

3.11.3

Physical Resources: Physical facilities

The institution operates and maintains physical facilities, both on and off campus, that appropriately serve the needs of the institution's educational programs, support services, and other mission-related activities.

Judgment

Compliance Partial Compliance Non-Compliance Not Applicable

Narrative

Tennessee Technological University (TTU) maintains and operates the facilities of the University that serve the needs of students by supporting its academic programs, support services, and other key elements of its mission, providing high-quality learning, working, and living environments on campus and at off-campus facilities.

Physical Facilities

The University serves a wide range of academic programs and student services by operating and maintaining facilities at the main campus and off-campus locations including several agricultural facilities and the Appalachian Center for Craft, and holds other undeveloped land [1]. The main campus is located in Cookeville, Tennessee, and consists of 98 academic and administrative buildings on 238 acres. The TTU Farm consists of 300 acres approximately one mile from the main campus and is used for various educational and regional activities, and includes the multi-purpose Hyder-Burks Pavilion. The Craft Center consists of 180 acres located near the Center Hill Reservoir approximately 25 miles west of Cookeville, and is used for various educational, cultural, and professional activities, with residential facilities for students in the art programs it supports. Another 405 acres of mostly undeveloped land known as the Austin Property is utilized by the Biology Department for teaching and research. The report for CR 2.11.2 affirms the adequacy of the University's physical resources for its mission; in particular the physical resources that support academic degree programs is made directly in the reports of agencies that accredit various colleges and programs in the CR 2.11.2 report (see documents 9-13).

The University is continually seeking ways to enhance its physical infrastructure to support students, faculty, and staff in supporting all aspects of its educational, research, and regional-development missions, including the construction and acquisition of new campus buildings and facilities. The most recently completed or acquired buildings or facilities on or near the main campus include:

- A \$24 million, 67,500-square-foot building completed in 2008 on the south end of campus to house the TTU Whitson-Hester School of Nursing [2]. This expanded facility has allowed enrollment in the program to double from its previous size, and includes a \$1 million, 60-station computer lab, three patient care labs that replicate hospital settings for enhanced hands-on student learning, a fundamentals lab for teaching basic nursing skills, a women's health and pediatrics lab, a critical care lab, and a 282-seat auditorium for campus and community presentations, as well as new offices for TTU Health Services for serving students and employees.
- The Millard Oakley STEM Center opened in 2010 in the \$8 million, 26,000-square-foot Ray Morris Hall on the southwest edge of campus [3]. Its flexible, innovative lab spaces, 240-seat auditorium, and virtual theatre support educational outreach and pedagogical research at all age levels in the areas of science, technology, and mathematics, encouraging interest in fields that are central to the University's mission.

- A 22,000-square-foot building on campus that was vacated in 2010 by the Tennessee Department of Health was acquired and renamed Southwest Hall. After a \$1.9 million renovation, it now houses the Center for Management, Utilization, and Protection of Water Resources; TTU Extended Programs; the College of Interdisciplinary Studies administrative and advising offices; Extended Education; and the Child Development Laboratory, operated by the College of Education, which provides childcare services to the University and local community as well as a learning facility for students in the Early Childhood program.
- The former Prescott Middle School was purchased from the county by the TTU Foundation to support University activities; since purchased by the University, it provides “surge space” as needed for temporarily housing academic programs displaced by building and classroom upgrades. It also houses the TTU Police offices.
- A 338-bed residence hall, New Hall North, was opened in 2010, offering improved amenities and configurations for student residents.
- A 25,000-square-foot Athletics Performance Center to support TTU student athletes opened in 2011.
- Alumni Building on Dixie Avenue (formerly MMA Creative) was acquired and renovated with 12,400 square feet of assignable space for the offices and operations of Alumni Relations and University Advancement.
- TTU is currently in the process of acquiring the Regions Bank building in downtown Cookeville, approximately one mile south of the center of the main campus, for relocation of selected University services and other uses. This will also free up space on the main campus for other purposes such as additional classroom, laboratory, and office space.
- The Laboratory Science Building [4] (\$4,000,000 approved for planning and ranked sixth on the governor’s state projects list [5]) will be a major academic building project, primarily to replace the aging building that houses the Chemistry program, Foster Hall.

