

Information Systems (Reynolda Campus)

Information Systems supports University instruction, research, and administrative needs through computing and telecommunications services. The campus computer network offers wired and wireless high-speed connectivity from all campus buildings.

All students on the Reynolda Campus are given a network login ID; the login ID is maintained as long as the student is enrolled. This account provides students with access to networked computer resources such as electronic mail, client-server software packages, various courseware applications, and administrative services. During the 2012-2013 academic year, first year and third year undergraduate students received a new ThinkPad computer as part of their tuition. ThinkPad model specifications can be found on the Information Systems web site at help.wfu.edu. Standard software on the ThinkPad includes Windows 7, Microsoft Office, digital media tools, and Mozilla Firefox. The ThinkPad also has a variety of research, analytical, and development tools, as well as the latest version of Symantec EndPoint Protection AntiVirus software. Maintenance and support for the ThinkPad computers is provided on campus through The Bridge, a service center, located on the main floor of the Z. Smith Reynolds Library. Loaner computers are available for students as needed.

Information Systems maintains an extensive array of online resources that support University admissions, student registration, grade processing, payroll administration, accounting services, and many other administrative and academic applications. In addition, the Wake Forest Information Network (WIN) provides the University community with features like faculty, staff, student and alumni directories; a career networking service; online class registration; and vehicle registration.

Students also have access to computing resources outside the University. The University is a member of the Inter-University Consortium for Political and Social Research (ICPSR), located at the University of Michigan. Membership in ICPSR provides faculty and students with access to a large library of data files, including public opinion surveys, cross-cultural data, financial data, and complete census data. The University is also a member of EDUCAUSE, a national consortium of colleges and universities concerned with computing issues.

The University has an extensive collection of computing facilities that serve both academic and business needs. Wake Forest's network infrastructure includes a gigabit Ethernet backbone, 100 megabit switched connectivity to the desktop, and pervasive wireless connectivity in all campus buildings. LINUX and Windows-based servers provide for business computing needs and services. A mix of LINUX, AIX systems and Windows-based systems provide for messaging, systems management, Internet, intranet, courseware, various research needs, and file and print services. A LINUX supercomputing cluster provides supercomputing services for math, computer science, physics, and other scientific research applications. These systems are available to students, faculty, and staff 24 hours a day through the Wake Forest University network or ISP connectivity. All connections are protected by VPN and firewalls.

Programming languages available on the various academic computing systems include C, C++, Java, Perl, Tcl/Tk, Fortran77 and Objective C for iPad/iTouch programming. Students are exposed to a variety of operating systems through virtualization. SPSS, a statistical package used for data analysis, forecasting, and financial modeling, Maple and Matlab, an interactive environment for algorithm development, data visualization, and data analysis, are available on the ThinkPad. Using ThinkPads, students have access to a large variety of instructional, classroom, and research resources through the campus network including the online catalog, databases, and electronic journals provided by the Z. Smith Reynolds Library. Many departments on campus have their own computing resources in addition to those available through the Information Systems Department. The Digital Media Lab, located on the main floor of the Z. Smith Reynolds Library, offers additional technology resources.

In addition to the tools provided by the Wake Forest standard notebook load, Math students have access to a full suite of tools for class, project and research that aid them in completing their degree. These tools include MatLab, Maple, R, CoCoa, and a full suite of GNU compiler tools. These tools are located on a Red Hat server made available to only the Math Department and those working in conjunction with them.

Through the use of operating system virtualization, the Computer Science Department is able to offer a unique set of software tools that allow students to experience the nuances of various operating systems. Depending on the class, students may find themselves working on one of the many varieties of UNIX that are available in today's marketplace. These may include Ubuntu, Debian and Red Hat Linux as well as Oracle Solaris 11. The Wake Forest Microsoft Windows standard load comes on the students' notebooks, and various classes are taught on the Windows platform as well as MAC OS X. Students also have access to various mobile platforms including the iPad, iPhone and Android platform. In addition students have access to 16 GPU servers (Graphics Processing Units) utilized in classes teaching CUDA stream programming.

Students and faculty have access to the Wake Forest DEAC Cluster, a high performance Linux cluster with 238 nodes with 1900+ processor cores with 11TB of RAM, limited Infiniband connectivity, and 80TB of storage. The Wake Forest DEAC cluster currently offers the computational research community a wide variety of commercial scientific software as well as open source middleware necessary to effectively and efficiently utilize the high performance computing cluster. Many campus wide licensed software packages available on the Wake Forest issued laptops are available on the cluster as well. Currently, researchers on the cluster have dedicated access to: any Red Hat Enterprise Linux 6 provided software; Fortran 77 and Fortran 90 compilers from Intel, Portland Group, and Absoft; OpenMP API support from Intel; MPI support for Ethernet (MPICH2) from Argonne National Lab and Infiniband (MVAPICH2) from Ohio State University; and commercial software packages such as Matlab R2012a, Maple 15, Mathematica 8, and ITT IDL.

