

# Learning Space Rating System

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## Version 3

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### About the LSRS

The Learning Space Rating System (LSRS) was developed by the authors in partnership with [EDUCAUSE](#). For more information, visit the [LSRS website](#) or contact Kathe Pelletier [kpelletier@educause.edu](mailto:kpelletier@educause.edu).



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## Introduction to Version 3

The Learning Space Rating System (LSRS), in its third edition since 2014, continues to provide a framework to measure the potential performance of learning spaces—that is, to assess what activities physical spaces enable learners and instructors to do in them. This latest version of the LSRS serves as a way to measure progress toward designing flexible and inclusive learning spaces that support multiple modalities of learning and teaching. We hope that it also provides the higher education community with a common language and method to document and share best practices in pursuit of that goal.

In the wake of the 2020 pandemic that put practically all classes online, while facing a myriad of new challenges, educators will have unique opportunities to revisit the importance of physical learning spaces and their significance in learning. For higher education, the roles that learning spaces can play in creating effective learning communities, fostering inclusion, and promoting other institutional values seem especially salient in this moment. Essential questions underlying the design of all hybrid or blended learning experiences—What activities are best done (or only done) online? What activities are best done (or only done) in a face-to-face learning environment? What are the strengths and weaknesses of each online and physical modality for achieving specific learning and teaching goals? Can spaces be designed to ensure quality experiences for both onsite and offsite learners?—may never be in sharper focus.

The LSRS does not seek to prescribe specific pedagogies but rather to evaluate the potential of a space to support a broad range of higher education's diverse learning and teaching practices. These include a variety of active learning practices and other forms of engaged learning, along with modalities such as the enhanced or interactive lecture. This flexible and inclusive approach, aspiring to help all students and instructors succeed, now permeates version 3. It culminates in a new, dedicated section on Inclusion (section 7) that asserts research-based design metrics for the physical, cognitive, and cultural inclusiveness of spaces.

The LSRS still focuses on measuring the *potential* of formal learning spaces—those designed to accommodate face-to-face scheduled meetings of all participants. It provides a set of credits that assess the institutional context for planning and operating those spaces, as well as the design of individual rooms. Part A comprises sections 1, 2, and 3, measuring institutional readiness and development of a planning, operations, and evaluation process. Part B comprises sections 4, 5, 6, and the newly added section 7, addressing the specific features and affordances of individual physical spaces.

In cultivating the themes of flexibility and inclusion, the seven sections of the LSRS have become increasingly interconnected. You will find many credits to be complementary and/or mutually reinforcing. At the same time, you can continue to use the LSRS in a modular fashion, customizing the instrument by selecting and applying individual sections or credits as they best fit the context of your institution.

We have made the scoring in version 3 completely transparent in that the number of points available for any given credit directly reflects our judgment of the relative value of fulfilling those criteria. To assist in collecting the scores of your rooms, a simple scoresheet in spreadsheet format is available for download from the LSRS site. Finally, enhanced integration with the

FLEXspace project also now makes it possible to (privately or publicly) add your LSRS scores along with other data about your exemplary learning spaces uploaded to FLEXspace.

As with previous versions, the success of the LSRS depends on ongoing feedback from the learning space community. For the first time, we are providing a set of research sources, organized by LSRS section, that have informed our development of the Intent, Criteria, and Approaches and considerations for each credit. We hope that experts and practitioners from the community will continue to help us refine and enhance these resources, as well as the LSRS instrument itself. Whether you're new to the LSRS or a returning user, we invite you to share your experiences.

## Important Changes with Version 3

### Section on Inclusion

The most important addition to version 3 is section 7. In version 2, the credits Environmental and Cultural Inclusiveness (4.7) and Accessibility and Universal Design (4.8) addressed the theme of inclusion but did not do justice to the full scope of this issue. The LSRS team felt that the version 2 credits were vague and did not adequately address the importance of inclusivity. This new section takes a more systematic and thorough approach with a new framework that addresses physiological, cognitive, and cultural inclusion.

### Scoring

We have modified our approach to scoring to make the priorities of the LSRS—the relative importance we ascribe to various credits—more transparent. In the LSRS version 2 scoresheet, we applied a weighting formula to the raw scores. For this version, we have eliminated such weighting, so the scoring is now simply the sum of the awarded points across the credits. We feel this change not only simplifies the scoring overall (now you need only sum up the scores of individual credits to get totals for Part A and Part B) but also makes explicit our emphasis on particular credits. Although we believe this is an improvement, it does mean that the version 3 scoring is incompatible with that of version 2. Users of the LSRS should make note of whether their scores pertain to version 2 or 3.

### Evidence and Verification

In version 2 of the LSRS we introduced the concept of evidence: producing or citing documentation that verifies that the awarding of a point is justified. Version 3 continues to include this feature and we have renamed it “Verified by” to sharpen focus and to bring its purpose more clearly into relief. We have also regularized to some extent the kinds of evidence called for to verify the awarding of a point.

### Related Credits

Overseeing the evolution of a collection of learning spaces entails managing a number of interconnected “moving parts.” The credits of the LSRS have always reflected this connectivity, and for version 3 we are making these connections more explicit. Where appropriate, we have listed at the end of some credits other credits that are related thematically. For example, the theme of the credit concerning stakeholder engagement (Credit 2.1) is related to other credits, such as Compatibility with IT Infrastructure Strategic Plan (Credit 1.3), Campus Leadership for Learning Spaces (Credit 1.5), Learning Space Evaluation (Credit 2.4), and Cultural Inclusion (Credit 7.3). Identifying all the credits related to stakeholders could enable a learning spaces team to ensure that their stakeholders are participating fully in the enterprise of the campus learning spaces. As a second example, a theme of Cognitive Inclusion (Credit 7.2), based on universal design for learning principles, would include Furniture Configuration Flexibility (Credit 5.4), Visual Displays (Credit 6.3), Audio/Visual Interface and Control (Credit 6.5), and several other related credits we have listed. We hope this assists LSRS users in identifying thematic threads and relating the scores of such credits to address more specific learning space goals.

## Enhanced “Approaches and Considerations”

As in past versions, at the end of each LSRS credit we include an advice component, which offers guidance and advice on how to gain the point or points for that credit. Over the past decade, learning spaces have increased in priority, and practices in deploying and supporting them have evolved rapidly, gaining in sophistication. This has resulted in increasing the options and approaches available to the community, and this is reflected in the overall expansion of this component.

## New and Significantly Revised Credits

To produce version 3, the LSRS team closely reviewed every credit in version 2. Nearly every credit was revised to differing extents. Here are some of the credits that we modified in more extensive ways:

**Credit 3.4 Faculty/Instructor Development.** Engaging faculty and instructors remains one of the cornerstones for any learning space program, and the new structure of this credit reflects this priority. In version 2 the maximum award for this credit was 1 point; in version 3 institutions can score up to 4 points.

**Credits 4.4, 4.5, and 4.6 on environmental systems for lighting, thermal conditions, and acoustics.** We have enhanced these credits to clarify their intent and expanded their “Approaches and Considerations” sections. We have also introduced new best practices for sensitivity to circadian rhythms and biophilia principles.

**Credit 4.7 Materials, Patterns, and Forms.** This credit is new in version 3. Institutions can gain a point for including natural materials and patterns that foster engagement and reduce stress.

**Credits 5.3 Seating Density and 5.4 Furniture Configuration and Flexibility.** In version 2, the credit for seating density was a single point; in version 3 institutions can score 2 points for assigning more square feet per learner. Similarly the maximum score for the furniture configuration credit grew by a point, from 3 to 4 points.

**Credit 6.6: Conferencing and Distributed Interactivity.** The scope of this credit has been expanded to address the new importance of mixed forms of participation due for the most part to the virus crisis.

**Credit 6.8: Immersive Technologies to Support Experiential Learning.** Since the release of version 2, immersive technologies have become an important resource for postsecondary learning, due to lower costs, greater ease of use, and more powerful and more mobile technology. To reflect this development, we have added this credit to version 3.

## **Part A: Campus Context, Planning and Design, and Support and Operations**

**Section 1:** Integration with Campus Context (ICC)

**Section 2:** Planning and Design Process (PDP)

**Section 3:** Support and Operations (SO)

## Section 1: Integration with Campus Context (ICC)

Credits included in this section:

- 1.1 Alignment with Campus Academic Strategy
- 1.2 Learning Space Strategic Plan
- 1.3 Compatibility with IT Infrastructure Strategic Plans
- 1.4 Commitment to Evidence-Based Research and Assessment
- 1.5 Campus Leadership for Learning Spaces

## ICC Credit 1.1: Alignment with Campus Academic Strategy

### Intent

To align learning spaces with strategic academic plans or initiatives, including institutional accreditation and accountability activities.

**1 point**

### Criterion for the point

Demonstrate alignment of learning space planning with campus strategic academic plans, major campus academic and student success initiatives, and/or institutional accreditation processes.

### Verified by

- Institutional/academic strategic policy statements/reports
- Planning report or space program summary for a building or project that articulates how the space types, planning approach, and/or designs were developed to support specific institutional academic strategies

### Approaches and considerations

- Map learning space planning or design directly to campus academic goals. For example, a space could be aligned to the strategic goal of increasing student engagement and collaboration skills by building it using team-based affordances.
- Weave learning space design directly into any major campus initiative to enhance learning and student success. An example might be including mobile projection in a space's design to align with a campus tablet initiative.
- Substantiate the above by describing specific learning space references in publications or academic, school, or department strategic plans and showing how the learning space's design addresses those ambitions.

## ICC Credit 1.2: Learning Space Strategic Plan

### Intent

To ensure that learning spaces are designed in accordance with institutional strategic directions for its learning spaces.

**1 point**

### Criterion for the point

Provide evidence of close alignment of project planning or learning space's design with an existing campus learning space strategic plan.

