

2.11.2

Physical Resources

The institution has adequate physical resources to support the mission of the institution and the scope of its programs and services.

Judgment

Compliance Partial Compliance Non-Compliance Not Applicable

Narrative

As part of the Tennessee Board of Regents (TBR) system, Tennessee Technological University (TTU) owns or otherwise has access to a wide range of instructional, research, and service facilities in the Upper Cumberland region of Tennessee. The University ensures that these physical resources are fully adequate to support the programs and services that comprise its mission through a continuous assessment of its buildings and grounds, upgrades to existing facilities, as well as strategic planning to meet future needs.

University Facilities: Main Campus

TTU's 235-acre main campus, located in Cookeville, Tennessee [1], includes 87 buildings with 2,928,297 square feet used for classroom instruction, research activities, student housing, administrative offices, athletic and recreational purposes, library, and other uses [2]. The borders of the main campus are currently being expanded through purchases of commercial and residential properties between 7th and 12th Streets, as included in the Master Plan for property acquisition.

University Facilities: Off-Campus

Located 25 miles west of the main campus, the **Appalachian Center for Craft** is a satellite campus on over 500 wooded acres overlooking Center Hill Lake near Smithville. This facility, built in 1979, has 85,000 square feet used for studios, classrooms, galleries, exhibition areas, administration, student housing and other auxiliary operations such as dining services.

The **Hyder-Burks Agricultural Pavilion** is a 125-by-250 foot heated indoor show arena that seats 2,100 people and is used primarily for cattle/horse shows, rodeos, expos, and other public events. Adjoining the show arena is a 36,000 square foot, clear span livestock barn. **Shipley Farm**, also known as the Tech Farm, surrounds the Pavilion and produces cattle, swine, and sheep along with small grain crops of wheat and soybeans, as well as hay, and includes a nursery research and service center.

The University has a long-term use agreement with the owners of **Oakley Farm**, one of several "Pioneer Century Farms" in Tennessee, so designated as a farm in operation prior to Tennessee statehood. Split into two tracts, the first is about 1,350 acres located near Monterey while the second is around 450 acres near the Roaring River in Putnam County. Its primary operations are educational programs involving beef cattle, crop production, and other agricultural activities. The **Austin property**, approximately 400 acres of timberland in Cumberland County (about 40 miles northeast of the main campus) was acquired by TTU in 1976 and is used primarily for wildlife instruction and research by the Biology Department.

TTU has agreements with eight regional institutions to offer dual degree programs with joint responsibilities for facilities. TTU supplies and updates office and classroom furnishings and equipment [3], and provides technical support while the host institution provides custodial services, as exemplified in the contract with Pellissippi State near Knoxville [4]. TTU students at each of these locations have the same access to the host campus facilities (library, food services, bookstore, etc.) as students

enrolled at the host institution. The host institution provides the foundational courses, and TTU delivers the upper-division curriculum using onsite faculty and distance learning technology. Courses offered in these programs have comparable content and quality as those offered on the main campus.

Master Plan

A University Master Plan is updated every 10 years through the TBR with input from the campus community, including faculty, staff, and senior administration, covering all aspects of the University's mission. Professional consultants are employed to gather this information and create a comprehensive document following space guidelines set by the Tennessee Higher Education Commission (THEC) for new/renovated spaces [5].

The Master Plan consists of the existing plan, an acquisition plan, and an existing aerial view with 10-year, 20-year, and 30-year visions for the University [6]. The Master Plan includes new facilities construction, road and pedestrian route upgrades, building upgrades that meet campus enrollment needs, a physical resources inventory, and the physical survey. The University's latest comprehensive Master Plan was compiled in 2010 with update refinements through 2013; it was approved by TBR in 2014. The 2010 plan incorporated two primary campus additions: a new science complex and the Athletics Master Plan along with a concept for general campus enhancements. The 2014 update incorporated the vision of the University President into the plan with three campus initiatives: an integrated Laboratory Science Building, a new Campus Recreation and Fitness Center, and an extensive expansion of campus green space. Within each of these elements the challenges of parking, vehicular circulation, and the development of the University's southwest quadrant are addressed.

