.arc.vt.edu. Rounding out the suite are Athena, a cluster system with GPUs and a large RAM memory footprint; Ithaca, an IBM iDataPlex system running Linux; the three SGI Enterprise ALTIX 3700 and 4700 Superclusters; and Dante and Styx, two Sun compute servers available for general research applications.

Visualization tools extend the resources, offering means to insights into new properties and relationships in data, using immersive visualization venues—active and passive stereo rendering walls, head and device tracking, and the fully surrounding CAVE. Visual Computing can help format or convert data, choose visual analysis tools and content pipelines, and develop visualization applications and proposals.

For access and information on all these systems, see www.arc.vt.edu.

Geographic information systems

The Center for Geospatial Information Technology, a part of VTGIS, assists with funded GIS research projects. Enterprise GIS provides secure centralized storage, hosting, and application development. See www.gis.vt.edu.

Access to global networks

The campus network connects to multiple high-performance research networks, including NetworkVirginia, Virginia's optical VORTEX network, and the mid-Atlantic node of the National LambdaRail, the Mid-Atlantic Crossroads network, and the Internet2 network services. These national networks link major laboratories and computational centers throughout the country and peer with international research networks. Use this connectivity to enhance research, teaching, and collaboration. For more information, contact Jeff Crowder at 540-231-3900.

Discovery Commons

Discovery Commons (https://dcr.emd.vt.edu) is a research repository supporting access to the fieldwork activities and findings of faculty and students. With a focus on dissemination, the repository provides a framework for preserving significant research and stimulating new discovery through exploration. Contact Digital Imaging and Archiving or use the form on www.emd.vt.edu to propose a project.

Grant management

The Data Warehouse assists grant management with information on proposals and grants. Visit www.iwa.vt.edu.

Research collaboration

Use Scholar to facilitate collaboration with access controls for shared calendars, announcements, a file repository, and other collaboration tools (https://scholar.vt.edu).

In addition to Research Computing and VTGIS, other units collaborate with faculty and student researchers. The IT Security Lab's test facility for cyber-security research is available to faculty and qualified students. Email itseclab@vt.edu. The Assistive Technologies Lab collaborates on multidisciplinary research in the development and application of assistive technologies and welcomes faculty and student research projects. Email assist@vt.edu, see www.assist.vt.edu, or call 540-231-3461.

TelePresence videoconferencing provides a seamless experience for individuals working remotely from one another, but supporting a sense of physical presence. Two TelePresence spaces will be available for conferencing and collaboration, as well as instruction. For more information, see "TelePresence" on Services A-Z on computing.vt.edu.

Software, tools, and support

Information Technology Acquisition offers specialized software for engineering, GIS, mathematics, statistical analysis, and bibliography management. ITA welcomes additional software suggestions (www.ita.vt.edu).

Use survey.vt.edu for simple online surveys. Testing and Data Services assists with optically scanned paper survey forms (www.testscoring.vt.edu).

The Faculty Development Institute offers research-oriented workshops (www.fdi.vt.edu).

Departmental administration

Business data and reports

See "Administrative Systems" in Services A-Z on computing.vt.edu. The Data Warehouse can provide additional reports on select processes (www.iwa.vt.edu). Specialized student reports can be requested from studentrequest@vt.edu.

Recall that students may choose to not display personal information publicly, including email addresses, PIDs, and postal addresses. Use Hokie Spa's Faculty Access, Scholar tools, or Banner to find the information needed for university business.

Security responsibilities

Use—and encourage your colleagues to use—the university's site license to get and run Identity Finder (http://network.software.vt.edu). In addition to the individual license, a console version permits departmental management of the security tool. Personally identifying information found must be securely deleted or encrypted. The website www.security.vt.edu offers additional tools to protect technology resources.

Contact the IT Security Office (540-231-1688) for a departmental security review, and whenever new computing hardware and software systems are considered. Their sign-off will be needed for new information technology procurements.

Networking and communications

Is the listing for your network liaison up-to-date? Check the list at http://hostmaster.cns.vt.edu. Network liaisons work with Communication Network Services (CNS) to manage Internet protocol address assignments and host name registrations. Through the network liaison listserv (VT-DNET@listserv.vt.edu), liaisons are informed about important changes and features. Contact hostmaster@vt.edu or review the Network Liaison's Handbook.

Department-designated communications liaisons place orders for telecommunications equipment and services. CNS Ordering and Provisioning assists with the ordering process and notifies liaisons of important telecommunications news via email. New communications liaisons should register to place online orders. Use the form at www.cns.vt.edu, then to "Manage Accounts," then "Ordering/ICR." In many cases the same individual serves as both a network liaison and a communications liaison.