### Verified by

- Institutional learning space strategic plan
- Planning or process documents, explaining how the learning space's design conforms to the planning principles and/or guidelines of the learning space strategic plan

### Approaches and considerations

- A learning space strategic plan should cover a range of informal as well as formal learning space types and planning issues.
- Development of these statements about strategic importance can be a useful step in the capital planning process when potential projects are defined, to help prioritize funding.

## **ICC Credit 1.3: Compatibility with IT Infrastructure Strategic Plans**

### **Intent**

To ensure that the planning, development, and operation of learning spaces is supported by the institution's technology infrastructure.

**1 point**

### **Criterion for the point**

Demonstrate specific ways in which institutional technology infrastructure and strategic plans support learning spaces.

### **Verified by**

- Policy, planning, or process document(s)

### **Approaches and considerations**

- Involve academic technology and information technology professionals as an integral part of planning teams, as described in Section 2: Planning and Design Process (PDP).
- Ensure that technology budgets provide for upgrades, maintenance, and refresh cycles for technology.

### **Related credit**

PDP Credit 2.1: Stakeholder Engagement

## ICC Credit 1.4: Commitment to Evidence-Based Research and Assessment

### Intent

To develop and implement a regular, iterative process of research and assessment that informs the development, renovation, and redesign of learning spaces and contributes to an institutional culture of evidence-based innovative decision making.

### 1 point

### Criterion for the point

Create and maintain a learning space assessment and evaluation plan that involves multiple campus stakeholder groups with defined iterative evaluation cycles. This plan should consider emerging practices at peer institutions, as well as those at the home institution.

### Verified by

- Policy, planning, or process document(s) related to campus-level user research and assessment planning
- Evaluation reports

### Approaches and considerations

- Routinely conduct space performance evaluation(s).
- Provide regular, ongoing methods for feedback from all stakeholders on campus-level or specific learning space(s) to improve performance, support, and operations.
- Engage the campus institutional research group in developing and supporting evidence-based planning.
- Include in the stakeholder group students, faculty, and other groups such as staff from the disability services office, as well as the center for teaching and learning.
- Engage with peer institutions through local and national collaborations (e.g., EDUCAUSE, Learning Space Design Community Group) to understand the roles and opportunities offered by emerging tools and practices.

### Related credit

PDP Credit 2.1: Stakeholder Engagement

## ICC Credit 1.5: Campus Leadership for Learning Spaces

### Intent

To provide leadership (i.e., through creative, innovative initiatives or projects) to align learning space planning with academic or IT strategies.

**1 point**

### Criterion for the point

Develop consensus across all relevant campus organizations and stakeholders for strategic and tactical directions for learning space design.

### Verified by

- Institutional/academic strategic statement/reports
- Policy, planning, or process document(s)

### Approaches and considerations

- Demonstrate impacts of innovative leadership, such as new policies or practices around learning space development and design.
- Establish new benchmarks for renovation or new construction of learning spaces as examples of institutional leadership.
- Create a campus learning space committee or similar body that includes learning space stakeholders and is charged with providing principles and guidelines for learning spaces and is empowered to ensure their implementation (e.g., budget prioritization).
- Coordinate governance of both formal and informal learning spaces.

### Related credit

PDP Credit 2.1: Stakeholder Engagement

## Section 2: Planning and Design Process (PDP)

Credits included in this section:

- 2.1 Stakeholder Engagement
- 2.2 Evidence-Based Planning and Design
- 2.3 Pilots and Prototyping
- 2.4 Learning Space Evaluation
- 2.5 Dissemination of Findings

## **PDP Credit 2.1: Stakeholder Engagement**

### **Intent**

To involve stakeholders and strategic partners in the planning and design of learning spaces.

**1 point**

### **Criterion for the point**

Demonstrate substantive stakeholder involvement in all the stages of planning and designing learning spaces.

### **Verified by**

- Policy, planning, or process document(s)
- Evaluation reports

### **Approaches and considerations**

- Stakeholders should include broad representation, such as instructors, learners, teaching and learning center staff, academic technology/IT staff, facilities planners, classroom managers, administrators, librarians, and others who are committed to student academic success.
- Design teams should reflect the full diversity of the larger learning community.
- Stakeholder input should be included at all stages, from definition of needs to feedback on proposed solutions and evaluation of what has been done. Engage stakeholders through workshops, interviews, surveys, observational studies, photo diaries, town hall meetings, charrettes, or other means.
- Develop a communications plan that is designed to inform stakeholders of relevant information about the process and to allow them to provide ongoing input. Make available summaries of meetings, user surveys, reports, or other products of the process.
- Demonstrate engagement at a campus planning level or on a project basis, as appropriate.

### **Related credits**

PDP Credit 2.2: Evidence-Based Planning and Design

PDP Credit 2.3: Pilots and Prototyping

PDP Credit 2.4: Learning Space Evaluation

PDP Credit 2.5: Dissemination of Findings

IN Credit 7.3: Cultural Inclusion

## PDP Credit 2.2: Evidence-Based Planning and Design

### Intent

To base planning or design on research and/or documented best practices in learning space strategy and design.

### 1–3 points

### Criteria for the points

*To obtain 1 point, do both of the following:*

Do research by:

1. Consulting literature on learning space design, online resources, and/or experts.
2. Viewing exemplary spaces virtually using professional networks, web searches for projects, and/or online collections.

*To obtain an additional point, do the following:*

Do benchmarking tours (virtual and/or physical) of exemplary spaces with representative stakeholders and members of the project planning team.

*To obtain an additional point, do the following:*

Establish evidence-based planning as a campus standard for all projects, making use of both internal and peer institutional projects.

### Verified by

- Documentation of consultation with published best-practice resources, a recognized learning space planner/design expert (either on-campus or external), or benchmarking tours
- Documentation that demonstrates how specific design strategies employed correspond with best practices

### Approaches and considerations

- Tours can be instrumental in developing consensus among stakeholders within the planning team. Exemplary spaces might be found on campus at another school/college, as well as at another institution. On benchmarking tours, talk with peers about their process and how well spaces are working.
- Allocate adequate project funds and time to support benchmarking tours and these research activities.
- For ideas on comparable spaces and planning processes, consult resources such as the [FLEXspace](#) repository of learning spaces, the [Learning Space Toolkit](#), and the [Learning Spaces Collaboratory](#) website.
- Collect and share information on successful or inspirational examples (e.g., through video reports or campus articles).

### **Related credits**

PDP Credit 2.3: Pilots and Prototyping

PDP Credit 2.4: Learning Space Evaluation

## PDP Credit 2.3: Pilots and Prototyping

### Intent

To develop a space or building to serve as a prototyping environment for ideas to be considered in the design of new learning space.

### 1–2 points

### Criteria for the points

*To obtain 1 point, do the following:*

Use the design, installation, and evaluation of prototype components or a space to test concepts and drive consensus around preferred solutions for a particular project.

*To obtain an additional point, do the following:*

Dedicate a space as an institutional resource for human-scale prototyping of furnishings, affordances, and instructional technology systems, which enables them to be tested by learners and instructors who would likely use such a space.

### Verified by

- Evaluation reports
- Design documentation, including architectural plans, interior design, AV/IT design documents, or mockup sketches illustrating prototype components or affordances

### Approaches and considerations

- Design prototyping can be done in many ways:
- Physical Mock-Up: that simulates a design to examine attributes of proposed features (e.g., full-scale with temporary materials to see how adequate circulation space or sightlines will be).
- Functional Prototype: that tests the functionality and effectiveness of a proposed component as a prototype, such as a new tool, chair, or technology control system to be used in classrooms.
- Pilot Space: a pilot version of a learning space design with proposed materials, technology, furnishings, and dimensional characteristics in order to evaluate it through actual use prior to building additional spaces based on the design.
- Sandbox Lab: an environment dedicated to pedagogy development, training, and/or experimentation with emerging technologies, intended to encourage easy, inexpensive (“low threshold”), and continuous modification.
- Include learners, instructors and other stakeholders when conducting structured exercises to test expected use cases. Evaluate any of the above through observational studies, surveys, use diaries, data capture, interviews, questionnaires, etc.

### **Related credits**

PDP Credit 2.1: Stakeholder Engagement

PDP Credit 2.2: Evidence-Based Planning and Design

PDP Credit 2.4: Learning Space Evaluation

## **PDP Credit 2.4: Learning Space Evaluation**

### **Intent**

To determine whether the potential of learning spaces has been realized in practice.

**1 point**

### **Criterion for the point**

Implement an ongoing program of learning space evaluation to determine the degree to which design goals are met, on a project basis or campus-wide, and to provide knowledge that will improve future design projects.

### **Verified by**

- Evaluation reports that document the evaluation methodologies used
- Policy documents that outline the campus-wide program for learning space assessment so findings can be shared and incorporated into future projects in a timely way

### **Approaches and considerations**

- Assess the space performance in relation to the project goals and user needs.
- Identify observable, concrete measures of success.
- Ensure that stakeholder feedback has been addressed in the evaluation plan.
- Employ multiple means of evaluation (e.g., quantitative, qualitative, observation).
- Utilize established survey instruments, scoring rubrics, or other assessment tools.
- Compare baseline data of an existing space (e.g., usage, satisfaction) with post-occupancy evaluation data after renovation of the space.
- Learning space evaluations can be done at different levels: individual spaces, buildings, school/college complexes, or at the overall campus level.

### **Related credits**

PDP Credit 2.1: Stakeholder Engagement

PDP Credit 2.3: Pilots and Prototyping

PDP Credit 2.5: Dissemination of Findings

## PDP Credit 2.5: Dissemination of Findings

### Intent

To share findings and lessons learned from the research, planning, piloting, or evaluation of learning space design.

**1 point**

### Criterion for the point

Make findings publicly available so that others can benefit from project experience, whether at other institutions or internally across an institution.

