

# Information Technology

REFERENCE GUIDE

Fall 2009

Office of the Vice President  
for Information Technology

[www.computing.vt.edu](http://www.computing.vt.edu)

Start with these basic steps, and for more detailed information, see “Help and Tutorials: Getting Started” on [www.computing.vt.edu](http://www.computing.vt.edu). Your department will assist with hardware for computing and communications.

### Getting Started with Information Technology

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- Read the Acceptable Use Standard to understand your responsibilities. [www.policies.vt.edu/acceptableuse.php](http://www.policies.vt.edu/acceptableuse.php)
- Create your **personal online identifier**—your **PID**, which is your key to e-mail, course management systems, library databases, online personal information, and many other services. See [my.vt.edu](http://my.vt.edu).
- You or your departmental system administrator needs to be sure your computer has appropriate security settings. Download the **VTNet 2009** software package ([www.antivirus.vt.edu](http://www.antivirus.vt.edu)) to establish security settings and computer configurations helpful at the university.
- Connect to the Internet from your 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 under “Security and Viruses” on [www.computing.vt.edu](http://www.computing.vt.edu)).

- Configure your e-mail. Faculty and staff members are encouraged to use the **Exchange** ([www.computing.vt.edu/exchange/](http://www.computing.vt.edu/exchange/)) service, a premier e-mail and calendaring solution. Establish your accounts for e-mail or individual storage through Hokies Self-Service. <https://selfservice.w2k.vt.edu>
- Set your preferences for VT Phone Alerts ([www.alerts.vt.edu](http://www.alerts.vt.edu)).
- Verify your emergency contacts (From [my.vt.edu](http://my.vt.edu), select the “Personal Info” tab).
- Your first source for more information: [www.computing.vt.edu](http://www.computing.vt.edu).
- Your source for help with computing: [www.4help.vt.edu](http://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.

**This guide is posted at [www.computing.vt.edu](http://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.**

### Scholar to replace Blackboard

Use the course copy tool and work with Learning Technologies through FDI short courses and individual assistance to move course materials to Scholar and to learn how to use Scholar for teaching and learning. Scholar will replace Blackboard effective fall semester 2010. For more information, see <https://learn.vt.edu/transition>.

### Security for sensitive data

To protect sensitive personal information, you must remove critical identity theft-related information from personal machines, portable devices, and individual-use workstations. Contact [info.tech@vt.edu](mailto:info.tech@vt.edu) to arrange for information sessions, and see [www.security.vt.edu/sensitiveinfo](http://www.security.vt.edu/sensitiveinfo) for more information.

### Virginia Tech geospatial information sciences

This new geospatial initiative comprises the interdisciplinary Center for Geospatial Information Technology (CGIT) and Enterprise GIS. CGIT partners with university researchers, government agencies, and the private sector to research and develop advanced uses of geospatial technologies. Enterprise GIS provides centralized storage and hosting of geographic information, web-mapping applications hosting and design assistance, and centralized base maps for the campus and for Virginia. See [www.gis.vt.edu](http://www.gis.vt.edu).

### Software sales

As licensing permits, new titles may become available to employees for individual purchase. Recent additions



include the Adobe Creative Suites software. See [www.ita.vt.edu/employee\\_sales.html](http://www.ita.vt.edu/employee_sales.html).

### Microsoft Campus Agreement for students

Instructors may now depend upon all incoming undergraduates having access to Microsoft Office and Office upgrades, as well as upgrades for Microsoft operating systems, since freshmen and transfer students are required to purchase the Microsoft Campus Agreement.

### Technology Teaching Lab

This redesigned, state-of-the-art classroom in 1120 Torgersen provides a setting for faculty members to try new instructional technologies. Reservations for class meetings include full technical support from the InnovationSpace staff ([www.is.vt.edu](http://www.is.vt.edu)).

### Project management

All information technology projects, whether in the Information Technology organization or throughout the university, must use project management methodology that complies with university policy and standards. See [www.pm.it.vt.edu](http://www.pm.it.vt.edu).



Check the **Information Technology Security website** (<http://security.vt.edu>) for links, tools, and resources to protect hardware and data from attacks and inappropriate exposure. Use the “Common Tools” section to find new services and tools.