TTU Campus Facility Master Plan

The Campus Master Plan is maintained to provide direction for the future of the University's facilities, and is reviewed and updated every 10 years to ensure that the changing needs of student, faculty, and staff needs are met. The previous plan, adopted by the Tennessee State Building Commission in 2004, was updated in 2013 with University facilities envisioned for 10, 20, and 30 years into the future [6]. Recommendations on the allocation of funds by the Tennessee Board of Regents for renovations and new construction are guided directly by the Campus Master Plan. Updates to the master facility plan are coordinated with the TBR Facilities Development Office, reviewed by the Tennessee Higher Education Commission (THEC), and sent to the State Building Commission (SBC) for approval.

Following a revision of the THEC space utilization formula, a space analysis was conducted in 2009, the report from which is included in the Master Plan update. As part of the Master Plan Update, several classroom and laboratory buildings were surveyed by outside consultants for suitability for today’s learning and instruction environments [7]. As a direct result of the survey, a capital project was developed to address issues identified. Six buildings (Henderson, Farr, Bartoo, Kittrell, Brown, and Pennebaker) were identified for state funding, addressing the following issues: utility systems, sprinkler systems, life-safety issues, fire protection, audio/visual systems, finishes (floors, walls, ceilings), windows, acoustics, restrooms, and office spaces. Renovations to a seventh academic building, South Hall, will be completed in early 2015. The funding cycle is anticipated to extend five-to-eight years, depending on available state resources and appropriations, and should markedly improve teaching and learning environments in all renovated buildings.

Budget Control

TTU Facilities and Business Services is responsible for the coordination of budget proposals for all new renovations, construction, and major maintenance projects with the TBR. An annual budget proposal [8] is a collective effort by faculty, staff, and administrators to prioritize capital projects based on the Campus Master Plan in supporting the University's mission and strategic goals.

Maintenance Plans and Procedures

The University performed a building assessment for all campus facilities (see assessment data included in campus Master Plan [6], starting on Page 40). An overall rating below 70 in this assessment indicates a building in need of significant renovation or consideration for removal and replacement. The Master Plan provides a visual representation of these buildings (see page 26). The assessment has been used by campus leadership to prioritize and develop plans to address deferred maintenance on the campus.

In 2010, the campus worked with TBR Facilities to assess the quality of existing academic spaces. Information from this assessment was shared with the academic leadership (deans and provost) to prioritize the needs across campus. This information guided the academic building upgrade program, and each year the campus requests building maintenance funding through the state's capital budgeting process to address these priorities. The University also commits carry-forward funds at the end of each budget year to address other less extensive maintenance needs. In 2013 the TBR approved a facilities fee paid by TTU students to be used primarily for upgrades to spaces dedicated to student activities. For example, in 2014 the University began architectural planning on a major upgrade to the Roaden University Center, which houses a wide range of services to students including food service, a book store, etc.

In addition to maintenance funding provided by the state, projects funded using University dollars included the following:

Fiscal Year 2011	\$576,330
Fiscal Year 2012	\$1,722,342
Fiscal Year 2013	\$1,656,745
Fiscal Year 2014	\$1,671,333
Fiscal Year 2015	\$1,606,866

TTU Facilities and Business Services assigns University employees and contracts with service providers to maintain physical facilities. A computerized system develops and tracks maintenance functions. Maintenance personnel prioritize work orders on a daily basis. The system produces reports tracking all outstanding work orders. Campus access and energy maintenance are coordinated with class schedules to avoid conflict with peak activity around the University, especially within teaching areas. Emergency requests are communicated via telephone or by electronic submission to TTU Facilities and are expedited on a highest-priority basis.