### Verified by

- Published academic papers and journal articles
- Information sharing through social media, blogs
- Contributions to an online repository of learning space case studies
- Conference presentations about designs and findings
- Showcased summary on the institutional website

### Approaches and considerations

- Upload information to repositories like [FLEXspace](#) to make it available to the community.
- Findings may include engagement strategies, best practices employed, evaluation insights, key design principles, and descriptions of pilot projects.
- Promote new facilities in institutional media channels, to spread news of the findings across campus.
- Host workshops for instructors and those with interest in learning spaces.
- Create a faculty and/or student testimonial of their experience in a new learning space.
- Host or participate in a conference or symposium with published and/or recorded proceedings.

## Section 3: Support and Operations (SO)

Credits included in this section:

- 3.1 Operational Support
- 3.2 Space Orientation and Training
- 3.3 Training of Support Team
- 3.4 Faculty/Instructor Development
- 3.5 Financial Sustainability of Operations
- 3.6 Scheduling and Room Utilization
- 3.7 Diverse Patterns of Use

## SO Credit 3.1: Operational Support

### Intent

To provide ongoing, timely, physical, and/or virtual support for learning spaces.

### 1 point

### Criterion for the point

*To obtain credit, do all of the following:*

1. Provide documentation in the space and/or online that describes the capabilities of the room and answers frequently asked questions.
2. Provide the ability to contact support professionals for immediate or just-in-time help from within the learning space.
3. Provide the ability for support professionals to remotely monitor and control room systems to identify and respond to problems.

### Verified by

- Support, training, or faculty development documentation
- Data report, such as analysis of log system used to collect analytics data on room status to more efficiently maintain the room
- Photographic evidence: providing campus room users access to illustrative resources (e.g., with a video) that demonstrate potential activities and configurations of space, as well as frequently encountered issues and their solutions
- Architectural drawing: creating and implementing a furniture management plan that provides direction on how furniture should “reset” to a default configuration and how it can be easily converted to multiple layouts

### Approaches and considerations

- Provide supplemental support during the initial commissioning period for new spaces and at the beginning of a new term (when instructors may be trying new approaches) for existing spaces.
- Provide a support link so that users can directly communicate with classroom support professionals.
- Provide virtual support via remote desktop or similar technology such that media/technology configurations can be viewed and adjusted remotely.
- Consider clustering learning spaces together or distributing support services throughout campus to ease support service.
- Assign a main point of contact for troubleshooting and managing furniture, technology, and equipment.
- Consider using analytics to provide better evidence-informed decisions on use and support of learning spaces.

### Related credit

SO Credit 3.2: Space Orientation and Training

## SO Credit 3.2: Space Orientation and Training

### Intent

To ensure that orientation and training on the features of a learning space are available to the learners, instructors, and staff using them.

**1 point**

### Criterion for the point

*To obtain credit, do both of the following:*

1. Offer a regularly scheduled user orientation (or user orientation on demand) that introduces the functionality of the furniture, technology, audio, lighting, and other equipment and environmental systems associated with the space.
2. Provide online tutorials or documentation with suggested room configurations, including explanations of feasible options and activities the room can support. This resource may be combined with online resources created for SO Credit 3.1: Operational Support.

### Verified by

- Support, training, or faculty development documentation

### Approaches and considerations

- Orientation sessions could include presentations or instructional scenarios to show how technology systems in the room could be utilized to support pedagogical activities.
- Provide a rehearsal space with equivalent technologies where instructors can receive an orientation and associated training and coaching. Rehearsal spaces may also provide video capture for later review.
- Provide incentives for instructors to attend orientation sessions.
- To the extent possible, connect faculty with a variety of personnel to assist in thinking about the best ways to leverage the space: instructional designers, teaching center staff, faculty mentors.
- Consider offering a variety of alternative layouts to faculty and students.
- Consult with campus instructional designers when designing and delivering orientation sessions and composing tutorials and documentation.
- Consider that a default furniture configuration might not indicate a layout at all. Instead, a “default setting” could require all chairs and tables to be pulled to the side and stacked or nested after each session, encouraging the next class to consider how it would like to arrange the furnishings to best suit its learning activity.

### Related credit

SO Credit 3.1: Operational Support

## SO Credit 3.3: Training of Support Team

### Intent

To ensure that the learning space support team can troubleshoot, solve, and address commonly encountered problems in the learning space proactively and reactively.

**1 point**

### Criterion for the point

Create, execute, and evaluate an internal training program for staff, including defining the necessary competencies for continuous improvement; providing hypothetical problem scenarios and solutions; and developing success measures, including but not limited to customer relationship and communication skills, as well as tools and technology training.

### Verified by

- Educational materials
- Support, training, or faculty development documentation

### Approaches and considerations

- Provide evidence of staff competencies (e.g., response times, call numbers, escalation paths, digital badges).
- Create user profiles that describe the needs and typical activities for different types of users.
- Map the user/customer journey and identify service points where services need to be provided.
- Require staff to achieve certification in tools or technology (for example, the [AVIXA certification](#) for AV professionals).
- Consider creating a communication mechanism (e.g., collaborative software) within the support team to more easily share information and address problems together.
- Consider sharing data with stakeholders to increase transparency of support.

## SO Credit 3.4: Faculty/Instructor Development

### Intent

To enable continuous instructional evolution and innovation through faculty development in the use of new technology, tools, capabilities of learning spaces, and strategies for multimodal learning.

### 1–4 points

#### Criteria for the points

*To obtain 1 point, do the following:*

Provide online resources such as videos or articles, FAQs, and support contact information to assist faculty with new instructional strategies relevant to flexible spaces.

*To obtain an additional point, do the following:*

Offer face-to-face or online educational opportunities for faculty and instructors to learn about new techniques and technologies, taking best advantage of affordances to support in-class strategies, and discuss opportunities and challenges with peers and support staff.

*To obtain an additional point, do the following:*

Offer a sustained and ongoing program for faculty, such as a learning community, who are teaching in flexible learning spaces. This is distinct from criteria 1 and 2 by its longer duration, deeper exploration, and more sustained feedback and iterations.

*To obtain an additional point, do the following:*

Offer training and support for faculty to integrate inclusive teaching practices such as Universal Design for Learning.

#### Verified by

- Support, training, or faculty development documentation
- Educational resources
- Data report

#### Approaches and considerations

- Recognize and reward faculty “champions” or “mentors” who commit to long-term consultation and collaboration with institutional stakeholders to inform space design and instructional best practices.
- Provide space and consultation services to assist faculty and instructors in developing classroom materials and activities.
- Facilitate the observation, evaluation, and coaching of faculty and instructors in reviewing their teaching practices through the use of rehearsal spaces, video capture, or observation in the teaching space itself.
- Connect faculty with a variety of personnel to assist in thinking about the best ways to leverage the space: instructional designers, teaching center staff, faculty mentors.

- Offer case studies for use of the space that describe learning objectives, teaching activities used, benefits, and outcomes.
- Facilitate the creation of a faculty and instructor community of practice focused on best uses of learning space affordances.
- Collaborate with campus instructional designers and the staff of the teaching and learning center on all phases of faculty development efforts.

#### **Related credits**

IN Credit 7.1: Physical Inclusion and Accessibility

IN Credit 7.2: Cognitive Inclusion

IN Credit 7.3: Cultural Inclusion

## SO Credit 3.5: Financial Sustainability of Operations

### Intent

To manage resources so that learning spaces can perform as intended and be maintained, supported, and improved over time.

**1 point**

### Criterion for the point

*To obtain credit, do both of the following:*

1. Create, evaluate, and execute a resource management plan and funding for learning spaces that covers anticipated expenditures for technology, furniture, and operations.
2. Maintain a clear process to annually update the resource management plan and equipment life cycle that reflects changes in technology and use patterns such that equipment and staffing expertise stay current.

### Verified by

- Policy, planning, or process document(s). Provide links to multiyear resource management plan that covers the life cycle of learning spaces. Describe the process whereby learning space expenses are factored into the annual budgeting process. Provide a multiyear staffing plan in alignment with anticipated changes to technology, including potential updates to certifications.

### Approaches and considerations

- The resource management plan should take into consideration the number of staff, their skills, and the continuity of the teams.
- Benchmark resource management planning and allocation at peer institutions.
- Develop appropriate chargeback policies for events outside the unit, especially those that charge participants to come to campus (e.g., summer conferences).
- Coordinate with facilities staff such that appropriate markers and cleaning materials are purchased so that writing surfaces function to their specification.
- Ensure that funding needs are acknowledged and approved by senior administration/leadership as part of the annual budget cycle and planning exercises.

## SO Credit 3.6: Scheduling and Room Utilization

### Intent

To provide a room-scheduling system or process that supports efforts to meet classroom utilization goals and enables users to be scheduled in learning spaces that match their teaching and learning needs.

### 3 points

### Criteria for the points

*To obtain 2 points, do both of the following:*

1. Provide a room-scheduling system or process for instructors to request teaching space aligned with their teaching practices and needs, which includes information on the type and flexibility of furnishings, potential configurations, room attributes including access to natural light, and space affordances including available technologies.
2. Make room-scheduling data on availability, space attributes, and use (such as total net area and/or area per station/seat) available for use by facilities management and academic planners.

*To obtain an additional point*

Work with the registrar, campus planners, and room owners to align academic curriculum and course scheduling needs with the Learning Space Master Plan for renovating and right-sizing classrooms.

### Verified by

- Policy, planning, or process document(s). Provide link to existing online room-scheduling system with related room capabilities and descriptions.
- Data report. Provide report(s) to facilities management and academic planners for assessment and planning purposes.
- Learning space data and analytics
- Evaluation report

### Approaches and considerations

- Provide access to an online room-scheduling system that offers descriptions of teaching practices, technologies, room layouts, and other affordances so that instructors can identify and request spaces that best align with their needs.
- Create a communications plan to inform faculty, room schedulers, and other staff about new or enhanced room-scheduling approaches.
- In situations where classrooms span a broad geographical area, give consideration to identifying walking or shuttle ride time/distance between classrooms.
- Investigate how different course schedule grids of various colleges or programs may be a deterrent to the promotion of active learning pedagogies, which usually require more extended class periods to enable collaborative group work or project activities, or to student teams coordinating on interdisciplinary project work.