Share responsibilities for departmental or project correspondence through VT PACE Addresses. See "VT PACE" in Services A-Z on computing.vt.edu.

Hardware and software

Participate in the Faculty Development Institute (www.fdi.vt.edu) and the Academic Client Computer program (see "ACC/Banner machines" in Services A-Z on computing.vt.edu) to help with technology refreshes. Information Technology Acquisition has software for departments and selected titles for sale direct to employees. ITA also leases laptops to departments for special needs (www.ita.vt.edu).

Web options

The Web-hosting service provides departmental website space (Services A-Z on computing.vt.edu). No-charge, trusted server certificates are now available ("VT Global Web Server certificates," in Services A-Z on computing.vt.edu). Ensemble, the university's content management system, can help manage your websites (www.ensemble.cms.vt.edu).

The Web accessibility policy and standards are posted on the Information Technology policy page (www.it.vt.edu, then "Administration," and "Policies").

Digital signatures

Use personal digital certificates to streamline departmental online processing while retaining the value of "ink-on-paper" signatures (www.pki.vt.edu/pdc).

For technical personnel

See "Resources for Computer Support Personnel" in Services A-Z on computing.vt.edu to find mailing lists and user groups, and share your own solutions, links, tips, and scripts on the ITKnowHow wiki (https://itknowhow.w2k.vt.edu).

Authentication and authorization

GroupTools help manage Enterprise Directory group membership and subsidiary groups (www.ims.vt.edu, under "Forms").

CAS provides affiliation and group information for online authorization as well as authentication. See "Central Authentication Service" in Services A-Z on computing.vt.edu.

Virginia Tech belongs to the InCommon Federation. Find more information on federation and Shibboleth at "Federated Identity Management" in Services A-Z on computing.vt.edu.

Consider personal digital certificates for digital signatures and strong authentication (www.pki.vt.edu/pdc).

Virginia Tech Global Web Server certificates enable server authentication and traffic encryption for Web communications, and now the no-charge certificates are trusted externally. See "VT Global Server Certificates" in Services A-Z on computing.vt.edu.

Personally identifying information

Identity Finder is available in a unit-run console version, as well as individual licenses. Assistance from the Information Technology Security Office is available as you help your colleagues securely manage the personally identifying information they may find (www.security.vt.edu).

Windows administration

The Hokies domain, the university's central Active Directory service, offers different management levels to meet departmental needs. See "Hokies Domain" in Services A-Z on computing.vt.edu.

VT Windows Software Update Service provides automatic updates to Microsoft Windows and core applications. Find "VT WSUS" in Services A-Z on computing.vt.edu.

Windows server administration

The Virtual Dedicated Windows Servers service, a virtual instance for the Windows servers, can replace some needs for departmental hardware. The service increases security and flexibility, and reduces the need for many distributed servers operating at low capacity. See "VDWS" in Services A-Z on computing.vt.edu.

Web hosting and development

For Web resources, see "Web hosting service" and check the Webmasters' Toolkit. Both can be found in Services A-Z on computing.vt.edu.

Ensemble, Virginia Tech's content management system, allows website contributors to update content without specialized html or design skills (www.ensemble.cms.vt.edu).

To ensure that everyone can use your sites, find the Web accessibility policy and standards on the Information Technology policy page (www.it.vt.edu, then "Administration" and "Policies").

Help

General help

Use the 4Help request form at www.4help.vt.edu to submit problems or to request assistance from University Computing Support.

If you need your Banner/Oracle or Hokies password reset, wish to report a system outage, or have difficulty using the 4Help Web form, call 540-231-HELP (540-231-4357).

PID passwords can be reset through the self-service Account Recovery Options service if you have established your customized settings at the Account Manager, https://my.vt.edu/accounts.

Index of services: www.computing.vt.edu

For troubleshooting: www.answers.vt.edu

Topical help

For information and help on the network or telephone service, see www.cns.vt.edu.

For help specific to Scholar, see "help" at learn.vt.edu or submit questions to 4help.vt.edu.

Security checklists are available on www.security.vt.edu. For antivirus protection, see www.antivirus.vt.edu.

Learn more

Increase your information technology skills with self-paced courses and tutorials at "Software Skills Gateway." (See Services A-Z on computing.vt.edu.)

Status reports

For notices of planned maintenance downtime of centrally provided services and for information about unplanned outages, see computing.vt.edu, or www.cns.vt.edu. Instructional systems outages are also posted at scholar.vt.edu.