Each year the University develops and submits a Capital Projects List to TBR with currently planned projects that support the campus mission, with prioritized maintenance projects listed [7]. Current improvements on campus include renovation to Derryberry Hall and the Roaden University Center, a systematic renovation of older residential halls, the relocation of Facilities Services, and enhancements to the agricultural facility at Shipley Farm. In a continuing effort to control costs and support campus efficiency and sustainability, TTU has, in support of Priority 4 of the TBR Strategic Plan 2010-15 [8], undertaken several initiatives since January 2010 aimed at increasing efficient use of resources across the campus, including reducing lighting loads and heating fuel use, increasing building automation and solar power use, conserving water, and using electric vehicles.

Adequacy of Physical Resources

The University conducts assessment of the adequacy of its physical resources, both on and off campus, for accomplishing the University's teaching, research, and service mission as a public higher education institution.

Several TTU colleges and programs are individually accredited by national organizations, including ABET (Engineering), CAEP (Education), AACSB (Business), CCNE (Nursing), NASAD (Art), and AAFCS (Human Ecology); accrediting reviews typically include an explicit judgment on the adequacy of physical resources to support the unit mission [9][10][11][12][13]. Likewise, the adequacy of library space is assessed through periodic surveys and usage monitoring. The University also conducts regular assessments of the adequacy of space for its mission, including a 2009 study by the firm Dober Lidsky Mathey showing that TTU had significantly more instructional space than prescribed by THEC standards, and deficiencies in research laboratory space, physical education/recreation areas, and library/study areas [14]. Accordingly, the improvement in research lab space is addressed in the Laboratory Science Building plan [15]. Students recently approved a fee specific to financing construction of a new Campus Recreation and Fitness Center to meet the needs of an increased student population; a design consultant has been selected and the site selection process is underway. The Athletics Performance Center (25,000 sq. ft.) was completed in 2011. A full redesign of the Volpe Library to accommodate a Learning Commons (opened fall 2011) has greatly enhanced study and learning spaces available to students on campus. Substantial upgrading of instructional space is addressed in the "Six Academic Buildings Plan," also by Dober Lidsky Mathey; this plan has initiated major enhancements to classrooms, teaching and research labs, and office space in six older academic buildings [16], three of which have been fully renovated as of summer 2015. Since the 2009 survey the University has added

approximately 174,000 gross square feet (GSF) of primarily academic space in three buildings that it has either built or acquired: the Millard Oakley STEM Center in Ray Morris Hall (25,300 GSF), Foundation Hall (125,000 GSF), and Southwest Hall (23,500 GSF), as well as 13,500 GSF in primarily office space in the Alumni Building.

Space Utilization and Allocation

The allocation of campus space is the responsibility of the President, acting on the recommendation of the Space Utilization and Allocation Committee, comprised of faculty, administrators, staff, and students, with the Senior Associate Provost as its executive support officer [17], in accordance with approved Committee procedures [18]. Any campus unit requesting new space submits its request through a space request form [19] which is then reviewed by the Space Committee for action.

To ensure that available space is used efficiently to serve the campus mission, especially for scheduling regular course meetings during the academic year and summer terms, TTU has also implemented an Event Management System (EMS) that includes extensive information about the features and capabilities of each instructional space on campus, along with scheduling information. EMS also captures rates of utilization as a tool for monitoring current and future campus space needs.

Facilities Staffing and Maintenance

Support for the physical resources of TTU is provided by various divisions within the Office of Facilities and Business Services. Operations and Maintenance has overall responsibility for maintenance and system repairs in University buildings and for grounds maintenance. Energy, Utilities & Mechanical Systems oversees the Heat Plant and is responsible for heating, ventilation, and air conditioning (HVAC) systems. Telecommunications offers telephone, voicemail, and video services to the student residential halls and to faculty and staff offices. TTU contracts with Service Solutions Corporation (SSC) for custodial services at the main Cookeville campus [20], and with the host institutions at its off-campus sites such as Pellissippi State Community College [4].

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 labs, are available on campus, with more than 1,000 systems for student use. 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 1,200 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 [21].