- Gather information to discover why certain rooms might be more or less popular than others and conduct data gathering in an ongoing way.
- Provide learners who may wish to use rooms after hours with access to room descriptions and the scheduling system.
- Work with leadership and room owners to identify a classroom utilization target percentage, highlighting opportunities for improved classroom use and implement improvements toward that goal.
- Incorporate information in the class-scheduling database on walking time/distance between classrooms.

## SO Credit 3.7: Diverse Patterns of Use

### Intent

To operate and support learning spaces to enable a wide variety in patterns of use and return on investment (ROI) by allowing for learning engagements during times when classes are not in session, as well as outside normal hours.

### 1 point

### Criterion for the point

Provide flexible access to spaces for learners, instructors, and the broader campus community outside typical class times.

### Verified by

- Policy, planning, or process document(s). Provide link to space management policies that permit the use of learning spaces by multiple user populations on demand (e.g., use of classrooms by learners studying at night) or evidence that it is allowed.
- Provide link to an online space-booking system that enables groups to seek and reserve meeting spaces to work together. Provide screen shot(s) if access is restricted.

### Approaches and considerations

- Spaces should be made available in the evenings, at night, over weekends, and whenever regular classes are not in session (e.g., during summer).
- Provide interactive room-scheduling panels outside classrooms for displaying available hours and facilitating “walk-up” ad hoc scheduling (e.g., group study sessions, meetings)

### Related credit

SO Credit 3.6: Scheduling and Room Utilization

## **Part B: Environment, Layout and Furnishings, Technology and Tools, and Inclusion**

[Section 4:](#) Environmental Quality (EQ)

[Section 5:](#) Layout and Furnishings (LF)

[Section 6:](#) Technology and Tools (TT)

[Section 7:](#) Inclusion (IN)

## Section 4: Environmental Quality (EQ)

Credits included in this section:

- 4.1 Daylight
- 4.2 Visual Connection to Nature
- 4.3 Interior Visibility
- 4.4 Lighting Quality and Control
- 4.5 Thermal Comfort and Control
- 4.6 Acoustic Quality and Control
- 4.7 Materials, Patterns and Forms

## EQ Credit 4.1: Daylight

### Intent

To support learning and improve concentration and engagement by providing daylight into learning spaces.

**1 point**

### Criterion for the point

Provide a source for direct access (e.g., windows) or indirect access (e.g., skylights or clerestory windows) to daylight into the room and, if required, the means to control it with veiling screens, blinds, or blackout screens.

### Verified by

- Architectural drawings, elevations and/or sections that indicate placement and orientation of windows or skylights
- Photographic evidence, showing the position and size of the window(s) or skylight(s)

### Approaches and considerations

- Benefits of daylight are that it provides connection with the outdoors; a softer, more diffused lighting with subtle changing value and color that electrical lighting does not have; and the reference standard for color rendering and measurement. Research has shown that daylight can facilitate better performance, productivity, and learning. It is associated with improved mood, enhanced morale, less fatigue, and reduced eye strain. Light therapy has been shown to be an effective cure for Seasonal Affective Disorder (SAD) and other depression-related symptoms. It can reduce the need for artificial lighting, saving energy.
- Refer to the WELL v2 Building Standard section on Light, especially [Credit L05](#) "Enhanced Daylight Access" and the explanation of its value and impact.
- Refer to biophilia design guidelines about light, such as those in "14 Patterns of Biophilic Design" by Terrapin (2014), especially [Pattern 4.1.6 \[P6\] "Dynamic & Diffuse Light."](#)
- Refer to [LEED v4.1 for Building Design and Construction](#), EQ Credit: "Daylight" for best practice sustainability related design standards.
- Solar blinds can be monitored and controlled with automatic motorized systems, avoiding the problem of occupants forgetting to raise blinds when not needed. These can be calibrated to maximize daylight and minimize energy loads, returning shades to default mode when not in use.
- Depending on building orientation, design techniques such as light shelves above head height at windows can help bounce indirect daylight across ceilings to penetrate further into the space.
- If a space does not have access to daylight, consider incorporating virtual images in mock-skylights. Although it may not have the same impact as real daylight, views of clouds and blue sky in "sky ceiling" products may trigger biophilic associations with natural settings.

### **Related credits**

EQ Credit 4.2: Visual Connection to Nature

EQ Credit 4.4: Lighting Quality and Control

## EQ Credit 4.2: Visual Connection to Nature

### Intent

To enhance learning and engagement by providing views to nature.

### 1–2 points

### Criteria for points

*To obtain 1 point, do the following:*

Provide views to interior planted areas or a “green” (planted) wall.

*To obtain an additional point, do the following:*

Provide window(s) with views to natural landscape elements more than 25 feet from the exterior of the window.

### Verified by

- Architectural drawings that indicate placement of the windows relative to room activity
- Photographic evidence, including the view(s) from the window(s) and environs context

### Approaches and considerations

- Active learning may be challenging for some students, so design strategies are desirable to make students feel more comfortable and focused. Research has shown that visual connection with nature can reduce stress, improve concentration, and relieve eye strain by providing distant views.
- Refer to [LEED v4.1 for Building Design and Construction](#), EQ Credit: “Quality Views.”
- Refer to WELL v2 Building Standard, especially Credit [M02 “Access to Nature”](#) and [M07 “Restorative Spaces.”](#)
- Refer to [14 Patterns of Biophilic Design](#) (Terrapin, 2014), Pattern [P1] “Visual Connection with Nature,” p. 24.
- Recent research is studying the impacts of biophilic design choices by comparing the same course with the same instructor taught in a traditional classroom versus one designed with biophilic principles.
- Although research has not yet proven that virtual displays of natural landscapes or sky views have the same effect as views of real nature, it may be possible that displays reflecting diurnal or seasonal changes can contribute to a greater sense of well-being for building occupants who might otherwise not have access to views of real nature.

### Related credits

EQ Credit 4.1: Daylight

TT Credit 6.3: Visual Displays

## EQ Credit 4.3: Interior Visibility

### Intent

To provide adequate visibility within a space from participants to presenters, to course content, to demonstrations, and to other participants.

**1 point**

### Criterion for the point

Provide unobstructed views for all participants to see one another, to see information on displays or writable surfaces, and to engage in collaborative discussions.

### Verified by

- Architectural drawings that provide information on seating layout, aisles, and display locations with dimensions and sightlines indicated
- Photographic evidence of sightlines taken from typical seating locations within the space

### Approaches and considerations

- In large rooms, maximize the ability of participants within the audience to face one another for more effective dialogue (e.g., U-shaped case study room layouts are preferable to lecture halls that have all seats facing the presenter).
- In discussion spaces such as seminar rooms, all participants should be able to see each other and to have unobstructed view of displays. For example, a meeting room with a long table and display at the far end blocks the sightlines of many of the participants to the display; nonhierarchical table layouts are preferable.
- In rooms with flexible layouts, enable participants to see all presenters and/or visual displays and/or writable surfaces by turning their chairs up to 180 degrees.
- Any room set up with peninsula-shaped tables with computer displays should ensure that each team member can view the display clearly.
- Consider tradeoffs between sightline quality and ease of supporting both small-group work and presentations. For instance, in tiered rooms with two rows per tier to enable small-group discussion, it may be desirable to tolerate slightly compromised sightlines to the instructor in order to support small-group discussion.
- In presentation-focused spaces such as lecture halls, configure seats, tiers, walls, and visual displays to conform to best practices for sightlines and screen distance. Provide adequate ceiling height such that the audience can see both the presenter and screens simultaneously.

### Related credit

TT Credit 6.3: Visual Displays

## EQ Credit 4.4: Lighting Quality and Control

### Intent

To ensure optimal flexibility of lighting quality and control appropriate to different learning activities.

**1–2 points**

### Criteria for the points

*To obtain 1 point, do the following:*

Provide a lighting system that creates even illumination over work areas, minimizes potential for glare, and offers user-accessible controls with a dimming capability or preset brightness for separate zones, activities, or use patterns.

*To obtain an additional point, do the following:*

Provide a lighting system designed to support circadian rhythms by aligning interior lighting brightness and color to that of the exterior environment.

### Verified by

- Architectural lighting drawings, engineering specifications
- Performance test results (such as those defined by the WELL v2 Building Standard Credit L03) or evaluation report by expert or engineer with specialist knowledge

### Approaches and considerations

- Lighting can affect visual, circadian, and mental health but in most spaces is designed for visual acuity and comfort. There is an opportunity when planning learning spaces to design daylighting and electric lighting strategies not only to enhance health and well-being but also to improve learning. (Refer to [WELL v2 Building Standard, Feature about Light.](#))
- On lighting design to support circadian rhythms:
- Design in relation to circadian rhythms uses exposure to light to help regulate physiological rhythms throughout the body's tissues and organs (such as hormone levels and the sleep-wake cycle) and promote well-being. For guidelines about circadian lighting design, refer to *WELL v2 Building Standard*, [Credit L03 on "Circadian Lighting Design."](#)
- Duration of exposure to light as well as the timing of exposure is important. "Indoor light levels can have a larger impact on people than seasonal changes in daylight hours. Supporting the circadian health of users through electric lighting interventions can help maintain a healthy circadian system and improve sleep quality, mood, and cognitive factors." (Refer to Summary of *WELL v2 Credit L03 on "Circadian Lighting Design"* and its footnotes citing research.)
- Blue light exposure at night can disrupt circadian rhythms and cause negative health effects, affecting sleep cycles, eye strain, and perhaps more serious long-term problems. Apps and operating systems have been developed to schedule shifting computer screens or mobile displays to warmer wavelength light in the evenings. This should be

taken into account with electrical lighting design also, as new products become available.