Renovation and Capital Improvements

A full range of minor and major projects is undertaken continually to improve TTU's capabilities in meeting the needs of its programs in the fulfillment of its mission [9]. All renovation projects are planned and designed with direct involvement of users of the space. TTU Facilities personnel complete minor renovation projects, while major renovation projects are designed by independent architectural/engineering firms and awarded on the basis of outside contractor bids. The Tennessee State Building Commission must also approve major projects. Specific projects are classified as major when the cost is equal to or greater than \$100,000; likewise, small renovations made in one building within any six-month time frame are considered a major project if the cost amounts to \$100,000 or greater. TBR annually evaluates the need for major renovations and construction based on an analysis of available space compared to established standards. When the Tennessee State Building Commission approves capital improvements, an independent design firm works with an ad hoc University committee to ensure the needs of the users are met. Four such projects completed since 2005 include Ray Morris Hall (site of the Millard Oakley STEM Center), the Nursing Building, and a 338-bed residence hall, New Hall North; and the 25,000-square-foot Athletics Performance Center.

College-Level Initiatives

Departments and programs at TTU regularly improve student learning by transforming existing facilities to accommodate new teaching methods and learning spaces. Some recent examples include, by college.

Agriculture and Human Ecology

- As part of the complete renovation of South Hall, various laboratory spaces in Animal Science and Plant/Soil Science were expanded with new storage freezers.
- The School of Human Ecology has added a resource library in South Hall with materials donated by the Upper Cumberland Child Care Resource & Referral (UCCCR&R) program.

Arts and Sciences

- The Math Emporium (opened Fall 2014) renovated an existing all-purpose PC lab into an open 55-station teaching space for hybrid instruction that combines the traditional classroom lecture with independent problem-solving, with students working under the guidance of faculty and teaching assistants.
- The Sociology Collaborative Research Center opened in 2014 in a space previously used for program administration with 10 networked computers and printer for use by Sociology majors.

Business

- Approximately \$1 million in renovations to Johnson Hall classrooms and facilities, including a \$300,000 computer lab and the \$150,000 Heidtke Trading Room that simulates a financial trading area to help students understand an equities trading environment.

Education

- A testing center for Teacher Education students was created in a former pre-school lab classroom (and peripheral spaces) in Matthews-Daniel building for PRAXIS and other licensure examinations; ADA-compliant with computer stations and security cameras to ensure integrity of testing results.
- A computer lab/work area was created in the TJ Farr building with 4 computers and a printer was added for students to use during advising.

Engineering

- Thorough renovation of the Prescott Hall Auditorium (PRSC 215) into a large, flexible multi-media classroom space (100 students) for use by large-enrollment classes in Engineering and other departments across campus.
- Mole-SI Lab (Mobile Learning Environment and Systems Infrastructure). Complete renovation of an ECE Department lab space in Brown Hall into a lab/learning space with lab experiments wirelessly linked to mobile operating devices.

Interdisciplinary Studies

- Relocation and renovation of classroom, office, and advising space in newly-acquired Southwest Hall.

Library

- The main floor of the Volpe Library was transformed in 2011 to the Learning Commons, creating the new 30,000-square-foot Learning Commons [10], with open-access computing and versatile study spaces, along with enhanced academic assistance and information services for students.
- The new iCUBE area has been developed on the third floor of the Volpe Library, featuring immersive virtual reality technologies to support academic programs, research, and economic development.

Disability Services

The Office of Disability Services works with Facilities, Residential Life, Dining Services, and other offices including Student Affairs and all academic departments to improve accessibility for students with disabilities [11]. Accessibility issues are addressed during the design process for all renovation and new construction projects. Elevators are installed in almost every academic building. Additionally, a 2010 code compliance update was done on elevators campus-wide for safety features and controls. Power assisted doors have been installed in all campus buildings, and curb cuts have been made throughout the campus. In each of the two most recently constructed residence halls, 17 units have ADA-accessible living quarters. The recently completed Tech Village West Apartment renovations

included a fully compliant ADA apartment in each building.

