

UNM Classroom Technology Support Standard

IT Standard Issued: Draft of February 26, 2016

Effective Date:

Responsible Executive: UNM Chief Information Officer (CIO), Vice-Provost for Academic Affairs

Responsible Office: UNM CIO

Contact: IT Director, Classroom Technologies

Purpose of the Classroom Technology Support Standard

The purpose of the Classroom Technology Standard is to support pedagogy by ensuring the deployment of cost-effective, secure, consistently high quality and manageable technologies used in physical classrooms. The standard enables reliable technology-enabled teaching and synchronous-learning environments, reduces total cost of ownership for individual departments through volume purchasing, and defines roles for effective collaboration and service to instructors and faculty.

Departments that have existing Classroom Technology systems or services are not required to adopt any specific technology system. However, the standard defines the minimal level of support and maintenance for classrooms that departments manage. At time of implementation or refreshing equipment, departments are advised to consider the following:

- 1) Costs (one-time and reoccurring) total cost of ownership, costs per instructor and per student
- 2) Support and Training – technical and instructor
- 3) Scalability to satisfy the requirements of the most users
- 4) Functionality – capabilities and limits of the network, hardware and software

What is Classroom Technology?

Classroom Technology refers to the tools used in the physical instructional environment, such as media, machines, and networking, and considers the underlying theoretical perspectives for their effective use. Technology includes an array of approaches, components and delivery methods, including electronic and mobile. Pedagogical principles drive the implementation of classroom technology to the end of improving the efficiency and effectiveness of instruction. Technology is often involved in the following ways in instruction:

- designing instruction (including all the phases of activity from needs assessment to evaluation)
- applying learning theory to classroom design
- selecting delivery systems and designing techniques for a given delivery system
- assessing or analyzing human characteristics or responses
- conducting process and product evaluation
- managing change and adopting innovations
- building teams and managing class projects
- collaborating with students and other faculty
- integrating instruction with other factors that influence human performance
- implementing delivery to reach learners when they need it
- using technology in support of the development and delivery of instruction

Examples of Supported Classroom Technology Examples can be found in the UNM Information Technologies Department (UNM IT) and the Extended Learning service catalogs.

UNM IT: (http://it.unm.edu/servicecatalog/asset_list.php?category=30&origin=servicelist#)
Extended Learning (EL):
(<http://extendedlearning.unm.edu/> or <http://newmedia.unm.edu/service-catalog/index.html>)

Who is affected by the Classroom Technology Support Standard?

This Classroom Technology standard applies to any UNM organizational entity (i.e. branch, division, college, school, department, business unit, or other UNM affiliated organization), hereinafter referred to as a “department”, that intends to implement, or has implemented Classroom Technology. All departments that provide infrastructure and support for these physical environments need to adhere to the standard. All faculty, staff and students who teach in the classroom environments are affected by the standard.

Scope of the Classroom Technology Support Standard

The standard assures continuity, reliability, and sustainability of both services and resources in physical classrooms used by UNM faculty and staff instructors. The standard addresses all technology services, such as those listed below and all technologies used in a classroom setting.

- Audience Response Systems
- Audio Systems (Classrooms)
- Classroom Lecture Capture
- Classroom Workstations
- Classroom Technology Equipment Check Out
- Instructor Stations
- Computer Classrooms
- Projection Systems (Classrooms)
- Tech Assist (Classrooms)
- Test Scoring and Quizzes
- Instructor Evaluations
- Web Conferencing (Classrooms)
- Access to the UNM wired or wireless network

Excluded from the scope of this standard: Types of services outside the scope of this standard include

- Academic technology support for student-facing services in learning commons
- Virtual and asynchronous-learning classroom settings such as distance learning, learning management systems (such as UNM Learn, Learning Central, Campus Clarity, Moodle, among others)

Responsibilities

- **Office of CIO:** Ensure currency, correctness and appropriate periodic review of the standard by facilitating review and update of the standard as needed.
- **Office of the Provost / Academic Affairs:** Facilitate the development and publication of technical requirements and specifications for physical and virtual learning environments. (Learning Environments Design Guidelines (LEDG) referenced)
- **Departments that support classrooms:** Comply with the learning environment specifications below.

Process for Review of the Standard

The process to update the standard is defined and described on the Standards page of the CIO website at <http://cio.unm.edu/standards/standards-development.html>:

- Standard will be reviewed annually. Also, requests for review and update of the standard can be submitted to the Office of the CIO who facilitates the update. The CIO may independently, or upon request of the administration, also determine if review and update is appropriate for the standard.

Compliance

- This standard has been developed under and is subject to all UNM policies, some of which are cited in the References.
- The UNM Administration, Internal Audit, or UNM IT may determine the compliance of departmental support approaches with this standard.

