

## 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 as well as some outdoor areas.

All students on the Reynolda Campus are given a WFU account. This account is maintained as long as the student is enrolled and provides students with access to networked computer resources such as electronic mail, client-server software packages, various courseware applications, and administrative services. All undergraduate students are required to have a laptop with minimum configuration requirements to be able to handle all academic software. Students have the choice to bring their own device from home or purchase a laptop through the [WakeWare](#) program. WakeWare provides students the opportunity to purchase a specially selected laptop configured to run academic technology at a negotiated price, bundled with extended warranties and protection, and provided with on-campus support. WakeWare evaluates new models, as available, to be able to offer the most up-to-date technology to our students. All students have access to academic software from software@WFU and WakeWare laptops have been thoroughly tested to ensure compatibility with all academic software. Maintenance and support for the WakeWare 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. [AskDeac](#), the online help portal, provides an easy-to-use, user-friendly platform for the campus community to get IT help.

Information Systems maintains an extensive array of online resources, including the Wake Information Network (WIN), Workday, Banner, SLATE, and more, that support University admissions, student registration, grade processing, payroll administration, finance and accounting services, and many other administrative and academic applications. Cloud-based mobile teaching and learning resources, such as Canvas, our Learning Management System (LMS), and Kaltura, our video management platform, provide virtual collaboration and engagement for our students and faculty.

Faculty, staff, and students have unlimited access and full-time support using the [One Button Studio](#), a fully automated video production facility, located in Z. Smith Reynolds Library behind the IS Service Desk. The studio focuses on multimodal assignment support for students, but everyone is welcome. Support is also offered for faculty interested in designing technology enhanced projects or research. Wake Forest also has a student run Makerspace, named the [WakerSpace](#). The space allows faculty, students, and staff to not only build physical projects using technology such as 3D printers, laser cutters, and solder stations, but also to learn skills such as podcasting, knitting, sewing, and woodworking through workshop partnerships with Facilities, Information Systems, and other resources across campus. By offering both academic and non-academic programs, the WakerSpace serves a broad range of interests across campus.

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's computing resources serve both academic and business needs. Wake Forest's network infrastructure includes a 10-gigabit-per-second Ethernet backbone, a mixture of 100-Megabit and 1-Gigabit-per-second switched connectivity to the desktop, and pervasive wireless connectivity in all campus buildings and select outdoor locations. Eduroam provides a secured WiFi network for visiting students, faculty, and staff to use their home institution's WiFi credentials to access WiFi network services. Our faculty, staff, and students can take advantage of this service by using their Wake Forest credentials when visiting other Eduroam participating institutions. LINUX, Windows-based servers, and cloud-based services provide for business computing needs and services. A mix of these systems provide for messaging, systems management, Internet, intranet, courseware, various research needs, and file and print services.

The Distributed Environment for Academic Computing (DEAC) cluster, a LINUX High Performance Computing cluster provides supercomputing services for 14 different departments for academic research and coursework. These systems are available to Students, Faculty, and Staff 24 hours a day via remote SSH access. All connections are provided through the Wake Forest University network and are protected by campus managed firewalls and the Cisco AnyConnect VPN Client. The Wake Forest University's Distributed Environment for Academic Computing (DEAC) cluster is a Linux-based High Performance Computing cluster with 90 nodes providing 3800+ processor cores, 19TB of RAM, and 170TB of storage. The 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 cluster's resources. Many software packages available on Wake Forest-issued laptops can also be found on the DEAC cluster, including Rstudio, Matlab, Mathematica, and Maple. Researchers also have access to a large variety of free and proprietary software tools, such as: the Intel (2018.5, 2020.0, and 2021.1) and GNU (6.5, 8.4, 9.3, and 10.1) compiler suites; several MPI implementations (Intel and OpenMPI) for parallelized workloads; and the Intel Math Kernel Library (MKL) and Netlib BLAS, LAPACK, and SCALAPACK math libraries for carrying out high-performance calculations. All of these software packages take advantage of the fast low-latency usNIC interconnects that act as the backbone of the cluster, and user jobs are managed intelligently by the SLURM scheduler.

Programming languages available on the various academic computing systems include Java, Python, C, C++, Racket, Racklog, and Objective C for iPad/iTouch programming. In the Computer Science Department, students are exposed to a variety of LINUX based operating systems, including Ubuntu, Debian, and Amazon Linux, through virtualization in the cloud using Amazon Web Services' EC2 platform, including access to NVIDIA GPUs using g4 EC2 instances along with software provided by AWS' Deep Learning AMI.

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.

Students, Faculty, and Staff also have access to licensed software and tools for coursework, degree projects, and research; including 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.