On lighting design and glare:

- Glare can be caused by excessive brightness of the light source, excessive brightness contrasts, and excessive quantity of light. Health impacts can range from visual discomfort and eye fatigue to headaches and migraines. Strategies to control and reduce glare can minimize distraction and contribute to overall comfort and focus of users. Refer to *WELL* v2 [Credit L04 “Glare Control.”](#)
- Pendant fixtures that incorporate both direct and indirect (e.g., upward) lighting can create visually higher and more perceptually luminous spaces and reduce visual contrast on task surfaces, reducing eye strain. They can also be a more energy-efficient method for lighting a classroom, especially if the indirect component can be controlled separately from the direct component in response to varying daylight levels.
- For learners to use all the walls in a teaching space, adequate lighting of vertical surfaces is needed, but it should neither conflict with the use of short-throw projector images nor create hotspots.

On control systems:

- Design preset controls to accommodate a range of different activity use cases (e.g., main speaker presentation with audience note-taking, group work along walls). In areas of informal small-group seating, enable users with controls to moderate the lighting to be appropriate to their activities (e.g., by task lighting).
- In areas where learning activities may be color sensitive (such as spaces used for design critiques), consider providing dynamic lighting control (or presets) where appropriate related to hue, saturation, and color, as well as brightness on work surfaces and review walls.
- Aim to create consistency of lighting control systems across classroom stock so instructors are more familiar with how to operate control and their benefits.

Other considerations

- Magnetic ballast-based fluorescent lighting instruments caused some individuals with light sensitivities to experience headaches and eye strain. Some lighting instruments in the current market (including LEDs) may still cause problems for some populations.
- To help learners become more productive, provide access to educational resources on circadian rhythms, impacts on sleep and depression, and the importance of light exposure to their health and well-being.

### Related credit

EQ Credit 4.1 Daylight

## EQ Credit 4.5: Thermal Comfort and Control

### Intent

To ensure thermal conditions of spaces are conducive to learning.

### 1–2 points

### Criteria for points

*To obtain 1 point, do the following:*

Provide participant control of thermal comfort conditions, with devices such as operable windows, a thermostat, or other means to adjust at least one of the following in the room within a reasonable range: temperature, air speed, and humidity.

*To obtain an additional point, do the following:*

Provide supplemental means not only to improve thermal comfort but also to save energy with features such as ceiling fans that increase perceived air movement (reducing cooling demand); openings to the interior circulation zone of the building as well as the exterior to encourage through ventilation; and passive cooling techniques during swing seasons.

### Verified by

- Performance test results, or evaluation report by expert

### Approaches and considerations

- People respond positively to moderate levels of sensory variability in the environment, such as airflow variability from breezes or ceiling fans, which can feel refreshing and less claustrophobic. Thermal comfort is subjective, so it is important to provide a degree of control to individuals, which can increase the range of acceptable temperatures. When thermal and airflow variability is implemented in a way that broadens people's perception of thermal comfort, it may also reduce energy demands for air conditioning and heating.
- Research has shown that thermal comfort can impact learning, but individuals' perceptions of comfort can differ (e.g., by gender). One meta-analysis of studies found females are more sensitive than males to a deviation from an optimal temperature and express more dissatisfaction, especially in cooler conditions.
- Refer to *ASHRAE Standard 55-2017*, [Thermal Environmental Conditions for Human Occupancy](#) for guidelines for uniform comfortable temperature across building spaces, and *ASHRAE Standard 62.1-2019*, [Ventilation for Acceptable Indoor Air Quality](#).
- Refer to [LEED v4 for Building Design and Construction](#), EQ Credit: Thermal Comfort, and other sections on air quality and control of low-emitting materials (VOCs).
- Refer to the [WELL v2 Building Standard on Thermal Comfort](#), Criteria T01–T07, for explanations about thermal comfort and criteria (covering Thermal Performance, Enhanced Thermal Performance, Thermal Zoning, Individual Thermal Control, Radiant Thermal Comfort, Thermal Comfort Monitoring, and Humidity Control).
- On air quality: Affordable handheld devices are available that can enable users or staff to monitor basic air quality (e.g., for particulate matter). Air quality can be enhanced by using low-hazard cleaning products, the use of effective cleaning equipment, and design

and furnishings guidelines for materials (see WELL Building Standard on Air Quality). Materials choices should minimize off-gassing and avoid products that contain harmful chemicals (see the [Living Building Challenge's Red List](#).)

- A commissioning study checks the performance of a building's environmental systems after construction. However, ongoing user input and other means of assessment will need to confirm that the environment continues to perform well over time.
- Consider making real-time displays of space conditions (e.g., air temperature, radiant temperature, relative humidity, air speed) available to occupants, either on visible displays or as reported by sensors to a website, to raise awareness of thermal comfort control and energy use as an educational tool.

## EQ Credit 4.6: Acoustic Quality and Controls

### Intent

To enable all participants to hear presenters, audio content, and one another through effective acoustic design of the room.

**1–2 points**

### Criteria for points

*To obtain 1 point, do the following:*

Provide an enhanced acoustic environment for active learning with passive acoustic controls (such as wall and ceiling treatments, carpeting, drapes) sufficient to enable participants farthest from the sound source to have a comparable listening experience as participants closest to the source.

*To obtain an additional point, do the following:*

Provide an active acoustic system (i.e., one that involves sound masking or acoustic environment synthesis; see “Approaches and considerations”) designed with presets optimized for different activity types (e.g., lecture, small-group work, team report-back mode, whole-group discussion), controlling both general background and focused sound environments.

### Verified by

- Engineering reports/drawings, design specifications
- Performance test results, evaluation report by expert in acoustic engineering

### Approaches and considerations

- Groups working together should be able to hear each other comfortably and share findings with the rest of the class.
- Refer to [ANSI/ASA standards](#) S12.60-2010/Part 1 American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools for guidelines on acoustics in learning spaces. These include noise-isolation design to limit excessive background noise and reverberation from building services and utilities.
- Refer to the ANSI/ASA guidelines about various size spaces and for use of sound-absorbing materials and acoustical treatments, as well as recommendations about the effects of carpeting and furnishings on acoustics.
- A range of design aspects contribute to acoustic performance, such as building envelope design; window ratings; interior materials; HVAC systems; vibration controls; and white noise, sound amplification systems or other technological interventions. Consider acoustic impacts of room elements (whiteboards and windows are highly reflective; drapes are largely absorptive).
- Consider active acoustic controls (such as those used in contemporary theatrical or legislative environments) versus passive acoustic controls. Active acoustic solutions broadly take two forms: sound masking and acoustic environment synthesis.

- In sound masking, a sound that can mask other sounds in an environment is introduced. For example, in office or public spaces, it is sometimes desirable to minimize the distance ordinary conversation will carry, without interfering with that conversation. Introducing white noise distributed across a space will in effect reduce the range over which speech can be heard. This kind of system can be very effective in, for example, large informal learning spaces, where many people are pursuing different activities simultaneously (Steelcase's QtPro is one commercial example).
- In acoustic environment synthesis, emerging systems actively collect sound sources throughout a space and synthesize an acoustic environment. One such environment would provide an extended area of apparent near-field acoustic behavior, in effect minimizing the reduced sound level of a source at a distance, facilitating seminar-style conversation in a large group (100 people or more) (Meyer Sound's Constellation product is one commercial example).
- Acoustic measurement tools for space designers include a variety of measurement microphones (miniDSP, StudioSixDigital) and personal device software on iOS and Android, including AudioTool (Android), AudioTools (iOS), and FuzzMeasure (MacOS).

#### Related credits

EQ Credit 4.7: Materials, Patterns and Forms

TT Credit 6.4: Sound Amplification

TT Credit 6.6: Conferencing and Distributed Interactivity

## EQ Credit 4.7: Materials, Patterns, and Forms

### Intent

To provide materials, design patterns and forms, including decorative components as well as those integral to the structural or functional design, in ways that enhance engagement, improve cognitive performance, and reduce stress.

**1 point**

### Criterion for the point

Demonstrate how natural materials, patterns, and/or forms have been considered in the design of the space.

### Verified by

- Architectural drawings, interior design layouts, design specifications, photographic evidence
- Evaluation report

### Approaches and considerations

- Gathering evidence of how attention to materials, patterns, and forms in the design of learning spaces can influence student experience will advance community knowledge and best practice. Research has shown that an environment devoid of sensory stimulation and variability can lead to boredom and passivity.
- More comprehensive design solutions will be more cost-effective when they are introduced early in the design process.
- On materials: Use of sustainable natural materials, such as wood, can help make a space feel rich, warm, and authentic. A natural-colors palette, particularly the color green, has been shown to facilitate creativity and relaxation. Real materials are preferable to synthetic variations because human receptors can often see or feel the difference between real and synthetic materials. Consider accent details that introduce natural materials (like wood grains, leather, stone textures, bamboo, cork, etc.). Consider using “materials and elements from nature that, through minimal processing, reflect the local ecology or geology to create a distinct sense of place.” (Refer to “14 Patterns of Biophilic Design”, Pattern [P9]: Material Connection with Nature, p. 40-41)
- Refer to the WELL v2 Building Standard, section on Materials (p. 161), which promotes the identification, evaluation, and management of hazardous ingredients across building materials, cleaning products, and waste to reduce exposure through environmental contamination.
- On patterns and color: The use of biometric forms and patterns provides representative design elements in the built environment that allow users to make connections to nature. “Biomorphic forms and patterns are symbolic references to contoured, patterned, textured, or numerical arrangements that persist in nature” (from Pattern [P8], Terrapin). The use of color can influence emotional responses to a space, creating an energizing or calming environment, and focus the eye on surfaces of the space or objects within it.

- On forms: Organic and curved forms can be perceived as more interesting than rectangular or straight ones, perhaps because they are more referential to natural forms. Consider curved walls or other architectural elements where appropriate.