Residential Facilities

The University operates residence halls and family/non-traditional housing apartments [12]. All these units are inspected and maintained on an annual basis. Handicapped-accessible units are available in three residence halls. Through the use of resident assistants, assistant coordinators (TTU Residential Life employees who live in the halls), and on-call Facilities personnel, maintenance is available 24 hours a day. The housing staff has periodic meetings with residents, and student input is invited in the planning of maintenance and renovations. The housing staff conducts an annual "Quality of Life" survey [13]. In the 2011 survey of residential students, 96 percent of respondents reported feeling safe in the residence halls and on campus generally. As part of the residential life master plan, the University recently opened a new 338-bed traditional freshman residence hall (New Hall North). In Fall 2010, the first two Learning Villages were established in the most recently constructed residence halls (New Hall South and New Hall North), with significant renovations to accommodate teaching, learning support, and other village activities. From Fall 2011 to Fall 2013, learning villages were established in five more residence halls (Crawford, Maddux/McCord, Ellington/Warf, Browning/Evins, and Cooper/Pinkerton). Renovations are proceeding in the Honors (Murphy Hall) and Business student (Jobe Hall) residence halls currently.

Recreational Facilities

The University offers several facilities that are available for use by students, faculty, staff, and the extended University community. The Memorial Gym is used for intramurals and houses two gyms and a pool. The Hooper Eblen Center has one main gymnasium and a walking area. Indoor and outdoor tennis courts are available. The outdoor intramural complex, located beside the current Fitness Center facility, has three softball fields and four football/soccer fields. The intramural sports program also offers a large array of activities to serve the diverse student, faculty, and staff population. The Fitness Center is available for all students, staff, alumni, and paying guests, with a wide variety of facilities and programs to promote health and wellness [14]. A new recreation and fitness center to be financed with a student debt service fee, as voted upon by the TTU student body, was approved by the TBR at its March 2014 meeting. It will replace the current fitness center and offer expanded recreational facilities for a student population that has grown approximately 35-40% since the current fitness center opened in 1990.

Dining Service Facilities

Dining Services, housed in the Roaden University Center, is contracted to Chartwells College and University Dining Services [15]. On-campus facilities include the Swoops Food Court, the Roaden University Center Marketplace, and Outtakes locations in McCord Hall and the Fitness Center. Swoops Food Court includes Backyard Burgers, Which Wich sandwich shop, Zona Mexicana, and a Chik-Fil-A. The Marketplace includes a wide variety of buffet and a la carte options. Outtakes is TTU's on-campus retail store brand, focused on "Quick Cuisine" and convenience offerings in a market-style environment. A Starbucks Coffee shop is housed on the ground floor. The New Hall North residence hall features Papa John's Pizza and Grillnation burgers, as well as the Crav'n's salad and sandwich counter. In Fall 2011, an Au Bon Pain café opened on the main floor of the Volpe Library as part of the Library Commons renovation. In Fall 2014, a mobile dining facility, the Bird Feeder, began serving multiple outdoor locations on campus.

Information Technology Infrastructure

As discussed in the narrative for CS 3.4.12, TTU provides many campus-wide resources and services for information technology for faculty, staff, and students. Open-access, general purpose computer labs, as well as discipline-specific are available on campus, with more than 1,000 systems available for student use [16]. Open-access labs are available for extended hours, including a 24-hour lab, and are open a variety of times during semester breaks. Wireless access is also extensive, with approximately 1200 access points provided across campus grounds, featuring a fiber-optic backbone with high-speed uplinks to campus buildings that also enhances off-campus connections to the TTU network. The

Learning Commons in the Volpe Library on the TTU campus provides approximately 75 desktop computers, 160 laptops (which are available for checkout), group study rooms, fully equipped practice presentation rooms, a high-technology training room, color and black and white printing, cables, and chargers. Remote login access to TTU online resources such as library databases and campus network is available for faculty, students, and staff with an active TTU account for off-campus use. A new strategic plan for IT Services has been developed to ensure that current and future IT needs of the University are met [17].