Student Housing

Most TTU students commute to campus, but the University also operates and maintains numerous residence halls and apartments, housing approximately 2,500 residents living on campus with a capacity in the residence halls of 2,285 and 229 apartments in Tech Village, 70 of which are currently undergoing renovation. Handicapped-accessible units are available in two residence halls and several of the newly renovated apartment buildings. The student experience in TTU campus housing is assessed through a survey of residents; results from 2010-14 demonstrate a dramatic increase in survey participation and, more importantly, significant increases in satisfaction in virtually all areas of the TTU residential life experience [22].

To improve campus residential facilities, the University is undertaking a multi-year renovation project to achieve major infrastructure upgrades to the traditional residence halls. The project is now in its third and final phase, with renovation of eight of the fifteen residence halls having been completed or in progress. Tech Village, the apartment complex, is entering the third and final phase of renovation; eight of its fifteen buildings are undergoing renovation and seven have been demolished. When these projects are completed, Tech Village will be located completely along with west side of Willow Avenue and will include twenty-eight apartment buildings, a community center, and laundry facilities. The Master Plan has accounted for one additional Residence Hall on the west side of campus.

Common Spaces and Dining Facilities

The University's physical infrastructure related to common spaces and dining locations is continuously improved. Efforts are underway to increase the amount of green space on campus and to make existing spaces more pedestrian friendly and aesthetically pleasing. Motor traffic in the central Quadrangle is now restricted to service and emergency vehicles, and the open space between the Roaden University Center and Derryberry Hall, renamed Centennial Plaza, has been extensively redesigned for more seating, a larger area for student activities, and an outdoor amphitheater [23]. The University contracts with Chartwells Higher Education Dining Services to staff and provide all food and beverage services on campus and to undertake renovations to dining spaces in the Roaden University Center, a seven-year plan described in the Chartwells' contract with TTU [24], including the recent the installation of Chick-fil-A and Which-Wich Sandwich Shop. To meet the growing campus enrollment, plans are underway to renovate the main student dining hall as well as increasing the seating area in the food court.

Facilities Capital Investment

Building Upgrades and Capital Projects follow Tennessee Higher Education Commission (THEC) space allocation guidelines for space use and categorization [5]. A Disclosed Projects list, which includes Building Upgrades and Capital Projects [7], is submitted to TBR for a review and approval process through the State Building Architect and State Building Commission. Approximately 30 projects are currently approved and in progress; additionally, approximately 20 projects have been archived and are nearing closure since the compilation of the 2010 Master Plan Compilation.




Deferred Maintenance

The University compiles and continually updates a list of current and future projects with detailed information about status, costs, scope and features, contractor/designer, etc. [25]. This list reflects the prioritization of projects as needed upgrades and repairs are identified, and helps determine the order in which projects should be undertaken as needs arise or as capital projects and maintenance funds become available. To help enable such projects, the University established a facilities fee in 2013 that generates approximately \$1,000,000 annually.

Conclusion

The University maintains adequate physical resources to support its mission and the scope of its programs and services. The ongoing maintenance, assessment, improvements, and long-term planning for renewal and expansion of facilities in support of the mission and the scope of programs and services demonstrate compliance with Core Requirement 2.11.2.

Sources

-  [01] Campus Map_June2014
-  [02] TTU Building Areas 3_13_15
-  [03] Physical Resources at Off Campus Sites

-  [04] Pellissippi State_TTU contract
-  [05] THEC 2013 Space Guidelines
-  [06] Master Plan 2014
-  [07] TTU Capital Budget Project Lists 2007_15
-  [08] TBR Strategic Plan 2010_15_pg16
-  [09] ABET 2014 Report_Facilities
-  [10] NCATE_CAEP Report 2012
-  [11] CCNE-Nursing 2014 Excerpt on Resources
-  [12] TTU NASAD 2014 Self-Study Facilities Excerpt
-  [13] AAFCS Report
-  [14] Dober Lidsky Mathey 2009 Campus Space Study
-  [15] Laboratory Science Building Plan
-  [16] Lidsky Six Bldg Assessment
-  [17] TTU Space Utilization Committee
-  [18] Space Utilization and Allocation Policy
-  [19] Space Request Form
-  [20] SSC Contract and Amendments 2012_15
-  [21] IT Strategic Plan draft_Final Draft Feb 15
-  [22] Residential Life Survey Results 2010_14
-  [23] Centennial Plaza Plan
-  [24] Chartwells Contract with Amendment March 2015
-  [25] TTU Project List March 2015