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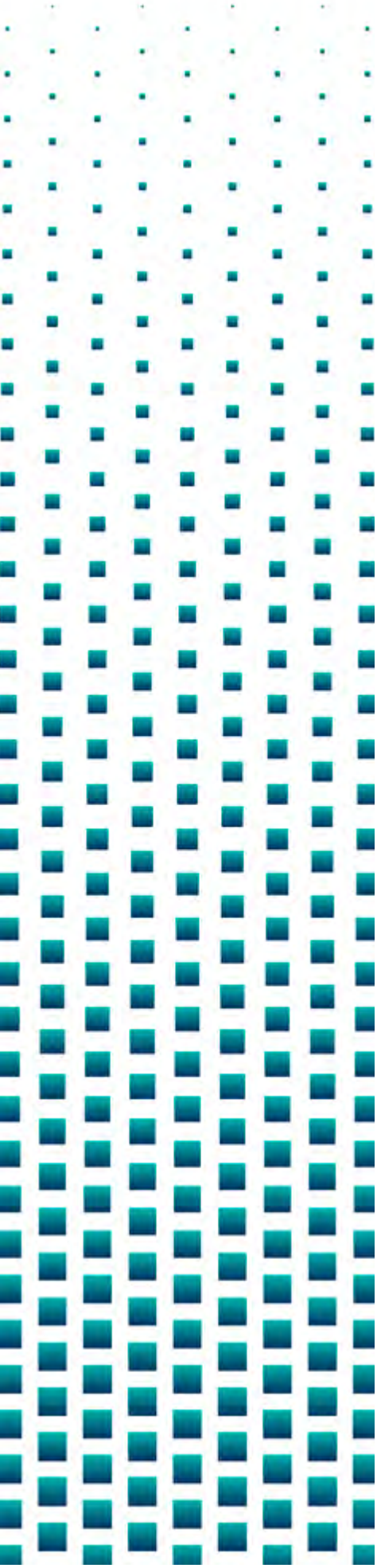
DESIGNING FOR SUCCESS IN HIGHER EDUCATION



FURNITURE MATTERS: ENHANCING THE CAMPUS EXPERIENCE

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THIS IS THE THIRD ARTICLE IN A THREE-PART SERIES. READ THE PREVIOUS ARTICLE **HERE.**



In the final installment of our three-part series on higher education classroom design, we explore the role of furniture — and how, in today's learning environments, it has become the key to flexibility and rapid adaptability in the classroom. Integrating furniture selection early in the design process is essential to achieving aesthetic, functional and academic goals. Thoughtful furniture planning safeguards seamless coordination between spatial design and adaptability requirements, ultimately enhancing the student and faculty experience.

Furniture plays a pivotal role in space planning, influencing room function, formality and flexibility. Addressing furniture selection during the initial design phase allows for accurate room sizing, anticipating various configurations, and accommodating modern "plug-and-play" requirements for technology and mobility.

For universities planning classroom renovations, the selection process should begin with determining who will be responsible for choosing the furniture. If a university has a standard furniture specification, it is crucial to communicate this to the architect/design team to confirm that the layout and product sizes align with the space allocations. Leveraging 3D modeling tools during the design process can help with electrical/technology coordination, which is particularly important in today's high-tech learning environments.

01
FURNITURE SIZE AND CONFIGURATIONS

02
POWER AND TECHNOLOGY INTEGRATION

03
LECTURE AND PRESENTATION ZONE



The University of Colorado Boulder Aerospace Engineering Sciences lecture classroom was designed with flexibility at its core—easily shifting from a traditional lecture hall to a professional panel discussion venue for private partners, and further transforming for small group interaction with deeper tier depth that allows students to turn around and collaborate with the students behind them.

01
FURNITURE SIZE AND CONFIGURATIONS

Furniture selection significantly impacts spatial efficiency, instructional strategies and the long-term adaptability of learning environments. When planning spaces and selecting furniture, designers keep several factors in mind and accommodating students with laptops has really changed how designers think about classroom setups.

Students want collaborative spaces where they can easily access power, so power availability and flexibility have become big drivers in how furniture is placed. As designers, we also need to keep neurodiverse students in mind — designing adaptable environments with movable furniture, varied seating, calm colors and acoustic controls to accommodate different sensory needs.

Code required occupant loads for classrooms are not enough space for the needs of today. Testing multiple furniture layouts will help create right-sized classrooms. For institutions implementing active learning classrooms, it is important to consider the additional space needed to move around the room. A good rule of thumb in programming and early planning is to allocate 30 to 35 square feet per student to allow for movement and collaboration.