#### **Related credits**

LF Credit 5.5: Work Surfaces

LF Credit 5.6: Seating Comfort

IN Credit 7.2: Cognitive Inclusion

## Section 5: Layout and Furnishings (LF)

Credits included in this section:

- 5.1 Proximities within Space
- 5.2 Movement through Space
- 5.3 Seating Density
- 5.4 Furniture Configuration Flexibility
- 5.5 Work Surfaces
- 5.6 Seating Comfort
- 5.7 Transparency
- 5.8 Access to Adjacent Informal Learning Areas
- 5.9 Writable Surfaces
- 5.10 Physical Storage
- 5.11 Future Proofing

## LF Credit 5.1: Proximities within Space

### Intent

To configure the room proportions to optimize interaction among and between participants.

**1 point**

### Criterion for the point

*To obtain credit, do both of the following:*

1. Students can face each other within the space.
2. Instructor can easily approach any student within the space for a 1-on-1 conversation or be within 15 feet of any student in the room.

### Verified by

- Interior design layouts

### Approaches and considerations

- Consider different layouts for large spaces (e.g., lecture halls in the round) to ensure instructors and students are in close proximity.

## LF Credit 5.2: Movement through Space

### Intent

To enable the easy movement of all participants within the space to support communication and to facilitate interaction.

**1 point**

### Criterion for the point

Enable participants unobstructed movement to easily circulate, interact, and form groups. Provide adequate space for participants to move and circulate among key components of the room, such as seats, tables, writing surfaces, and displays. Instructor can easily move among students, such as via:

- Open floor plan, or
- Movable podium, or
- Central podium, or
- Pathways allowing access to all students

### Verified by

- Interior design layouts

### Approaches and considerations

- Provide adequate space between tables or work areas for all participants to circulate, interact, and combine in different teams.
- Provide sufficient space and pathways for instructors and peers to circulate when the space is configured for groups.
- Enable participants to walk between table and walls in order to access writable surfaces, displays, and one another.
- If using movable furniture, ensure that there is enough room to be able to actually move the furniture away from writable walls and that cables to electrical outlets do not obstruct activity at the walls.
- Where a tiered or sloped floor configuration is desirable:
  - Consider sloped rather than stepped aisles to allow more universal access options and easier circulation.
  - Consider two rows per tier for easier interaction with students and greater opportunity for group work.
  - For a sloped-floor configuration without stairs, consider limiting the slope of the room (vertical) over run (horizontal) to 1:12.
- Consider universal design principles for accessibility. Instead of isolating “accessible” areas of the room, ensure all areas are accessible.
- Be aware that excessive movement through space could present challenges for students with particular needs.

## LF Credit 5.3: Seating Density

### Intent

To ensure that the density of seating and the space allocated per seat supports a desirable range of learning activities.

**1–2 points**

### Criteria for the points

*To obtain 1 point, do the following:*

Provide a minimum of 25 net assignable square feet per person in any room configuration. Density should be calculated by the total area of the entire room divided by the assigned room capacity.

*To obtain an additional point, do the following:*

Provide greater than 30 net assignable square feet per person.

### Verified by

- Interior design layouts

### Approaches and considerations

- Consider greater than 30 square feet per person to support active learning activities. As the space per seat increases, so do the different ways people can interact with others, information, and tools/equipment.
- Allow sufficient space for room reconfiguration options. The greater the need for flexibility of layout, the more space is needed per seat.
- Special equipment, such as fixed computers or lab equipment, may require more space per seat.
- In tiered spaces, any ramp area must be included in room area for calculation.

### Related credit

IN Credit 7.2: Cognitive Inclusion

## LF Credit 5.4: Furniture Configuration Flexibility

### Intent

To provide furniture that is easily movable and configurable to support a range of learning activities.

**1–4 points**

### Criteria for the points

*To obtain 1 point, do the following:*

Provide movable chairs with casters.

*To obtain an additional point, do the following:*

Provide movable tables with casters.

*To obtain an additional point, do the following:*

Provide stackable/nestable chairs and/or tables.

*To obtain an additional point, do the following:*

Provide furniture at different heights or that is height-adjustable.

### Verified by

- Interior design layouts

### Approaches and considerations

- Consider multiple heights within the same room to promote better sightlines and accommodate students in larger rooms.
- Consider pairing furniture of the same height together in rows to allow collaboration layouts.
- In lecture halls that have two rows (or collaborative tables) per tier or terrace, consider chairs that move and/or rotate so that participants can more easily collaborate.
- Podiums, when needed, should also be movable and/or removable. Nestable chairs may provide greater flexibility of layout options, but chairs on casters may be better ergonomically.

### Related credits

TT Credit 6.3: Visual Displays

IN Credit 7.2: Cognitive Inclusion

## LF Credit 5.5: Work Surfaces

### Intent

To provide furniture with ample work surface area to accommodate several devices and materials that participants may bring or use during class.

**1 point**

### Criterion for the point

Provide sufficient work surface area per seat, sized to enable simultaneous use of a laptop, tablet, or other portable devices, as well as other materials. Offer work surfaces that are the equivalent of at least 720 square inches, or 30 inches wide by 24 inches deep.

### Verified by

- Interior design layouts

### Approaches and considerations

- Consider choosing furniture that offers adaptable configuration for both left- and right-handed individuals.
- Tablet armchairs are not recommended. Some freestanding, castered tablet armchairs are designed with larger work surfaces and may be more useful.
- Consider work surfaces that are curved or irregular shapes.

## LF Credit 5.6: Seating Comfort

### Intent

Provide seating that is comfortable for a variety of body types, heights, and accommodations and ergonomically appropriate for extended periods of time, an hour or more.

**1 point**

### Criterion for the point

Provide seating that is adjustable in at least two dimensions, such as adjustability of seat height, armrest height, back support, right-left handed work surface, etc.

### Verified by

- Interior design layouts

### Approaches and considerations

- Consider consulting an ergonomist on the selection of furniture.
- Consider consulting a variety of students on the selection of furniture.
- Consider the durability and sustainability standards referenced in the [ANSI/BIFMA e3-2014e Furniture Sustainability Standard](#), section 5.9.1.

## LF Credit 5.7: Transparency

### Intent

To provide visual connections between adjacent but physically separate spaces to enable exposure and visibility of learning activities.

**1–2 points**

### Criteria for the points

*To obtain 1 point, do the following:*

Provide views into and out of the space through the use of transparent materials or the introduction of openings or sightlines between rooms, floors, or major areas.

*To obtain an additional point, do the following:*

Allow users of the space to control the degree of visibility of transparent materials.

### Verified by

- Interior design layouts, architectural drawings

### Approaches and considerations

- Showcase products of learning activities within a space through the use of digital or analog displays outside of the space.
- Consider the extent to which users can control the amount of transparency, including via shades, movable partitions, or electroluminescent glass.
- Visual transparency into spaces can promote interest, curiosity, and serendipitous learning.
- Visual transparency can also bring feelings of vulnerability and unease, especially those in marginalized or underrepresented groups (the “fishbowl” phenomenon) and might need to be modulated in some spaces.

## LF Credit 5.8: Access to Adjacent Informal Learning Areas

### Intent

To allow learning activities and conversations to extend into adjacent areas, encouraging interaction and extension of the learning experience before and after class sessions.

**1 point**

### Criterion for the point

Provide informal learning spaces within line of sight from the classroom door.

### Verified by

- Architectural drawings

### Approaches and considerations

- Consider equipping adjacent spaces with affordances for short, ad hoc meetings and for collaboration.
- Include breakout areas or “front porch” spaces next to classrooms for connecting before or after class.
- Consider 3–5 net assignable square feet (ASF) per classroom seat of informal learning space outside of rooms to support discussion before and after class.

## LF Credit 5.9: Writable Surfaces

### Intent

To provide writable surfaces to facilitate interaction for individuals and groups.

### 1–2 points

### Criteria for the points

*To obtain 1 point, do the following:*

Provide surfaces/displays accessible to all participants on more than one wall surface on which they can write physically and/or digitally.

*To obtain an additional point, do the following:*

Provide multiple movable surfaces/displays accessible to all participants on which they can write physically and/or digitally.

### Verified by

- Interior design layouts

### Approaches and considerations

- Ensure that writable surfaces are not obstructed by projection screens or other objects so that they are always visible.
- The intention is to provide as much surface to be writable as possible. Consider:
  - Surfaces that are both writable and projectable.
  - Large, wall-mounted whiteboards/chalkboards and/or flipcharts.
  - Writable wall surfaces on one or multiple walls.
  - Movable writable panels on casters or a wall/ceiling-mounted system.
  - Writable table surfaces (e.g., glass, whiteboard).
  - Digitally interactive table surfaces that enable writing with gestures and/or stylus.
- Where writable spaces are interspersed with nonwritable surfaces, it is helpful to indicate clearly which surfaces support erasable writing.
- Be aware that writable surfaces can be sound reflecting. Efforts should be made to provide acoustic paneling opposite reflective surfaces.

### Related credit

IN Credit 7.2: Cognitive Inclusion

## LF Credit 5.10: Physical Storage

### Intent

To support instruction by making storage for supplemental materials or equipment accessible within the classroom or building

**1 point**

### Criterion for the point

*To obtain 1 point, do the following:*

Provide storage within learning spaces or nearby areas for auxiliary equipment, materials, or furnishings to support instruction.

### Verified by

- Photographic evidence
- Architectural drawings

### Approaches and considerations

- Consider making movable storage available for large movable displays that can be wheeled between storage and the learning space; laptops and laptop carts for individual or shared use; artifacts, resources, and teaching kits for various disciplines.
- When security is an issue, consider lockable storage.
- For flexible or multipurpose rooms with 50 seats or more, consider providing furniture and portable equipment storage so layouts and equipment can be changed rapidly to accommodate different types of activities.

## LF Credit 5.11: Future Proofing

### Intent

To ensure that learning spaces can evolve to effectively support new teaching and learning models over time.

**1 point**

### Criterion for the point

Design room infrastructure to support or adapt to changing uses over time.