Download the **VTNet 2009** software package ([www.antivirus.vt.edu](http://www.antivirus.vt.edu)) to set your computer for both security and for computer configurations helpful at the university.

**VT WSUS** serves Windows systems and core Microsoft applications. Look under “Security” on [computing.vt.edu](http://computing.vt.edu). VT WSUS reduces the number of vulnerable and exploited systems through testing and automatically installing security, operating system, and application updates.

### Personal and sensitive data

Personally identifying information—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. Find and remove these data elements from portable devices and desktop computers. See [www.security.vt.edu/sensitiveinfo.html](http://www.security.vt.edu/sensitiveinfo.html).

Use the free discovery tools listed on this site. Find\_SSN from Virginia Tech and Spider from Cornell have both been recently updated to provide better detection. The IT Security Office can also discuss commercial product options.

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

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

### Be aware

Awareness of online security threats and protection is the first step in avoiding hacking, data exposures, and other security breaches. The Security Office staff is available for presentations (540/231-7694). Also, see the FDI material on security (Search for “computer security” at [www.fdi.vt.edu](http://www.fdi.vt.edu)).

### Be vigilant for threats to personal information:

E-mail **phishing** is a false claim to be a legitimate enterprise in an attempt to gather private information to steal your identity—and your money! **Virginia Tech will never request your PID and password in an e-mail note.**

No matter how eloquent, realistic, or grammatically correct an e-mail note appears to be, if it requests your password or other personal information, it is fake!

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.





Subscribe to VT Phone Alerts ([www.alerts.vt.edu](http://www.alerts.vt.edu)), the subscriber-only feature of VT Alerts, Virginia Tech's emergency notification system.

### Accessing the network

The university network can be accessed through wired Ethernet ports, wireless access, and modem pool accounts for remote access. Subscribers are eligible to use the centrally provided **virtual private network** or **VPN** service that enables access to services that may be restricted from off-campus. Departments may also sponsor guests to use wireless network access. See [www.cns.vt.edu](http://www.cns.vt.edu).

### E-mail and calendaring

Your e-mail account is named for your PID, and [PID@vt.edu](mailto:PID@vt.edu) is an e-mail address. Create up to three additional alternate addresses or aliases for this account through the "Personal Info" tab at [my.vt.edu](http://my.vt.edu).

**VT Mail** is the service for both students and employees while Exchange is available only to employees. **Exchange** provides e-mail, calendar management, and related tools, and permits you to delegate selective access to co-workers. Access Exchange through WebOutlook ([weboutlook.vt.edu](http://weboutlook.vt.edu)) or with such software as Outlook or Entourage. Establish your Exchange services at <https://selfservice.w2k.vt.edu>. Use the "My Information" tab to select a "from/reply to" e-mail address.

New this year is e-mail service through Google for Virginia Tech alumni. Active employees, along with enrolled students and retirees, will retain VT Mail, whether or not they are also alumni. The basic e-mail address for alumni remains the same, [PID@vt.edu](mailto:PID@vt.edu).

Versatile mailing lists—**LISTSERVs**—can be configured for classes, discussions, event notifications, and news delivery. (See "E-mail & Calendaring" on [computing.vt.edu](http://computing.vt.edu)).

**Junk Mail Manager** quarantines suspected e-mail spam in a separate folder. To set your rules and manage your folder, go to <https://junk.mail.vt.edu/spam>.

Information Technology offers **mobile messaging** capabilities for faculty and staff with continuous wireless synchronization of e-mail, address lists, and other information from the Exchange server. Check [www.computing.vt.edu](http://www.computing.vt.edu) under "E-mail and Calendaring" and "Exchange."

### Instant Messaging

Point your instant messaging (IM) client to Virginia Tech's service (see "IM" under "E-mail & Calendaring" on [computing.vt.edu](http://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](http://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](http://www.vbs.vt.edu)).

The **Access Grid node**, an application of the Internet2 network architecture, provides technology for large-scale distributed meetings, collaborative work sessions, seminars, lectures, and training. Services include multimedia large-format displays, presentation and interactive environments, and interfaces to Grid middleware and visualization tools. Call 540/231-6460.

### Telephones

Telephone service is available to meet a variety of needs. To order or change services, contact [cnsdesign@vt.edu](mailto:cnsdesign@vt.edu).