Information Systems provides telephone and cable television services to the students, faculty, and staff of Wake Forest University. All residence hall rooms are equipped with telephone jacks and cable TV connections. Local dial service for the campus and Winston-Salem area is provided upon request at no additional charge. Cable television, while providing a recreational outlet, plays an important role by providing access to campus information and educational offerings. Cable channel 6 is student-run

WAKE-TV which features various student programs. Information Systems also offers select HDTV channels to students in residence halls.

Information Systems provides assistance online at help.wfu.edu, by telephone at 336-758-HELP (4357) and supports walk-in customers at The Bridge located on the main floor of the Z. Smith Reynolds Library. The Bridge offers information technology services including multimedia, filming, computer repair, and equipment loans and purchases. The Bridge is a partnership of the Z. Smith Reynolds Library and Information Systems. Hours of operation are posted online at help.wfu.edu/calendar. A voice mail retrieval system is activated on weekends and during holiday breaks to respond to emergency calls. Students have 24-hour access to online support resources at help.wfu.edu.

More than 50 students are involved in Information Systems student technology programs. Students work in a number of settings that include providing direct support for students, faculty, and staff.

Libraries

The libraries of Wake Forest University support instruction and research at the undergraduate level and in the disciplines awarding graduate degrees. The libraries of the University hold membership in the American Library Association and in the Association of Southeastern Research Libraries. They rank among the top libraries in the Southeast in expenditures per student.

The Wake Forest University libraries include the Z. Smith Reynolds Library, which is located on the Reynolda Campus and supports the undergraduate College, the Schools of Business, the Graduate School of Arts and Sciences, and the Divinity School. The Professional Center Library, housed in the Worrell Professional Center on the Reynolda Campus, serves the Law School. The Coy C. Carpenter Library serves the Wake Forest School of Medicine and is located on the Bowman Gray Campus.

The three library collections total over 2 million volumes. Subscriptions to more than 50,000 periodicals and serials, largely of scholarly content, are maintained at the libraries. The Z. Smith Reynolds Library holds over 1.7 million volumes in the general collection, over 500,000 titles in its microtext collection, and over 20,000 media items. As a congressionally designated selective federal depository and depository of North Carolina government information, the ZSR Library holds nearly 100,000 government documents. The Professional Center Library holds over 180,000 volumes and the Coy C. Carpenter Library holds over 150,000 volumes. The three libraries share an online catalog, which also provides access to electronic resources, journals and databases, all accessible via the campus network and on the Internet.

Through interlibrary loan service, students, faculty and staff may obtain materials from other libraries at no charge. In addition, Wake Forest University faculty members have borrowing privileges and on-site access to the collections of some of the most important research libraries in North America. The Z. Smith Reynolds Library provides access to a number of digital current awareness tools to help faculty stay up-to-date in their fields of interest. Photocopy services and campus delivery of books, media, and ILL materials are provided to faculty as well. Faculty may place course materials and readings on reserve, with electronic reserve options available. Faculty participate in collection development by recommending purchases through library liaisons, faculty library representatives, and academic department chairs. Faculty members, along with students, serve on the Library Planning Committee. Library services specifically tailored for faculty are outlined at <http://zsr.wfu.edu/faculty.html>.

The Z. Smith Reynolds Library provides comprehensive reference and research services including assistance with directed and independent research and online searching, discipline-related library instruction, general library orientation, tours, and a 1.5-credit elective course entitled "Accessing Information in the 21st Century." Reference tools are available in electronic and print formats.

Special collections in the Z. Smith Reynolds Library include the Rare Books and Manuscripts Collection and the Ethel Taylor Crittenden Baptist Historical Collection. The Rare Books and Manuscripts Collection, greatly enhanced by the donation of rare and fine books of the late Charles H. Babcock, emphasizes American and British authors of the nineteenth and twentieth centuries. Among the collections are works of Mark Twain, Gertrude Stein, William Butler Yeats, T.S. Eliot and the publications of the Hogarth Press. The extensive Anglo-Irish literature collection includes the Dolmen Press Archive. The archive of alumnus Harold Hayes, editor of *Esquire* magazine in the 1960s–70s, and the Maya Angelou works for theater, television and screen are maintained in the special collections. The Ethel Taylor Crittenden Baptist Historical Collection contains significant books, periodicals, manuscripts, and church records relating to North Carolina Baptists, as well as the personal papers of prominent ministers, educators, and government officials with ties to Wake Forest College/University. The Wake Forest College/University Archive is maintained in the library as well.

The library is equipped for wireless Internet access. Facilities in the Z. Smith Reynolds Library include "The Bridge," a collaborative service between Information Systems and the library. Faculty, students and staff can bring their university issued laptops for repair. The space also offers a multimedia lab and mini video studio. The library has ten group study rooms that are equipped with SmartBoard technology. These rooms can be booked online at zsr.wfu.edu/studyrooms. In addition, 90 locking study carrels located throughout the Reynolds stacks may be reserved by graduate students and faculty.

The library is open continuously during the fall and spring semesters 24 hours a day from Sunday through Thursday. When the library is not on its 24 hour schedule, two 24 hour study rooms are available located near the entrance to the library and may be accessed by keycard when the library is closed. The study room on one side houses a Starbucks. A full description of the Z. Smith Reynolds Library resources and services is found at <http://zsr.wfu.edu>.