Classroom Technology Standard Specifications

Equipment and Upgrades

- Comply with physical classroom equipment tiers specified by Learning Environments in the LEDG document in instructional spaces, as financially feasible.
- Document requirements and technology selections for discipline- or application-specific technology that is outside the LEDG specifications (such as in performance spaces, labs, etc.).
- Consider ADA compliance in the physical space, and address ADA technology requests as they become known, such as captioning or assisted listening.
- Ideally, upgrade technology during semester breaks or when a classroom is offline, so that instruction is not impacted. Document exceptions and obtain concurrence of faculty instructors using the classrooms.

Support

- Post technical support contact information in the classrooms.
- Document and publish/post usage policies or guidelines for users of these facilities, such as but not limited to powering down equipment or reporting technical issues.
- Provide information on obtaining appropriate permission to use the classrooms.
- Direct users to UNM policy regarding use, such as but not limited to: computer use, copyright, fair use, privacy and identity protection.
- Document, track and report on incidents and service requests.
- Make a best effort to achieve **target** 5-minute response time to faculty requests for help during an in-class physical session, in order to have minimal impact on instructor and student time.
- Provide triage scripts, work-arounds, hot spares and backup plans for timely resolution of technology issues.
- Provide training for faculty and instructors using classroom technology.
- Provide technical training for staff supporting the technologies.
- Invite and champion instructional faculty input into requirements for technology or support in classrooms.
- Collaborates with other service providers to limit duplication of effort.

Infrastructure

- Comply with the Data Center Standard for the physical security of servers.

Security

- Secure FERPA or personally identifiable data/information for access, use, transit or storage.

Classroom demise

- Obtain input from instructional faculty and technology support staff on the timing of demising or taking a classroom off-line.
- Follow UNM Property Management and Disposition of Equipment Policies cited below for asset management practices.

References

- Learning Environments Design Guidelines (LEDG): http://iss.unm.edu/PCD/docs/Guidelines_Standards/0-LEDG-v.1.0-120224.pdf
- Richey, R.C. (2008). "Reflections on the 2008 AECT Definitions of the Field". *TechTrends* 52 (1): 24–25. [doi:10.1007/s11528-008-0108-2](https://doi.org/10.1007/s11528-008-0108-2).
- D. Randy Garrison and Terry Anderson; Definitions and Terminology Committee (2003). *E-Learning in the 21st Century: A Framework for Research and Practice*. Routledge. ISBN 0-415-26346-8. Al Januszewski A.; Molenda Michael. (2007) *Educational Technology: A Definition with Commentary* ISBN 978-0805858617
- Lowenthal, P. R.; Wilson, B. G. (2010). "Labels do matter! A critique of AECT's redefinition of the field". *TechTrends* 54 (1): 38–46. [doi:10.1007/s11528-009-0362-y](https://doi.org/10.1007/s11528-009-0362-y).
- **UNM Policy Manual Section 2500-2599:** Electronic Management Systems, especially 2500, Acceptable Computer Use: <http://policy.unm.edu/university-policies/2000/2500.html>; 2550 for Information Security: <http://policy.unm.edu/university-policies/2000/2550.html>; and Security Controls and Access to Sensitive and Protected Information 2520 <http://policy.unm.edu/university-policies/2000/2520.html>
- University Counsel advises on **Copyright & Fair Use:** <http://counsel.unm.edu/resources/copyright-matters.html>
- **Accessibility/ADA guidelines** are offered by Accessibility Services for students <http://as2.unm.edu/>, and the Physical Plant <https://iss.unm.edu/PCD/university-planning/facility-access-ada.html>.
- **FERPA.** Guidance for complying with the Family Educational Rights and Privacy Act (FERPA) are provided by the Registrar: <https://registrar.unm.edu/privacy-rights/ferpa.html>.
- **UNM Policy Property Management.** <https://policy.unm.edu/university-policies/7000/7710.html>. Disposition of Equipment: <https://policy.unm.edu/university-policies/4000/4610.html>.
- **UNM IT Service Catalog:** http://it.unm.edu/servicecatalog/asset_list.php?service=32&origin=servicecatalog
- **Extended Learning Service Catalog, UNM Learn:** <http://newmedia.unm.edu/service-catalog/unm-learn.html>.
- Resources concerning Classroom Technology:
 - a. American Society for Training & Development (ASTD). <http://www.td.org>.
 - b. International Society for Performance Improvement (ISPI) <http://www.ispi.org>.
 - c. Association for Educational Communications and Technology (AECT). <http://www.aect.org/newsite>.
 - d. International Board of Standards for Training, Performance and Instruction (ibstpi). <http://ibstpi.org>.
 - e. WICHE Consortium for Higher Education Technology (WCET). <http://wcet.wiche.edu/>
 - f. The New Media Consortium (NMC). <http://www.nmc.org/>
 - g. The Educause Learning Initiative (ELI). <http://www.educause.edu/eli>.
 - h. National Council for State Authorization Reciprocity Agreements. <http://nc-sara.org/>.