Off-Campus Sites

A substantial portion of required coursework for some TTU degrees is offered at several off-campus sites:

- Upper-division courses leading to the Bachelor of Science in Multi-Disciplinary Studies (BSMDS)
- Upper-division courses leading to the Bachelor of Science in Interdisciplinary Studies (BSIS)
- Courses leading to the Master's and Educational Specialist degrees in Instructional Leadership, Curriculum, and Reading.

The BS in MDS-MDHL is a 2+2 program offered by the TTU College of Education in partnership with several community colleges in the Tennessee Board of Regents system, and includes some online coursework. Likewise, the BSIS is comprised of general education courses offered by the host community college and a mix of classroom and online instruction. The BS in Manufacturing Engineering Technology is also available through its 2+2 partnership with Chattanooga State Community College and the Volkswagen Corporation [18].

In support of these programs, TTU staffs and maintains facilities at eight TBR community colleges or their branch campuses:

- Chattanooga State Community College
 - Center for Education and Human Services
- Motlow State Community College:
 - Moore County (Lynchburg)
 - Warren County (McMinnville)
- Pellissippi State Community College
- Roane State Community College:
 - Anderson County (Oak Ridge)
 - Cumberland County (Crossville)
 - Roane County (Harriman)
 - Scott County

To ensure a standard of instruction and service for TTU students comparable to that of the main campus, each of these sites is supported by TTU as follows, with a more detailed list appended [19]:

- TTU supplies and updates office and classroom furniture.
- TTU provides IT support, with additional support if needed from host campus.
- The host institution provides routine custodial service.
- Students in TTU programs have the same full access to host campus facilities (library, food services, bookstore, campus center, etc.) as students enrolled at host institution.

Each of these eight sites is operated by contractual agreement with the host institution [20] and staffed by regular TTU faculty teaching courses in at least one classroom per site designated for TTU use, and all but two are supported by a half-time administrative associate. These classrooms can accommodate 20-35 students, and at least one classroom at each site is equipped with the following technology:

- Macintosh Teaching Station (iMac) for presentations
- Document Camera (ELMO, e.g.)
- Interactive White Board with integrated video projector (i.e., Smart Board)

- 20 laptop cart (MacBooks) with integrated wireless router and printer
- 6 digital video/still cameras for multimedia projects
- Printer (toner and paper supplied by TTU funds)
- VCR/DVD player
- Speakers

This represents a standard at least equivalent to classrooms on the main TTU campus. These programs are eligible for the use of funds generated by the Technology Access Fee paid each semester by all TTU students.

Conclusion

Tennessee Technological University is committed to acquiring, constructing, operating, and maintaining physical resources that serve the needs of students at the main Cookeville campus and other sites, and are fully appropriate to meet all aspects of its mission. Therefore, TTU is in compliance with Comprehensive Standard 3.11.3.

Sources

-  [01] TTU Building Areas Uses_March 2015
-  [02] School of Nursing History
-  [03] Facilities Use of Millard Oakley STEM Center
-  [04] Laboratory Science Building Plan
-  [05] TN Capital Projects List 2015
-  [06] TTU Campus Master Plan
-  [07] TTU Six Academic Bldgs_An Assessment May 2010
-  [08] TTU Budget Analysis 2014-15 October revised
-  [09] TTU Facilities Project List March 2015
-  [10] Learning Commons
-  [11] Disability Services
-  [12] Residential Life
-  [13] Residential Life Survey Results 2010_2014
-  [14] Campus Recreation and Fitness Center
-  [15] Dining Services
-  [16] List of PC Labs
-  [17] IT Strategic Plan 2015
-  [18] VW 2_2 Manufacturing Engineering Technology Program
-  [19] Offsite Facilities Inventory
-  [20] PSTCC_TTU_contract