Principles for Designing Teaching and Learning Spaces

The National Survey for Student Engagement (NSSE) is a respected indicator of student engagement used by over 1450 universities across North America. Their Engagement Indicator themes and High-Impact Practices (2013) are based upon extensive educational research. The indicators and practices have been adopted at McGill University as five principles to be considered when designing or renovating classroom spaces to support student learning. This permits the university to ground decisions about classroom features in research-based principles. The *Principles for Designing Teaching and Learning Spaces* below consider the classroom environment within the context of what is known about students' learning. These Principles are then translated into specific design features to guide design decisions, such that learning spaces become a physical manifestation of the university's teaching and learning vision.

1. Academic challenge

Learning spaces should be sufficiently varied for both individual and collaborative work, and include a range of technologies that support multiple modes of teaching and learning.

2. Learning with peers

Learning spaces should provide features that allow students to actively engage with content and to collaborate with one another, with or without the support of technology.

3. Experiences with faculty

Learning spaces should reduce physical distance and barriers, and facilitate exchanges between students and faculty in the classroom.

4. Campus environment

Learning spaces should conform to university design standards and be designed with future flexibility in mind. They should be consistent with the university's culture and priorities as reflected in the campus master plan.

5. High-Impact Practices (HIPs)

The campus is a pedagogical space where high-impact practices can be supported and grounded in credited experiences in the classroom.

Principles for Designing Teaching and Learning Spaces

	Layout	Furniture	Technologies	Acoustics	Lighting/colour
Academic challenge: Promote individual active engagement with content	▪ Work surfaces for notebooks, laptops, textbooks	▪ Comfortable furniture; ▪ Multiple types of furniture in the room to support different types of tasks and preferences.	▪ Appropriate mix of desktop and laptop options. ▪ Access to resources (e.g., LMS, internet, virtual labs). ▪ Power for student laptops.	▪ Acoustically insulated to avoid distraction from outside and inside sources.	▪ Appropriate lighting for individual work. ▪ Intentional use of color to promote focus.
Learning with peers: Promote active engagement with one another	▪ Two rows of students on a tier ▪ Small groupings ▪ Sightlines	▪ Fixed chairs that rotate to enable discussion among students ▪ Movable tables and chairs ▪ Tablet chairs on wheels ▪ Intelligent use of furniture at different heights ▪ Intentional table shapes to promote student interaction	▪ Writable walls for small groups ▪ Digital screens for small group sharing and for the entire class	▪ Students can hear students ▪ Sound zones support multiple conversations without creating an unbearable din. ▪ Sound is amplified in spaces where this is required.	▪ Different lighting patterns to support multiple modes ▪ Activating colours to promote intellectual stimulation ▪ Using colour to define groups' use of space ▪ Natural light where possible with easily adjustable shades
Experiences with faculty: Promote interaction and communication	▪ Individuals can move about easily ▪ Sufficient storage for student backpacks, coats ▪ Multiple aisles ▪ Clear sightlines	▪ Central podium so no 'front' of room ▪ Smaller, mobile podium to reduce distance and power relationship ▪ Podium doesn't interfere with sightlines, movement and interaction ▪ Podium surfaces are large enough for instructional materials. ▪ Movable student furniture to promote different teaching and learning options and set-ups ▪ Furniture height promotes comfortable faculty and student interaction.	▪ Multiple sources (e.g., document camera, PowerPoint) and multiple screens for different learning materials ▪ Standardized room controls to facilitate instructors' use of multiple classrooms	▪ Instructor can hear all students ▪ Students can hear instructor ▪ Wireless audio amplification (instructor) to permit interaction ▪ Student table microphones	▪ Different lighting patterns to support multiple types of teaching tasks ▪ Colors should be complementary and not distracting ▪ Colors distinguish purposes (e.g. where chairs go, what groups work on what surfaces/with whom)
Campus environment: Promoting livability and sustainability	This category relates to the campus environment as a whole. It provides opportunities for supporting students' learning through the consistent application of standards and design principles. For example: ▪ University standards applied, e.g. classroom and IT standards; accessibility guidelines; recognized sustainability practices, materials and technologies; regulated building operations (e.g. temperature and ventilation). For further details and/ context, see McGill University Classroom Guidelines and Standards ▪ Design classrooms for flexible future use where possible (e.g. raised floors for conduits to permit future classroom reconfiguration). ▪ Design classrooms to meet the needs of and be used by all populations using these spaces, consistent with the principles of Universal Design and Universal Design for Learning. ▪ Classrooms designed to integrate with surrounding space (informal spaces, etc.) ▪ All classrooms are thought of within the campus master plan.				
High-Impact Practices (HIPs)	Multiple types of campus physical environments are needed to support a variety of HIPs. Ensure ubiquitous availability of, and support for, all affordances (physical, virtual) to maximize HIPs for student learning.				