Appendix A – Academic Technology Glossary

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Educational Technology, encompasses technologies used in learning as well as instruction. Richey defined educational technology as "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources"ⁱ (Richey, 2008). The Association for Educational Communications and Technology (AECT) denoted instructional technology as "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning"ⁱⁱⁱ (Lowenthal & Wilson, 2010). As such, educational technology refers to all valid and reliable applied education sciences, such as equipment, as well as processes and procedures that are derived from scientific research and in a given context may refer to theoretical, algorithmic or heuristic processes: it does not necessarily imply physical technology.ⁱⁱⁱⁱ^v

Classroom Technology – Classroom Technology refers to the tools used in the physical instructional environment, such as media, machines, networking and considers the underlying theoretical perspectives for their effective use. Technology includes an array of approaches, components and delivery methods, including electronic and mobile. Media could include text, audio, images, animation and streaming video, etc.

Synchronous Learning – Synchronous learning describes educational experiences delivered in a setting where all participants must meet at the same time (physically or virtually) to complete learning activities. This format is commonly delivered as a live lecture, lab, or seminar, and can also be delivered via web-conferencing, video conferencing, livestreaming and web-based Voice over IP (data network).

Asynchronous Learning – Asynchronous learning refers to learning activities that do not require synchronous class meetings and can include pre-recorded lectures and other media, self-paced activities, discussion boards, chat, projects and collaborative assignments in which students may participate as their time permits.

UNM IT – As used in standards documents refers to the Information Technologies department reporting to UNM's Chief Information Officer.

IT – As used in refers to general information technology use and provisioning in general, and does not refer to a specific organizational unit.

ITSAC – IT Strategic Advisory Committee which reports to the President. <http://president.unm.edu/campus-community-engagement/information-technology-strategic-advisory-committee/index.html>.

Instructional Environments or settings include physical and virtual classrooms, which includes any general classrooms and lecture halls, labs, performance spaces used for teaching.

Learning Management Software (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of electronic educational technology (also called [e-learning](#)) courses or training programs. LMSs range from systems for managing training and educational records to software for distributing [online](#) or blended/hybrid college courses over the Internet with features for online collaboration and backend integration with administrative systems. Colleges, universities, school districts, and schools use LMSs to deliver online courses and augment on-campus courses. LMSs also act to augment the lessons the teacher is giving in a brick and mortar environment, not just replace them. Corporate training departments use LMSs to deliver online training, as well as to automate record-keeping and employee registration.^v At UNM this applies to many technologies, including but not limited to: UNM Learn, Learning Central, Coursera and Moodle software.

Virtual Classroom. A virtual classroom is an online learning environment that allows participants to communicate with one another, view presentations or videos, interact with other participants, and engage with resources in work groups. The environment can be web-based and accessed through a portal or be software-based and require

a downloadable executable file. Virtual learning can take place synchronously or asynchronously. Other Virtual Classroom resources:

- American Society for Training & Development (ASTD). <http://www.td.org>.
- International Society for Performance Improvement (ISPI) <http://www.ispi.org>.
- Association for Educational Communications and Technology (AECT). <http://www.aect.org/newsite>.
- International Board of Standards for Training, Performance and Instruction (ibstpi). <http://ibstpi.org>.

ⁱ Richey, R.C. (2008). "Reflections on the 2008 AECT Definitions of the Field". *TechTrends* 52 (1): 24–25. [doi:10.1007/s11528-008-0108-2](https://doi.org/10.1007/s11528-008-0108-2).

ⁱⁱ Lowenthal, P. R.; Wilson, B. G. (2010). "Labels do matter! A critique of AECT's redefinition of the field". *TechTrends* 54 (1): 38–46. [doi:10.1007/s11528-009-0362-y](https://doi.org/10.1007/s11528-009-0362-y).

ⁱⁱⁱ https://en.wikipedia.org/wiki/Educational_technology

^{iv} D. Randy Garrison and Terry Anderson; Definitions and Terminology Committee (2003). *E-Learning in the 21st Century: A Framework for Research and Practice*.

Routledge. ISBN 0-415-26346-8. Al Januszewski A.; Molenda Michael. (2007) *Educational Technology: A Definition with Commentary* ISBN 978-0805858617

^v https://en.wikipedia.org/wiki/Learning_management_system