### Verified by

- Architectural drawings
- Engineering reports/drawings

### Approaches and considerations

- Consider the potential for reconfiguration or a change in function in the future (for example, tiered lecture hall seating can be built with steel frame structures rather than poured concrete).
- Consider means to distribute power across open floor areas, either as a grid of receptacles built into the floor or as a furniture system component below carpeting.
- Consider open cable trays, hanging tracks, and other easily accessible solutions as a potential option to ease changes of equipment over time.
- Mobile battery solutions (loan system for battery packs) may make installing power grids in classrooms unnecessary in the near future.
- Install wireless connections for technology where possible.

## Section 6: Technology and Tools (TT)

Credits included in this section:

- 6.1 Electrical Power
- 6.2 Network Connectivity
- 6.3 Visual Displays
- 6.4 Sound Amplification
- 6.5 Audio/Visual Interface and Control
- 6.6 Conferencing and Distributed Interactivity
- 6.7 Session Capture and Access
- 6.8 Immersive Technologies to Support Experiential Learning

## TT Credit 6.1: Electrical Power

### Intent

To ensure that all participants in a space have access to electrical power to support the wide variety of technologies used in learning activities.

**1 point**

### Criterion for the point

Provide safe and convenient access to electrical power for end-user devices; this may be accomplished via outlets in the floor or wall close to students, or by flexible, portable charging systems or other means.

### Verified by

- Photograph or documentation of room

### Approaches and considerations

- Understand the range and capability of the population of student devices currently in use: run-time capacity has been increasing consistently over the years. With that understanding, outline a range of desirable or anticipated activities and their power requirements to determine appropriate capacity to support a range of usage scenarios.
- Trip hazard considerations should obviate use of power strips or extension cords in student seating and work areas.
- Use a distribution grid in the floor to provide flexibility in positioning power receptacles and to accommodate multiple layout options.
- Provide appropriate receptacle locations or cable management raceways such that cables do not obstruct traffic paths.
- Overhead power taps can offer a less-expensive distributed power grid.
- Explore agile and flexible solutions that support classroom activities.
- Consider mobile rechargeable wireless power tower/power bank solutions in classrooms in need of power in a variety of locations.

## TT Credit 6.2: Network Connectivity

### Intent

To enable adequate network performance and access for all participants and intended learning activities.

**1 point**

### Criterion for the point

Provide dedicated connectivity to strategic areas of the room that require high-bandwidth/low-latency connections and wireless connectivity with activity appropriate bandwidth, latency, security, and capacity to support connections for all occupants, including guests, available in real-time without prior arrangement.

### Verified by

- Performance test results, engineering reports, commission reports

### Approaches and considerations

- Collaborate with the network operations team to evaluate and discuss possible optimization of the system.
- Outline a range of desirable or anticipated activities and their potential bandwidth requirements to determine appropriate bandwidth capacity.
- Determine adequacy of network devices to manage the population of connected devices.
- Determine hard-wired connectivity requirements at strategic points (e.g., presenter station, participant clusters, etc.) to allow for several different configurations.
- Design flexibility to allow for increased connectivity as demanded by course applications (e.g., firewall settings, traffic shaping).

## TT Credit 6.3: Visual Displays

### Intent

To enable robust use of visual data by making it easily available, visible, readable, and/or manipulable by all participants.

### 1–3 points

### Criteria for the points

*To obtain 1 point, do the following:*

Provide visual display(s) of a contemporary standard, appropriate in number and size to the room layout and dimensions, that are capable of presenting one source (digital slides, web page, video or video conference, etc.) at a time and that allow multiple inputs adaptable to evolving wired and wireless input standards, following relevant AVIXA standards.

*To obtain 2 points, do the following:*

Provide visual display(s), or dual inputs to large display(s), appropriate in number and size to the room layout and dimensions, that are capable of simultaneously presenting two or more sources (digital slides, web page, video or video conference, etc.).

*To obtain 3 points, do the following:*

Provide visual display(s) (fixed and/or mobile), appropriate in number and size to the room layout and dimensions, capable of supporting small-group and collaboration activities for all participants and small-group reporting to the entire class.

### Verified by

- Photograph or documentation of room

### Approaches and considerations

- For presentation spaces, follow best practices for display size and viewing angles asserted in the [AV/IT Infrastructure Guidelines for Higher Education](#).
- AVIXA members may access additional online resources via the [AVIXA 2019 Guide to Audio Visual Standards](#) catalog offering.
- Provide lighting and window treatment controls at projection and display locations.
- When considering interior design and colors, use darker, matte (nonreflective) paint colors near screens to aid with image contrast.

### Related credits

EQ Credit 4.4: Lighting Control

LF Credit 5.4: Furniture Configuration Flexibility

IN Credit 7.2: Cognitive Inclusion

## TT Credit 6.4: Sound Amplification

### Intent

To enable all participants in the learning space to hear and communicate clearly in support of teaching and learning activities.

**1–2 points**

### Criteria for the points

*To obtain 1 point, do the following:*

Provide a solution that enables all participants in a learning space to clearly and easily hear presenters and one another.

*To obtain an additional point, do the following:*

Provide a solution that also ensures conversations within groups can be easily heard without distraction from other noises in the room (other groups, ambient noises, etc.).

### Verified by

- Performance test results, commissioning reports

### Approaches and considerations

- Refer to ANSI/ASA S12.60–2010/Part 1 for classroom audio distribution systems (5.5.1) for uniformity of coverage and sound pressure levels.
- Refer to the 1991 ADA Standards for Accessible Design 4.1.3 (19) (b) (PDF available [here](#)) and the 2010 ADA Standards Accessible Design, section 219 (various formats available [here](#)) and relevant state guidelines for the use of assistive listening system (ALS) shields to accommodate participants with hearing impairments.
- Refer to [AV/IT Infrastructure Guidelines for Higher Education](#) for audio AV system design considerations.
- AVIXA members have access to the [AVIXA 2019 Guide to Audio Visual Standards](#) online catalog offering best practice guidelines.
- AVIXA members have access to the AVIXA A102.01:2017 Audio Coverage Uniformity in Listener Area standard document.
- Microphone solutions for presenters should not rely on any specific feature of attire for attachment and should be gender neutral in form and function.
- Consider systems that do not require user action to invoke voice amplification.

### Related credits

EQ Credit 4.6: Acoustic Quality and Control

IN Credit 7.1: Physical Inclusion and Universal Design

IN Credit 7.2: Cognitive Inclusion

## TT Credit 6.5: Audio/Visual Interface and Control

### Intent

To enable instructors and learners to seamlessly manage audio/visual content across multiple output systems, including installed displays, computers, portable equipment, and mobile devices.

**1 point**

### Criterion for the point

Provide an intuitive interface for device and room settings that allows for the control of A/V technology by instructors and learners. Provide connection options that support the configuration and activities in a classroom.

### Verified by

- AV/IT design documents, support, training, faculty development documentation

### Approaches and considerations

- Create a standard for control system interfaces in order to simplify support and ease of use across campus; this process should be enhanced via direct UX testing with faculty and other key users.
- Provide ability to manage content across multiple dedicated outputs, personal devices, team displays, and room displays.
- Allow interface control from remote devices and traditional instructor station control point(s). For shared resources, provide the ability to manage access to control capabilities.
- Encourage collaborative learning interactions by providing ability to introduce content across groups using a personal device (or other sources), and allow participants to share content easily with each other, one-on-one, or with small groups.
- Undertake ongoing user evaluation of interface design.
- Refer to [AV/IT Infrastructure Guidelines for Higher Education](#) for audio AV system design considerations.
- AVIXA members have access to the [AVIXA 2019 Guide to Audio Visual Standards](#) online catalog offering best practice guidelines.

### Related credits

PDP Credit 2.1 Stakeholder Engagement

IN Credit 7.2: Cognitive Inclusion

## TT Credit 6.6: Conferencing and Distributed Interactivity

### Intent

To enable robust, synchronous participation in learning activities by individuals and groups in multiple, disparate locations.

### 1–2 points

### Criteria for the points

*To obtain 1 point, do the following:*

Provide a room-integrated AV solution that supports local and/or remote students at multiple locations to see and interact with an instructor and content.

*To obtain an additional point, do the following:*

Provide a room-integrated AV solution noted above that also supports faculty-to-student, student-to-student, and student-to-faculty interaction, equally supporting all three modes. The solution should enable remote and local participants to form small groups to interact, share content, and work together separately and concurrently.

### Verified by

- Support, training, or faculty development documentation
- AV/IT design documents

### Approaches and considerations

- Consider solutions that enable any of the following scenarios:
  - A classroom or host presentation to be shared between multiple sites
  - Student questions/commentary to be shared between multiple sites
  - Student small-group discussions and collaborations to be shared between multiple sites
  - The ability for any participant to transparently switch between roles (e.g., presenter, editor) across multiple locations during active conferencing and/or collaborative sharing sessions
- For hybrid uses, any media created in shared physical space (electronic, dry erase or chalkboard, etc.) should be immediately reflected to the entire group; capture of such content providing an electronic replacement for remote manipulation of the original artifact is highly desirable.
- In-person meetings place a high value on engagement of the participants; effective design of an immersive experience for remote participants should seek to help scaffold their engagement even while in a potentially distracting remote environment.
- While many software videoconferencing solutions can echo-cancel effectively, consider recommending headset-based audio. Gaming headsets (that individuals may already own) provide isolation from the local environment and often include effective noise-cancelling mics to further insulate the group's experience from the environments of the individuals participating.
- Consider video tracking systems to provide a seamless experience for remote students.

- Audio channels that can remain connected at all times (as remote ambience allows) are recommended in support of spontaneous and nonverbal expression.
- The meeting organizer should do the work of creating an inclusive online experience for all participants: remote participants are participants, not a passive audience, and are deserving of all appropriate courtesies and acknowledgements.