## Scholar

**Scholar** is Virginia Tech's online system for learning and collaboration. Tools include announcements, assignments, discussion forums, chat tools, tests and quizzes, grade books, wikis, blogs, podcasts, polls, RSS feeds, and an appointment tool for office hours. Scholar is also fully integrated with ePortfolio. For more information, see <http://scholar.vt.edu>.

Blackboard is being phased out over this academic year, with support discontinued Fall 2010. Instructors may begin using Scholar any time before then. Support for the migration from Blackboard to Scholar includes a course copy tool to move content, Faculty Development Institute classes, scheduled personal assistance, and drop-in assistance at InnovationSpace (1140 Torgersen Hall). For more assistance, see <http://learn.vt.edu/transition>.

## HokieSpa's Faculty Access

Designated instructors of record may access rosters, grade sheets, class listservs, and related tools through HokieSpa's **Faculty Access**, including student photographs ([www.my.vt](http://www.my.vt)).

## Enhancing instruction

### Faculty Development Institute

summer workshops and short courses during the year 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](http://www.fdi.vt.edu)).

The **Graduate Education Development Institute** addresses graduate students' professional development, focusing on integrating advanced technologies ([www.gedi.vt.edu](http://www.gedi.vt.edu)).

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

The **Software Skills Gateway** offers more than 600 software tutorials for faculty, staff, and students. Check under "Help & Tutorials" on [computing.vt.edu](http://computing.vt.edu).

Check with **Information Technology Acquisition** regarding possibilities for specialized software ([ita.vt.edu](http://ita.vt.edu)).

**Digital Imaging** provides archival scanning for existing image collections for instructional and research purposes. To submit a proposal, see [www.emd.vt.edu](http://www.emd.vt.edu).

**Video/Broadcast Services** assists with streaming files, download-

able files, and video conferencing ([vbs.vt.edu](http://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](http://www.testscoring.vt.edu)).

**ePortfolio** within Scholar offers student and programmatic assessment tools.

An online **course evaluation** tool for student ratings of instruction is available at [courseeval.cc.vt.edu](http://courseeval.cc.vt.edu).

## Computer-Integrated Classrooms

The staff of Computer-Integrated Classrooms ([www.cclab.vt.edu](http://www.cclab.vt.edu)) supports instruction needing specialized software or controlled environments—including online test-taking.

## Assistive Technologies

The **Assistive Technologies** unit supports accommodations by applying assistive technologies for students, faculty, and staff. Call 540/231-3461.





## High-performance computing

**Ithaca**, an IBM iDataPlex 84 node system, is the newest compute resource. The nodes are dual-socket, quad-core with Intel Nehalem processors running at 2.26 GHz and have 24 GB of RAM. Ten nodes have 48 GB of memory. Run research computing applications that are supported on an Intel-based platform running Linux, including MPI-based applications. The system uses the ARC queuing system.

For access to **System X**, submit project information at [www.arc.vt.edu](http://www.arc.vt.edu). Storage is available through **mobybits** on an SGI InfiniteStorage 4500. For training and support, see the “Services and Support” section of the webpage.

**Dante** and **Styx** are two Sun computer servers available for general research applications. The **Inferno** systems are SGI Enterprise ALTIX 3700 Superclusters and **Cauldron** is an SGI ALTIX 4700 Supercluster.

**Visualization tools** can lead 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](http://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](http://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.

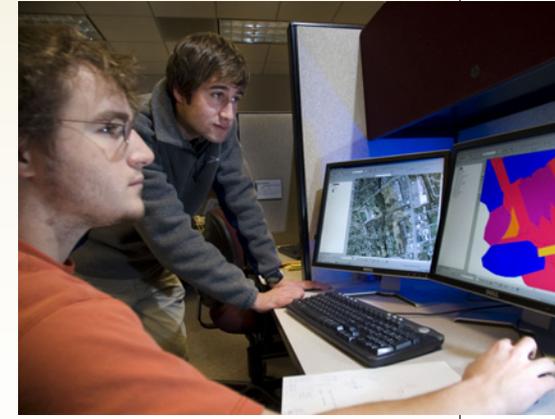
## Grant management

The **Data Warehouse** assists grant management with information on proposals and grants. Visit [www.iwa.vt.edu](http://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 ([scholar.vt.edu](http://scholar.vt.edu)).