> “Furniture today needs to do more than ever before – it must adapt to every learner, every teacher, and every facility. Students have notebooks, textbooks, laptops, phones and more, so tiny tablet arms or tables with no power access simply won’t cut it anymore. Desks need to be big enough so that learners can access all their resources at the same time, but they still have to fit within existing classroom spaces and suit multiple classroom layouts for different teaching styles. It’s a fine balance to meet every need.”
>
> **Laura Lumadue, NCIDQ**
> HCM Senior Associate



The Colorado State University Biology lecture classroom was designed for versatility—transitioning seamlessly from a forward-facing lecture space to an active learning environment with wall-mounted LCDs and flexible tables and chairs. Featuring dual teaching walls—traditional technology on the west and a 3D projection system on the east for immersive, virtual-reality experiences—the space optimizes utilization while reducing cost, supporting both innovation and efficiency in teaching.

SEATING BEST PRACTICES

Tablet-arm chairs are being used less in modern higher education classrooms because the work surface does not accommodate today's pedagogies. The constrained format and size are no longer accommodating people as our society becomes more diverse in body types and the need for adaptability and technology increases. In fact, some universities are now requiring classroom furniture to meet a 400 lb capacity, which is significantly higher than the 275-lb standard outlined in ANSI/BIFMA X6.1 for educational seating and takes up more floor space. When possible, it is beneficial for universities to standardize their classroom furniture. This approach provides consistency with products that are already tested and student-approved, saves time during the selection process, and leverages volume discounts that increase with quantities, reducing the unit cost.

FLEXIBLE TABLES

For the same reasons that flexible seating is needed, so are flexible tables needed. Tables with locking casters allow rooms to be reconfigured with ease. Nesting tables offer an added bonus by requiring less floor space when they need to be pushed out-of-the-way. Consider providing 1-2 pneumatic height adjustable tables to accommodate those in wheelchairs and for students that need to stand or move around when learning.

VARIETY IN SEATING SIZES

Given the increasing diversity in body sizes, providing multiple chair options allows students to find what meets their needs. Offering a mix of seating with and without arms is a simple approach to inclusivity. Another approach that some universities are now requiring, is the inclusion of at least one bariatric chair which is a seat that is rated up to 600 lbs has wider seat dimensions, a reinforced frame and includes additional cushioning. Another best practice identifies 1-2 ADA locations per classroom for those in wheelchairs. A chair is still placed at these locations to maximize it's use. Offering some variety of location within the room enhances comfort, accessibility and inclusion. Add a chair that offers some 'flex' to the back and students will be even happier.

FLEXIBLE SEATING ARRANGEMENTS

An increasingly common approach for tiered classrooms is fixed tables with movable chairs. This arrangement creates an adaptable learning environment that reduces maintenance. Students are more comfortable, chairs can be replaced easily and the tables are damaged less. Placing two rows of fixed tables on the same tier allows students in front to turn around with ease for group work.



Using 30”x60” tables allows for a variety of configurations to maximize flexibility.

Lory Student Center

DEEPER TABLES FOR TECHNOLOGY INTEGRATION

Many institutions are adopting 30-inch-wide and 30-inch deep worksurface per student to accommodate multiple devices, full-sized laptops and flexible configurations. Provide 5 foot clear rows (table-to-table) where an ADA seat is placed and consider no more than 8 seats in a row before an aisle is needed. This will help minimize the number of students needing to walk behind a seated student.

AVOIDING IRREGULAR TABLES

While round tables may seem like a flexible solution, they do not stack efficiently, limit configuration options and someone always has their back to the instructor. Trapezoid or atypical shaped tables are consider juvenile, take longer to group together, and don’t always provide the amount of worksurface needed. Instead, rectangular tables offer greater adaptability for various group arrangements. Use 30-inch-deep x 60-inch-wide tables when group configurations are needed. This table size is the most flexible for group configurations. With a four-post leg placement, students can sit at the ends.

FURNITURE MOBILITY CONSIDERATIONS

Institutions that provide staff to reconfigure classrooms should prioritize nesting chairs over stacking chairs due to their ease of movement and ability to accommodate the different configurations. If students and faculty are responsible for rearranging furniture, consider the impact on instructional time and the student experience because rearranging a room can take time.

