

C4. Physical Resources

The school or program has physical resources adequate to fulfill its stated mission and goals and to support instructional programs. Physical resources include faculty and staff office space, classroom space, student shared space and laboratories, as applicable.

- 1) Briefly describe, with data as applicable, the following. (Note: square footage is not required unless specifically relevant to the school's narrative.)

The college occupies 245,581 square feet of dedicated space. The Health Professions, Nursing and Pharmacy (HPNP) Complex houses the dean's office and six of the eight departments in the college (Clinical and Health Psychology; Environmental and Global Health; Health Services Research, Management and Policy; Occupational Therapy; and Speech, Language and Hearing Sciences). The Clinical and Translational Science Building (CTRB), located one block from the HPNP complex, is home to the remaining two departments (Biostatistics and Epidemiology). In addition, the college has a physical presence in an array of locations on and off campus that support its teaching, research and service activities. A full breakdown of the college's space can be found in ERF C4: College of Public Health and Health Professions Space by Department, Location, and Purpose.

- **Faculty office space**

The majority of faculty offices are located in the HPNP Complex. Most faculty in the Department of Biostatistics are housed in the CTRB (a LEED-certified building completed in 2013) with some housed in Dauer Hall, placing them in close proximity to the Department of Statistics in Liberal Arts and Sciences, and thereby offering the opportunity for academic and research collaboration. The CTRB also houses faculty in the Department of Epidemiology; this encourages collaboration with faculty in the Department of Biostatistics, as well as with faculty in the Institute on Aging and the Department of Health Outcomes and Biomedical Informatics, both of which are also located in the CTRB.

- **Staff office space**

Staff generally occupy office space in the same location as their home department. However, in an effort to increase space for additional faculty in the HPNP Complex, the college undertook a variety of renovations in the HPNP Complex and Dauer Hall. In the HPNP Complex, some larger rooms were reconfigured to provide additional faculty and staff offices. In Dauer Hall, two floors were renovated and remodeled to provide space to house the fiscal and human resource staff of the dean's office. The movement of staff from HPNP to Dauer freed up additional offices for faculty in the HPNP Complex.

- **Classrooms**

The college shares over 20,000 square feet of classroom space in the HPNP Complex with the Colleges of Nursing and Pharmacy. The HPNP Complex is equipped with classrooms and teaching labs ranging in size from 20 seats to 139 seats, plus a 490-seat auditorium and a 76-seat distance learning lab. The smaller classrooms have moveable seats and are designed for discussion groups and teaching labs. All HPNP classrooms are equipped with a broad range of audio-visual services, including a podium with an enclosed networked PC, connected to one or more ceiling mounted projectors. The college also has access to classrooms in the Communicore Building of the Academic Health Center (AHC), located across a courtyard from the HPNP Complex. The Communicore houses classrooms ranging in size from 10 to 179 seats, plus a 520-seat auditorium, and two large rooms, with capacities of 165 and 179 respectively, for videoconferencing. A series of 15-seat classrooms have moveable seating and are designed for discussion groups.

- **Shared student space**

Most students have access to shared office space or cubicles located primarily in the HPNP Complex, the CTRB, the PPHP Research Complex (located in the Dental Science Tower of the AHC) and Dauer Hall. In general, space for graduate students is located in close proximity to the offices or laboratories of their primary instructors or research mentors.

- **Laboratories, if applicable to public health degree school offerings**

The college's laboratory space, which includes dry, wet and animal labs, is housed in a variety of locations on campus, including the PPHP Research Complex in the Dental Science Tower, the Academic Research Building, the CTRB, the McKnight Brain Institute, the Emerging Pathogens Institute (EPI), the Biomedical Sciences Building, the Center for Environmental and Human Toxicology, the Aquatic Pathology Lab, and the Smart House at Oak Hammock.

2) Provide narrative and/or data that support the assertion that the physical space is sufficient or not sufficient.

Collectively, the college occupies almost a quarter of a million square feet of space dedicated to carrying out its teaching, research and service missions. All faculty have individual offices and access to state of the art laboratories to conduct their research and scholarly activities. The college has shared control (with the Colleges of Nursing and Pharmacy) of classrooms in the HPNP Complex and the ability to schedule additional classrooms and teaching laboratories in the Communicore Building, which is in close proximity to the HPNP Complex. The growth of the Doctor of Physical Therapy program has outstripped the capacity of clinical teaching lab space in the HPNP Complex. However, this challenge was remedied by leasing off-campus space in the CVS Building, which is within walking distance of the AHC.