For advanced software with high computing requirements, WFU offers virtual workspaces through Amazon Web Services. Students can spin up their Windows 10 virtual Desktop on a wide variety of devices to leverage high computing power in order to effectively run academic software. Faculty work with IS to determine the virtualized hardware configurations for the Workspace that would work best for software needed in the classroom. Engineering, among other departments, utilize a performance Workspace to run software, such as

AutoCAD and COMSOL, needed for their Capstone Projects. Workspaces are configured to power off when not in use, making them a cost effective solution for providing a specialized computing environment.

Information Systems offers cable television and streaming services to the students, faculty, and staff of Wake Forest University. All residence hall rooms are equipped with cable TV connections and/or the ability to stream cable TV. Cable and/or streaming services provide access to campus information, news, weather, select HDTV channels and DVR recording via Stream2.

Information Systems provides VoIP telephone service for faculty and staff only. If a student requests a phone, Information Systems can provide them with a VoIP phone that would connect via a cable to their wireless AP in their room, however, this is a rare request due to the prevalence of cell phones.

## Libraries

The libraries of Wake Forest University support instruction and research at the undergraduate and graduate levels and are members of the Association of Southeastern Research Libraries. The Wake Forest University libraries include the Z. Smith Reynolds (ZSR) Library, which is located on the Reynolda Campus and supports the undergraduate College, the School of Business, the Graduate School of Arts and Sciences, and the School of Divinity. The Business Information Commons in Farrell Hall provides convenient access to library services on the north side of the Reynolda Campus. The library in the Worrell Professional Center on the Reynolda Campus serves the School of Law. 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 2.4 million titles, including over 1 million ebooks, more than 100,000 electronic journals, and over 40,000 streaming videos as well as other formats. The ZSR Library serves as a congressionally designated selective federal depository. The Law Library holds nearly 130,000 volumes and the Coy C. Carpenter Library holds nearly 27,000 volumes. The three libraries facilitate inter-borrowing and collections may be searched together or independently. Through interlibrary loan service, students, faculty and staff may obtain materials from other libraries at no charge.

The ZSR Library provides comprehensive reference and research services online and in-person, including at Wake Downtown and in the School of Business at Farrell Hall. Research librarians work with individual classes across the disciplines on research papers and one-on-one with students at all phases of the research process. Library faculty teach elective courses in the fundamentals of research and information literacy and upper-level courses geared towards research in the disciplines and special topics in information. The Digital Initiatives & Scholarly Communication librarians and staff empower faculty scholarship through digital tools, methods, publication, and preservation, and support digital pedagogy, open educational resources, and digital class projects.

[Special Collections & Archives \(SCA\)](#) in the ZSR Library is the repository for the [Baptist Historical Collection of North Carolina](#), Manuscripts, the Rare Book Collection, and the [University Archives](#). The 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. SCA's Manuscripts include the papers of alumnus Harold Hayes (editor of *Esquire* magazine in the 1960s and 1970s) and other alumni, the Maya Angelou Film & Theater Collection, and the records of the Irish Dolmen Press. The Rare Books Collection, which includes the collections of Charles H. Babcock, Charles Lee Smith, and other donors, has collection strengths in 18th-20th century British, American, and Irish literature, African-American history and literature, and the history of material texts. SCA maintains the University Archives which serves as the primary repository for the historical records of Wake Forest University. The University Archives collects, describes, preserves, and exhibits University records (including electronic and born-digital) that contain historical, administrative, legal, or fiscal value. The records include documentation of the student experience, departmental records, and the papers of faculty. All are welcome to use the SCA collections, many of which are available online in [Digital Collections](#). Please contact [archives@wfu.edu](mailto:archives@wfu.edu) for access to the collections by appointment or submitting a specific question.

Video and multimedia equipment, Chromebooks, tablets, and other technology devices may be reserved for checkout. Group study rooms and individual study carrels may be reserved at [zsr.wfu.edu](http://zsr.wfu.edu). Windows and Macintosh computers are available in the Scholars Commons and Reference areas, and DVD, VHS and BluRay viewing stations are available in the Media Room. The library has a 118-seat auditorium for use by University groups for programs, lectures, and film screenings. Additional university services located in the ZSR Library include: the Information Systems Service Desk, which provides technical support and computer repair for students, faculty and staff; the Center for the Advancement of Teaching, which aims to encourage reflective and evidence-based teaching practices by Wake Forest faculty at all stages of their careers; and the Writing Center, which provides help to students through their writing process. A coffee shop inside the library offers refreshments and a relaxed study atmosphere, and is open late most nights throughout the semester.

The ZSR Library is open over 100 hours a week during the fall and spring semesters, with reduced hours during summer and intersession periods. A room located near the entrance to the library and may be accessed by keycard when the library is closed, offering access to multifunctional printers/copiers/scanners, and the library's bank of Smart Lockers for pickup of requested materials. See a full description of the ZSR Library resources and services at [zsr.wfu.edu](http://zsr.wfu.edu). More information about all three libraries can be found at: [about.wfu.edu/academics/libraries/](http://about.wfu.edu/academics/libraries/).