CSU Hydro Classroom



Today's students carry an average of five different WiFi devices, all of which need to be powered throughout the day. Providing power at the work surface will best support their learning. Tables can "daisy-chain" together and plug into a floor box to reduce the number of floor boxes needed. The cables are managed under the table in a concealed mesh trough to keep classrooms organized.

02
POWER AND TECHNOLOGY INTEGRATION

Modular power distribution systems provide a code-compliant solution for routing electrical wiring beneath the carpet from wall outlets to central room locations. This approach delivers accessible power without cutting or coring the concrete slab and preserves structural integrity while maintaining flexibility for a reduced cost.



Johns Hopkins University Croft Hall

Power access is a critical factor in modern higher education classroom design, particularly when planning furniture layouts. Students often choose their seats based on proximity to outlets, making integrated power a valuable feature. While most laptops hold a charge for 3–12 hours, students with back-to-back classes may need to recharge during the day. Providing outlets within tables, when budget allows, helps students stay focused on learning rather than their battery life. Flexible power distribution is essential for both new construction and renovations. Supplying power directly at the worksurface typically requires cables to connect into fixed building receptacles. In many cases, multiple tables can be daisy-chained together, with the last table plugging into a wall or floor outlet. To maximize flexibility, quick-release cable assemblies allow tables to be separated and reconfigured quickly for group activities. In new construction, floor boxes arranged on a grid allow for furniture mobility but are often the most expensive option. Wall-mounted outlets provide durability but limit flexible furniture layouts, making them best suited for rows of tables placed against walls. This reduces the benefits of mobile tables and chairs.

As an alternative, modular power distribution systems-often called ‘power hubs’ or ‘power towers’-can deliver power to the center of a room without core drilling. These systems typically run wiring beneath carpet tiles and plug into standard wall outlets, providing multiple outlets, USB charging, and built-in surge protection. This approach offers a cost-effective, flexible solution for creating adaptable, student-friendly learning environments. Unfortunately, the life space of a ‘power tower’ is 5-7 years given the wear-and-tear they take.

03
LECTURE AND PRESENTATION ZONE

While today's higher education classrooms prioritize flexible layouts and allow for faculty to move throughout the room during interactive sessions, research and post-occupancy evaluations show that most institutions still rely on a designated teaching wall as an instructional anchor—even if used only briefly at the start of class. This underscores the need for a deliberately designed presentation zone that seamlessly integrates faculty needs, technology, and flexibility.

The "teaching wall" and presentation zone must be ergonomic, adaptable, and integrated. It should accommodate personal items (such as the presenters's coats, bags, and water bottles), provide intuitive access to AV controls, and include a laptop area. While podium products are available to purchase, universities often require a custom designed piece to meet their unique needs that are then standardized across campus. The AV rack determines the overall size of the podium and requires air circulation. Adjustable podiums, often powered and height-variable, allow presenters of different statures to engage comfortably. Despite shifts toward digital teaching methods, document cameras remain relevant for projecting 3D objects, notes, and live demonstrations. Allocating surface area for this equipment is essential, and a mobile auxiliary table adjacent to the podium can enhance both functionality and flexibility without sacrificing floor space. Provide a fully height-adjustable stool with a seat height range of 18 to 30 inches, so it can be used with both the auxiliary table and the podium. This seat height range is not typical to most stools.

Integrating furniture planning early in the design allows designers to size rooms accurately, anticipate evolving teaching strategies, and coordinate seamlessly with power and technology. Considering factors like student comfort, spatial efficiency, flexible layouts, and integrated power solutions supports day-to-day functionality and positions new/renovated classrooms to remain relevant for years to come.





Johns Hopkins Carey Business School utilizes a moveable podium.

INTEGRATED TECHNOLOGY SOLUTIONS

Cabinets can house AV components making them secure and easy to access.

SPATIAL OPTIMIZATION

Position podiums to safeguard full AV access while minimizing their footprint.

ADAPTABLE FURNITURE

Movable instructor tables can accommodate varying teaching preferences and can be repositioned to suit multiple configurations.

In conclusion to our three-part series on today's higher education environments, we emphasize that flexibility and adaptability are no longer optional — they are fundamental to creating classrooms that support a variety of teaching styles, learning modes and technologies. As this series has highlighted, technology, support spaces and furniture selection are shaping everything from classroom flow to student engagement and instructional effectiveness. Keeping flexibility at the forefront of the design process is key to maintaining the highest utilization of classrooms in higher education learning environments today.

Thank you for reading our series on Designing for Success in Higher Education.

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