3) If applicable, assess strengths and weaknesses related to this criterion and plans for improvement in this area.

Strengths:

- With the growth in the size of the faculty and student body over the past seven years, the college has expanded its footprint by remodeling and repurposing space in its existing inventory (e.g., HPNP Complex and Dauer Hall), by acquiring additional laboratory space in the AHC (e.g., the McKnight Brain Institute and the Emerging Pathogens Institute), and by leasing space for clinical teaching (e.g., CVS Building).

Weaknesses:

- None identified

Plans:

- To provide more immediate accommodations for continued growth of the departments of Biostatistics and Epidemiology, the college has secured space within the health science center from the SVPHA that will provide 22 private offices, graduate student workspace and a conference room. This space has been provided until a substantial amount of additional space can be transferred to the college within the Clinical and Translational Research Building (CTRB). This transfer will occur after the Department of Health Outcomes and Biomedical Informatics relocates to the Malachowsky Hall for Data Science and Information Technology, which is currently under construction and expected to be open in January 2024.
- In addition, the college has secured a commitment from the SVPHA to recapture approximately 7-9 offices on the second floor of the Dental Sciences Building to accommodate the growth of the Department of Speech, Language and Hearing Sciences (SLHS).
- As the college continues to grow, we will work with the SVPHA to secure additional space as needed.

C5. Information and Technology Resources

The school has information and technology resources adequate to fulfill its stated mission and goals and to support instructional programs. Information and technology resources include library resources, student access to hardware and software (including access to specific software or other technology required for instructional programs), faculty access to hardware and software (including access to specific software required for the instructional programs offered) and technical assistance for students and faculty.

1) Briefly describe, with data if applicable, the following:

- **Library resources and support available for students and faculty**

The University of Florida Health Science Center (HSC) Libraries (HSCL) are active partners in the education, research, training and clinical needs of the HSC colleges, centers and institutes, the University of Florida and the state. The HSCL include two facilities — the main library on the Gainesville campus and the Borland Health Sciences Library on the Jacksonville campus — and are affiliated with the College of Veterinary Medicine's Education Center and the Health Science Center Archives. The main HSC Library in Gainesville, founded in 1956, is a 53,062 square foot technology-enhanced facility whose users may access 160 publicly available computers on all three floors of the library, including 26 big screen monitors. Free wireless access is available throughout the library, and patrons not affiliated with UF may access the university guest wireless network. In addition, there is seating and study space for a total of 807 patrons available on three floors, including 92 seats in 33 study rooms. Access to the second floor is available 24/7 to registered HSCL users who are UF students currently enrolled in any of the six academic health center colleges as well as UF Health/Shands residents and fellows. Reference assistance and search help are provided at the Information Desk.

The HSCL provide services and programs to support the six colleges plus the centers and institutes of the UF AHC. The HSCL also support the broader clinical and research missions of UF Health, including: UF Health Shands Hospital in Gainesville, UF Health Jacksonville, UF Research and Academic Center at Lake Nona and the Innovation Incubator at the Sid Martin campus in Alachua, as well as a variety of primary and specialty clinics. In FY 2018, the primary clientele of the HSCL were responsible for over \$410 million in research awards and over \$22 million in royalties/licensing. The HSCL supports these efforts by providing access to essential research content, facilitating public access compliance and data management and offering systematic reviews and other services.

Library services include reference assistance, course-integrated library instruction, circulation, document delivery, interlibrary loan, photocopy services, course reserves, lockers and study rooms. Computer access to electronic databases, journals and catalogs is available onsite and remotely to authorized users. Since 1999, the HSCL have operated a Liaison Librarian program that facilitates partnerships with academic faculty, researchers and clinicians by assigning one or more dedicated librarians to each AHC college or department. PHHP has 3 liaison librarians to assist students and employees.

The HSCL collection includes reference materials, journals, books, audiovisuals and electronic resources. As of July 2019, the libraries' collection totaled 292,311 volumes available for immediate access or housed in a remote storage facility. Additionally, the HSCL has 147,491 unique monograph volumes (books) in all formats and 16,491 serial titles (journals) in all formats, and users have access to 109 databases. Total expenditure for the collection in FY18-19 was \$3,838,046.