In addition to Research Computing and VTGIS, several other IT 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. E-mail [itseclab@vt.edu](mailto: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. Call 540/231-3461.

## Software, tools, and support

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

Use [survey.vt.edu](http://survey.vt.edu) for online surveys, website feedback, and registration forms. **Testing and Data Services** assists with optically scanned paper survey forms ([www.testscoring.vt.edu](http://www.testscoring.vt.edu)).

The **Faculty Development Institute** offers workshops on specific research tools and on general research issues, including experimental design, external funding, and manuscript preparation ([www.fdi.vt.edu](http://www.fdi.vt.edu)).

## Departmental administration



### Reports and authorizations

See “Administrative Systems” on [computing.vt.edu](http://computing.vt.edu), and use the **Data Warehouse** for additional reports on select processes ([www.iwa.vt.edu](http://www.iwa.vt.edu)). Request specialized student reports by e-mailing [studentrequest@vt.edu](mailto:studentrequest@vt.edu).

The Controller’s Office’s listing of department heads is used to verify some authorizing actions for Information Technology services. Update your department’s information by contacting your senior management area.

### Security responsibilities

For tools to help protect technology resources, see the security website (<http://security.vt.edu>). Follow the information on sensitive data to protect against

potential exposure of sensitive data that could harm individuals and impose a remediation workload on the department.

If you have questions about the security of departmental technology resources, the IT Security Office can conduct a security review to identify vulnerability and risk. Call 540/231-7694.

Contact the IT Security Office when new computing hardware and software systems are considered. **Information Technology Acquisitions** (ITA) is the point of contact for all contracts related to computer hardware and software, including those contracts involving money, not for money, for testing, and maintenance agreements (See University Policy 3015).

### Networking and communications

Is the listing for your **network liaison** accurate and up-to-date? Network liaisons work with Communication Network Services to manage protocol address assignments and host name registrations. Through the network liaison listserv ([VT-DNET@listserv.vt.edu](mailto:VT-DNET@listserv.vt.edu)), the liaison is informed about important changes and features. Contact [hostmaster@vt.edu](mailto:hostmaster@vt.edu).

Share responsibilities for departmental or project correspondence through **VT PACE Addresses**. See “E-mail and Calendaring” on [computing.vt.edu](http://computing.vt.edu).

### Hardware and software

Participate in the **Faculty Development Institute** ([www.fdi.vt.edu](http://www.fdi.vt.edu)) and the **Academic Client Computer** program (see “Administrative Systems: Banner” on [computing.vt.edu](http://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. ([ita.vt.edu](http://ita.vt.edu)).

### Web options

The **web hosting service** provides departmental website space (see “Internet & Web: Web Publishing” on [computing.vt.edu](http://computing.vt.edu)). The **Blacksburg Electronic Village** ([www.bev.net](http://www.bev.net)) can assist with Web development. Call 540/231-4786.

Web accessibility standards are posted at [www.accessvt.atc.vt.edu](http://www.accessvt.atc.vt.edu).

### Digital signatures

Personal digital certificates can be used by employees to streamline departmental online processing while retaining the value of “ink-on-paper” signatures ([www.pki.vt.edu/pdc](http://www.pki.vt.edu/pdc)).

### Employees’ individual information

Employees’ work contact information appears in the university online directory, **VT PeopleSearch** ([www.vt.edu](http://www.vt.edu)), in the printed directory, and in the Commonwealth of Virginia online directory. Each employee manages public contact information as well as e-mail settings, emergency contacts, and administrative data through the “Personal Info” tab in [my.vt.edu](http://my.vt.edu) and through Hokies Self-Service (<http://selfservice.w2k.vt>).

**Important:** If you suspect stalking, harassment, or threats, contact the Virginia Tech Police (emergency phone 911) or the Department of Human Resources immediately (540/231-9331).

Authorized departmental staff members maintain **working titles**. See “Banner” and “HRIS” under “Administrative Systems” on [computing.vt.edu](http://computing.vt.edu).



See “Resources for Computer Support Personnel” under “Help & Tutorials” on [computing.vt.edu](http://computing.vt.edu). Use the site to find mailing lists and user groups. Share solutions, links, tips, scripts, and source code on the **ITKnowHow wiki** ([itknowhow.w2k.vt.edu](http://itknowhow.w2k.vt.edu)).