#### **Related credits**

TT Credit 6.4: Sound Amplification

TT Credit 6.8: Immersive Technologies to Support Experiential Learning

IN Credit 7.2: Cognitive Inclusion

## TT Credit 6.7: Session Capture and Access

### Intent

To record presentations, group interactions, or conversations with local and remote participants and make these artifacts accessible asynchronously.

**1 point**

### Criterion for the point

Capture presenter audio and displayed content and have the ability to record whiteboard, electronic whiteboarding application, or chalkboard annotations; optionally include instructor video recording.

### Verified by

- Educational materials
- Support, training, or faculty development documentation

### Approaches and considerations

- Provide class captures and/or audio recordings via LMS that support student engagement (e.g., active polling, bookmarking, and analytics around content viewing).
- Provide the ability to consume recorded content across a variety of devices and platforms.
- Provide secure management of content to limit its use to intended audience.
- Offer optional video capture of the instructor/presenter via in-room webcam.
- Integrate session capture with room AV controls, providing instructor control over live recordings and content publishing.
- Offer ability to preschedule one-time and recurring class captures via a calendar-driven recording activation.

### Related credits

TT Credit 6.4: Sound Amplification

IN Credit 7.2: Cognitive Inclusion

## TT Credit 6.8: Immersive Technologies to Support Experiential Learning

### Intent

To provide immersive technologies in the classroom to support experiential learning.

**1 point**

### Criterion for the point

Provide instructor and student access to immersive technologies designed for experiential learning in the regular classroom. Access should be without special request and part of the standard set of classroom technologies.

### Verified by

- Support, training, or faculty development documentation
- AV/IT design documents

### Approaches and considerations

- Examples of immersive technology include augmented reality (AR), virtual reality (VR), mixed reality (MR), simulations, and visualization walls.
- Enable simulations of materials or tools not easily available in the physical world so that learners can explore the bounds of what is possible in both their discipline and with the XR technology itself.
- Consider solutions that expand the range of activities with which a learner can gain hands-on experience—for example, supporting skills-based and competency-based teaching and learning in nursing education or prototyping activities in a design thinking process.
- High-definition visualization surfaces can immerse students in large data sets, models, or simulations.
- XR technology must be easy to use for both the instructor, student, and technical support staff.
- Refer to publication [“XR for Teaching and Learning: Year 2 of the Educause/HP Campus of the Future Project”](#)

### Related credit

SO Credit 3.4: Faculty/Instructor Development

## Section 7: Inclusion (IN)

Credits included in this section:

- 7.1 Physical Inclusion and Universal Design
- 7.2 Cognitive Inclusion
- 7.3 Cultural Inclusion

## IN Credit 7.1: Physical Inclusion and Universal Design

### Intent

To welcome learners with different physical abilities by providing not only access to the space and its affordances but also the opportunity to participate fully in the learning experience.

### 2 Points

### Criteria for the points

In addition to meeting the accessibility guidelines required by law (such as the ADA, or other national or local authoritative bodies) for seat provisioning and assistance for hearing, vision, and other accessibility needs, implement in the space the seven Principles of Universal Design established by the Center for Universal Design at North Carolina State University in partnership with the U.S. Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR).

### Verified by

- Architectural drawings, design specifications, photographic evidence

### Approaches and considerations

The [seven principles](#) asserted by the Center for Universal Design are Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort, and Size and Space for Approach and Use. Their goal is to design “environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Connell et al., 1997).

- **Equitable Use:** Provide identical, or at least equivalent, means to use the space for all participants; avoid segregating or stigmatizing any participants. In larger spaces, follow the mantra “No Bad Seats”—that is, ensure that all learners can access seating centrally located or close to instructional activities, if they wish.
- **Flexibility in Use:** Accommodate a wide range of abilities and make accommodations such as wheelchair-friendly seating, support for left-handedness, and ergonomic input devices integral, not marginal, to the classroom design.
- **Simple and Intuitive Use:** Make the classroom and its affordances easy to use for those with a variety of backgrounds, language and literacy skills, and technical fluency. Examples include wayfinding aids and instructions for use of technology tools. An accent wall in a neutral, medium-tone can direct students' attention to the focus of instruction, minimize reflection on the AV displays, and provide a visual contrast to help people with visual impairments; additional displays allow students close proximity to view the content.
- **Perceptible Information:** Provide compatibility with a range of methods and devices used by those with sensory limitations. AV systems should include assisted listening devices and support closed captioning. Sound amplification enables all participants to clearly hear presenters, each other, and audiovisual content without distraction from other noises in the room.
- **Tolerance for Error:** Minimize hazards to avoid accidents or unintended actions.

- **Low Physical Effort:** Design spaces, work surfaces, and seating to minimize physical effort; desks and tables should require minimum effort to use and move.
- **Size and Space for Approach and Use:** Accommodate various physical attributes by providing furnishings and equipment that fit various body sizes and shapes; provide appropriate space for use of needed assistance or devices and to accommodate reach and manipulation regardless of body size, posture, mobility, or hand and grip size.

#### **Related credits**

SO Credit 3.4: Faculty/Instructor Development

TT Credit 6.4: Sound Amplification

## IN Credit 7.2: Cognitive Inclusion

### Intent

To make available a range of teaching and learning modalities to accommodate learners' variable ways of receiving information, engaging with learning environments, and expressing knowledge.

### 1–3 Points

#### Criteria for the points

*To obtain 1 point, do the following:*

Provide affordances that support multiple means and modes for content delivery and reception by cognitively diverse learners.

*To obtain an additional point, do the following:*

Provide affordances that facilitate multiple modes of expression and knowledge-making for cognitively diverse learners.

*To obtain an additional point, do the following:*

Provide affordances that facilitate multiple ways for learners to engage in the learning experience, with instructors, and with one another.

#### Verified by

- Design specifications, photographic evidence, educational materials

#### Approaches and considerations

- Follow [Universal Design for Learning](#) guidelines to provide in the classroom tools or affordances for multiple means of representation, expression, and engagement. Writing surfaces, digital displays, wireless connectivity, and work space to support personal devices all enable students with learning differences multiple and flexible means of representation, engagement, and expression in their learning.
  - **Multiple means of representation:** Provide alternatives for learners to receive and share visual and auditory information, including sound amplification, visual displays, and equipment for lecture and notes capture; provide hardware and software allowing information sharing using multiple media.
  - **Multiple means of expression:** Provide access to assistive technologies; provide abundant writable surfaces and computer displays; provision spaces with access to different types of tools for content creation and content sharing.
  - **Multiple means of engagement:** Provide diverse and flexible spaces for individual learning, collaboration, and teamwork with movable, reconfigurable furnishings; design spaces with plenty of room for movement and interaction among peers and between students and instructors.
- Needs of neurodiverse learners such as those on the autism spectrum or with other learning disabilities may include clearly ordered and easily navigable spaces and the ability to control environmental conditions such as light and bright colors. Controlled

noise levels, subdued paint colors, and appropriate lighting sources can contribute to a calming environment that supports neurodiverse learners.

#### **Related credits**

SO Credit 3.4: Faculty/Instructor Development

EQ Credit 4.7: Materials, Patterns, and Forms

LF Credit 5.3: Seating Density

LF Credit 5.4: Furniture Configuration Flexibility

LF Credit 5.9: Writable Surface

TT Credit 6.3: Visual Displays

TT Credit 6.4: Sound Amplification

TT Credit 6.5: Audio/Visual Interface and Control

TT Credit 6.6: Conferencing and Distributed Interactivity

TT Credit 6.7: Session Capture and Access

## IN Credit 7.3: Cultural Inclusion

### Intent

To ensure that spaces are welcoming and inviting for all people, regardless of their cultural background or social group identities.

### 1–2 Points

#### Criteria for the points

*To obtain 1 point, do the following:*

Provide a comfortable and welcoming space that contributes to a shared sense of dignity, respect, and community through cleanliness, updated lighting, fresh paint, and well-maintained furnishings and equipment. Provide in the space current signage that is positively worded and that respectfully identifies safety, technology, accessibility, and teaching and learning resources available in the room and on campus without calling out difference.

*To obtain an additional point, do the following:*

Provide in the space specific visual design and content elements (i.e., “ambient identity cues”)—in the form of room decor, signage, art and artifacts, physical and digital displays, and other room features—that affirmatively reflect the community’s diverse cultural backgrounds, including from historically underrepresented groups.

#### Verified by

- Photographic evidence, design specifications, educational materials

#### Approaches and considerations

- Involve students and student groups from diverse communities in co-designing spaces for inclusion.
- Cultivate an awareness in design teams of features (such as classroom layout, wall decor, and display objects) that, visually and rhetorically, recall a past when women, students of color, indigenous peoples, and other groups were excluded from higher education environments. These features can also include the name of spaces or buildings, if names have particular historical resonance for some groups.
- Update classroom environments with natural or contemporary lighting, color, curving surfaces, high-quality finishes, and comfortable and flexible furnishings to make spaces more inviting and welcoming for all students. Use gender-neutral and value-neutral language for signage and documentation of learning spaces, and select gender-neutral technologies (for example, some clip-on microphones are not female friendly).
- Actively reflect in signage and documentation, and other room elements, the cultural diversity of the community through images and language, including by considering languages other than English. In spaces with computer displays or kiosks, use screen savers to express culturally inclusive images and messages.
- Avoid socially symbolic artifacts (such as paintings or murals) that express group stereotypes or that may exacerbate “stereotype threat” (communicating negative stereotypes about a group that can impair learning and performance) for historically

marginalized groups. Likewise, avoid token and stereotypical or unsubtle cultural representations, which can be insulting and can also provoke backlash.

- Provide nearby unisex, lockable, and gender-neutral restrooms and signage to make spaces safer and more inclusive for gender-nonconforming students and to communicate a sense of “identity safety” for all social groups.

### **Related credits**

PDP Credit 2.1: Stakeholder Engagement

SO Credit 3.4: Faculty/Instructor Development