Through the HSCL website and via the UF Libraries' Catalog, the libraries offer access to several thousand electronic databases and journals that include broad and specific subject areas from anesthesiology to zoology. In addition to access from any on-campus university computer, the HSCL also provide off-campus access to almost all of its electronic resources to UF faculty, staff and students. Off-site users may access electronic resources by installing [VPN](#) client software or by logging into the EZProxy server.

- **Student access to hardware and software (including access to specific software or other technology required for instructional programs)**

Wireless internet is available throughout campus. Students have access to computers and other hardware through the UF library system, including the 160 computers available for use in the nearby Health Science Center Library. Students may also access or check out 3D printers, cameras, and iPads, along with other hardware at UF libraries. Five academic technology labs are also available on campus for both hardware and software access. The latest [software applications](#) are updated at the start of each semester and requests may be made for specific software. These labs also provide access to large format printers for low cost poster printing.

All students have access to the UF online learning management system, Canvas, and to the UF computing help desk support service 24 hours per day, seven days per week. UFApps provides access to over 100 software applications from any computing device: laptops, tablets, desktops and smartphones. These applications include several that are utilized by PPHP students: SAS, SPSS, Stata, ArcGIS, and Microsoft applications. UF computing also offers discounted software, including statistical software, with special student pricing. UF e-learning provides students with access to Qualtrics for delivery of web-based surveys, to the iThenticate originality checker and to the LinkedIn Learning platform.

- **Faculty access to hardware and software (including access to specific software or other technology required for instructional programs)**

PHHP supplies each faculty and staff member with a modern business-class computer, depending on the latest available technology. The standard machines are loaded with a range of work essential applications with a base install of MS Windows 10 or MacOS, MS Office 2016, Adobe Acrobat Reader and Trend OfficeScan Antivirus. PPHP provides statistical analysis programs such as SAS, SPSS, JMP, Matlab, R and STATA by request.

All PPHP computer systems are connected to the University of Florida data network. High-speed access to the internet is via the University of Florida's campus network and its redundant connections to the Internet, Internet2 and Florida LambdaRail.

The networking infrastructure in the HPNP Complex is gigabit Ethernet and automatically negotiates to the fastest rate possible for devices not capable of Gigabit. The HPNP network also provides power over the network cable for devices capable of using it. The HPNP Complex is equipped with secure 802.11ac wireless networking using the 802.11x authentication standards and WPA2-Enterprise encryption. This service covers all interior spaces. The HPNP Complex's wireless networks are part of the university-wide wireless environment and devices configured to work at UF Health or across the university campus also work at HPNP. The phones in the HPNP Complex are VOIP phones which take advantage of the standard IP data networks.

PHHP provides a full-service computing environment for its constituents, offering standard services such as email, file, web, print and database as well as more specialized server needs.

PHHP IT servers are based on multi-processor 64-bit architecture servers running virtualization software to support varied platform needs, allowing for easy growth, and providing for fast disaster recovery. These servers are connected to multi-terabyte storage arrays enabling high I/O and data redundancy. All systems are housed in a modern data center in the Academic Health Center with physical security, conditioned continuous power, redundant cooling systems and high-speed network connectivity. The data center servers require authenticated access for file, database and processing services. These servers are protected from unauthorized access by physical means, network filters, patch management and regular security audits. The data stored on college servers are securely backed up nightly to tape backup systems.

All PHHP users are provided with space on PHHP file servers. These servers run modern Microsoft server operating systems and connect via fiber optics to a UF Health-managed SAN array providing terabytes of fault tolerant storage to the college. User accounts are also associated with their departments, giving them access to the departmental network share storage.

Network printing services are provided for all networkable printers. Remote access to PHHP IT resources are available via VPN and Microsoft Remote Desktop. Employees have the ability to create and publish their own personal webpages. Upon request, web space can be created for courses. PHHP provides both MySQL and MSSQL database support. The university also provides such services as UF's High-Performance Computing Center and access to multiple university-approved cloud storage solutions, such as Microsoft OneDrive, Dropbox and Google Drive.