### Authentication and authorization

Use **GroupTools** to manage Enterprise Directory group membership and subsidiary groups ([www.ims.vt.edu](http://www.ims.vt.edu), under “Forms”).

The **Central Authentication Service** (CAS) provides affiliation and group information for online authorization as well as authentication. Find CAS under “Infrastructure services” on [computing.vt.edu](http://computing.vt.edu).

The **Shibboleth** project supports federated identity management among higher education and related institutions. Virginia Tech is a member of the InCommon federation. See “Infrastructure Services” on [computing.vt.edu](http://computing.vt.edu).

Consider **personal digital certificates** for departmental process authentication and digital signatures ([www.pki.vt.edu/pdc](http://www.pki.vt.edu/pdc)).

Virginia Tech SSL **server certificates** enable server authentication and traffic encryption for Web communications. See “Security & Viruses: VT Digital Certificates” on [computing.vt.edu](http://computing.vt.edu).

### Windows administration

The **Hokies domain** is the university’s central active directory service. Select the management level that meets departmental needs. See “Infrastructure Services: Hokies Domain” on [computing.vt.edu](http://computing.vt.edu).

### VT Windows Software Update

**Service** (VT WSUS) provides automatic updates to Microsoft Windows and core applications along with reporting capabilities for employees’ computers (Look under “Security” on [computing.vt.edu](http://computing.vt.edu)).

The **Virtual Dedicated Windows Servers** (VDWS) service provides a virtual instance for the Windows servers that a department may need. VDWS replaces some needs for departmental hardware. The service also increases security and flexibility, while offering environmental and financial benefits by reducing the need for many distributed servers operating at low capacity much of the time. See “Infrastructure Services” on [computing.vt.edu](http://computing.vt.edu).

Web hosting and development

For Web resources, see the Web hosting service (“Internet & Web: Web Publishing” on [computing.vt.edu](http://computing.vt.edu)) and Web development assistance from the Blacksburg Electronic Village (540/231-4786).

**Ensemble**, Virginia Tech’s content management system jointly administered by University Relations and Information Technology, allows website contributors to update content without specialized html or design skills ([www.ensemble.cms.vt.edu](http://www.ensemble.cms.vt.edu)).

Web accessibility standards ([www.accessvt.atc.vt.edu](http://www.accessvt.atc.vt.edu)), and the **Webmasters’ Toolkit** are available under “Internet & Web: Web Publishing” on [computing.vt.edu](http://computing.vt.edu).

### General help

Help request form—[www.4help.vt.edu](http://www.4help.vt.edu)

Customer support agents are available 24 hours a day, seven days a week to reset passwords, monitor system outages, and take questions on computer-related problems. The Customer Support Center (4Help) consulting service is available from 8 a.m. to 5 p.m. Monday through Friday to assist with questions that require phone consulting or to schedule a walk-in service. Services are available to current Virginia Tech affiliates only.

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

### Index of services

[www.computing.vt.edu](http://www.computing.vt.edu)

### For troubleshooting

[www.answers.vt.edu](http://www.answers.vt.edu)



### Topical help

For information and help on the **network** or **telephone service**, see [www.cns.vt.edu](http://www.cns.vt.edu).

For help specific to **Scholar** and the transition to Scholar, see “help” at [learn.vt.edu](http://learn.vt.edu) or ask questions via [4help.vt.edu](http://4help.vt.edu).

**Security checklists** are available on [www.security.vt.edu](http://www.security.vt.edu). For **antivirus** protection, see [www.antivirus.vt.edu](http://www.antivirus.vt.edu).

### Learn more

Increase your information technology skills with self-paced courses and tutorials at the **Software Skills Gateway**. See “Classes & Courseware: Software Skills” on [computing.vt.edu](http://computing.vt.edu).

### Status reports

For notices of planned maintenance downtime of centrally provided services and for information about unplanned outages, see [www.computing.vt.edu](http://www.computing.vt.edu), or [www.cns.vt.edu](http://www.cns.vt.edu). Instructional systems outages are also posted at [www.learn.vt.edu](http://www.learn.vt.edu).





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