- **Technical assistance available for students and faculty**

The PHHP IT staff consists of six full-time IT professionals and two part-time staff, including specialists in server management, networking, data supervision, developer, storage schema, desktop support and web design. All users of a PHHP recommended PC have the full support of the college's IT staff. The IT staff assist with setup, OS installation, network printing and connectivity and new hardware installation. All college-owned laptops receive full support for software and hardware upgrades. In special cases, the college has provided home PCs to some faculty and staff. IT supports all college-owned home computers, provided they are brought in for service.

UF's Department of Research Computing (UFRC) facilitates the use of high-performance computing resources within the university's research community. [UFRC](#) is comprised of a professional staff with years of experience including application tuning and development. UFRC provides a full range of support for their services to faculty, staff and students, including training and outreach.

UFRC created and oversees the [ResVault](#) and [ResShield](#) services which are secure storage, processing and computing environments and are certified Federal Information Security Management Act (FISMA) [Moderate](#). The FISMA certified computing environment at UF secures eligibility for many federal, state and military grants, studies and projects. UFRC also manages and supports [HiPerGator](#), UF's supercomputer. HiPerGator is a cluster of processors and nodes available for memory-intensive computations, research, and code development. UFRC maintains the hardware and software, allowing researchers to focus on their work.

In July 2020, UF announced a new \$70 million [artificial intelligence partnership](#) with NVIDIA, a Silicon Valley-based technology company, which includes \$25 million in hardware, software, training and services. The initiative will create an AI-centric data center that houses the world's fastest AI supercomputer in higher education. Working closely with NVIDIA, UF will boost the capabilities of its existing supercomputer,

HiPerGator, with the recently announced NVIDIA DGX SuperPOD™ architecture. This will give faculty and students within and beyond UF the tools to apply AI across a multitude of areas to improve lives, bolster industry and create economic growth across the state.

The [Office of Academic Technology](#) is part of [UF Information Technology](#). Academic Technology (AT) creates and manages flexible IT services that enable the university to respond to the dynamic requirements of its academic mission, programs and stakeholders. The AT staff provide consulting expertise, resources and 24-hour technical support through the Help Desk. Some of the primary services that UF Academic Technology provides are full hosting and administration of the learning management system, Canvas; hosting and administration of online video streaming services through Mediasite; administration of video collaboration services through Zoom; IT accessibility/communications; classroom technology support; technology consultations; and other media production support.

The tenets of AT are to support faculty, staff and students to create exceptional learning environments, improve educational outcomes and provide a suite of IT services and resources that enable the university community to effectively engage with internal and external clients and friends. Service areas include, but are not limited to, IT accessibility/communications, teaching and learning technology, teaching support services and IT Service Desk/Help Desk.

Administrative Unit	Desktops	Laptops	Servers
Biostatistics	60	40	
Clinical and Health Psychology	270	114	1
Environmental and Global Health	30	15	
Epidemiology	118	46	
Health Services Research, Management and Policy	30	14	
Occupational Therapy	100	35	
Physical Therapy	143	82	8
Speech, Language, and Hearing Sciences	78	45	
Dean's Office	138	57	1
IT Core	8		30
PHHP Total	975	438	40

2) Provide narrative and/or data that support the assertion that information and technology resources are sufficient or not sufficient.

The college and university research computing infrastructures are robust and continue to grow. Academic technology at the university now utilizes the Canvas Learning Platform for their course delivery/management system. This upgrade was completed to allow for more modern software. The college also has a full instructional design core to assist with course design, management and evaluation.

3) If applicable, assess strengths and weaknesses related to this criterion and plans for improvement in this area.

Strengths:

- The university has a robust research and academic technology infrastructure. The college funds a very active IT core for the faculty, staff and students.

- The members of the college enjoy convenient access to IT support, including walk-in, phone and email options.
- The IT core manages all aspects of the college's IT needs either within the unit or working with the appropriate university managed infrastructure staff.
- Complementing the college's instructional design team, the university provides strong academic technology support and access to multiple teaching tools to assist faculty in achieving the desired learning outcomes.

Weaknesses:

- None. The college is very satisfied with its current IT and AT arrangements.

Plans:

- The university continues to expand and enhance information and academic technology. Advances at the university level provide state-of-the-art infrastructure for instructional and research opportunities in the college.
- The university is home to the fastest AI supercomputer in U.S. higher education, an asset that will allow the college's faculty to use AI to tackle real-world problems, educate students in the application of AI and assist in AI workforce development