

DRAFT Modes of Teaching Furniture and Technology



Based on the current research in the field of learning spaces and the pragmatic reality of established classroom construction in much of City Tech's existing building spaces, we explore several models of classroom design that meets the seating capacity requirement of Gen Ed classrooms while adopting new layouts that improve the pedagogical use of these spaces for a variety of different pedagogical styles ranging from tradition (lecture) to dynamic (active learning, collaboration, peer-to-peer learning, teamwork, and technology rich).

To simplify our design suggestions and to reconsider a constraint as an auspicious affordance, we focused on the typical Namm Building classroom and its 23' x 30' dimensions to reimagine learning space possibilities at City Tech. Within this space, we propose three different furniture layouts that incorporate a student seating capacity of 35, 30, and 26 students respectively (depicted in the image above and explained in detail below). In each layout, there are different affordances, such as different types of seating, student work arrangements, and classroom technology, and different constraints, such as seating capacity and furniture movement.

All three designs share a common theme of dynamic reconfiguration for student learning experiences and different faculty pedagogies. Each also shares an incorporation of new forms of technology into the Gen Ed learning space (some more, some less). Despite new furniture and different types of computer and display technology, it should be noted that unclaimed wall space in the designs would be filled with whiteboards to accommodate the full gamut of teaching styles and learning opportunities.

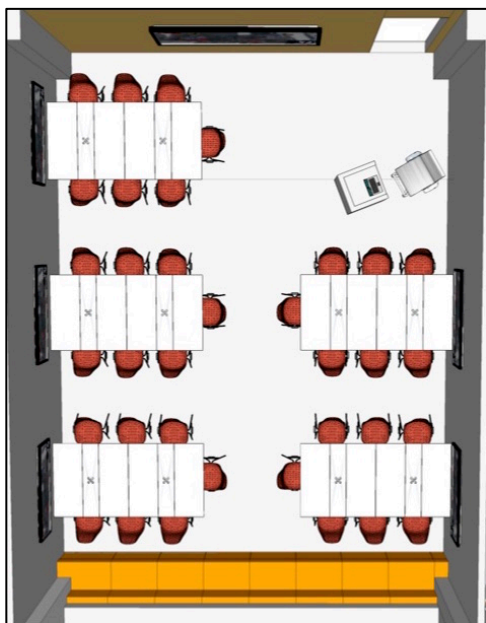
Namm Classroom Study with Group Tables: 35 Seats



Instead of using tablet armchairs as is found in the traditional Namm classroom, this design utilizes moveable tables to create learning space centered on teams of seven students per table. With five tables in each classroom, this design accommodates 35 students with room for the instructor's podium and chair, and ample walking space between the center of the classroom and between the seating. An informal seating bench runs along the back wall beneath the window.

Each table gives its seven students adequate space for their notebook, a textbook, and BYOD technology. The tables are designed to fold into a small footprint for reorganization of the space for seated lecture, student presentations, technology demonstrations, or film viewings.

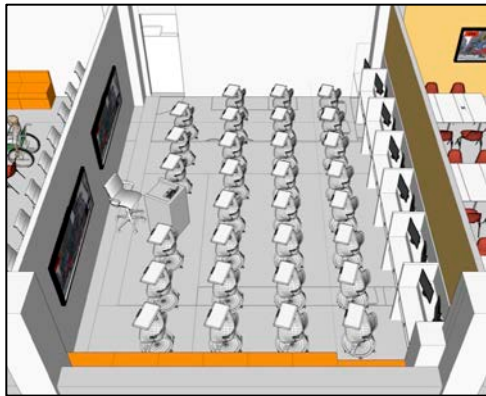
The technology in this classroom includes a front mounted LCD display or projector connected to the instructor's podium computer. Along the two sidewalls, five LCD displays are mounted adjacent to each table and mirror the video content of the instructor's podium computer.



This classroom design maximizes student seating and student tabletop workspace for a variety of different Gen Ed classes. Using tables facilitates different kind of student work ranging from individual work,

collaborative work, and peer review. In addition to using paper notebooks, students can use larger forms of paper, such as newsprint tablets, for writing and drawing according to the assignments given to them by their instructors.

Namm Classroom Study with Steelcase Node Tablet Chairs 30 Student Seats



Beginning with the Namm classroom space, this proposed design takes a different approach by using an innovative tablet armchair, such as the Steelcase Node, for a seating capacity of 30 students combined with seven, shared standing workstations along one sidewall, and an informal seating bench along the window wall.

The Steelcase Node tablet armchairs include a larger student workspace, caster wheels for easy and quiet rearrangement of seating, and storage space underneath the seat. They can be easily and effortlessly be moved about the classroom space for a variety of seating arrangements including lecture (rows facing the front of the classroom) and breakout groups (teamwork, peer review, collaboration).



The seven shared, standing workstations along the sidewall enable students to work in small groups or pairs to use the computer for in-class assignments, such as writing, research, or illustration. The workstations are meant to enable other kinds of technology-driven classwork without placing an undue burden on students to BYOD.

The sidewall opposite of the standing workstations serves as the instructor's focal point. It includes the instructor's podium and chair, and two LCD displays or projectors connected to the instructor's podium computer.



In addition to the perspectival and top-down views of the Node tablet chairs in rows shown above to the left, the images to the right depict the classroom in breakout session arrangements, which include the chairs rearranged for teams and students standing up to use the workstations along the sidewall.

Using a combination of Steelcase Node tablet chairs and the standing workstations accommodates a variety of different Gen Ed courses and opens new possibilities for pedagogical experimentation and innovation by

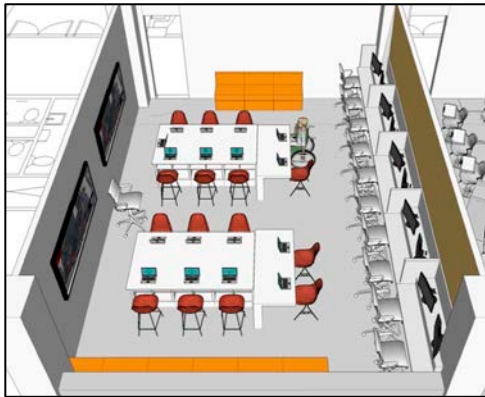
leveraging new furniture and technology to improve the learning environment of the fixed Namm classrooms. Furthermore, the Steelcase Node chairs facilitate an easy of classroom



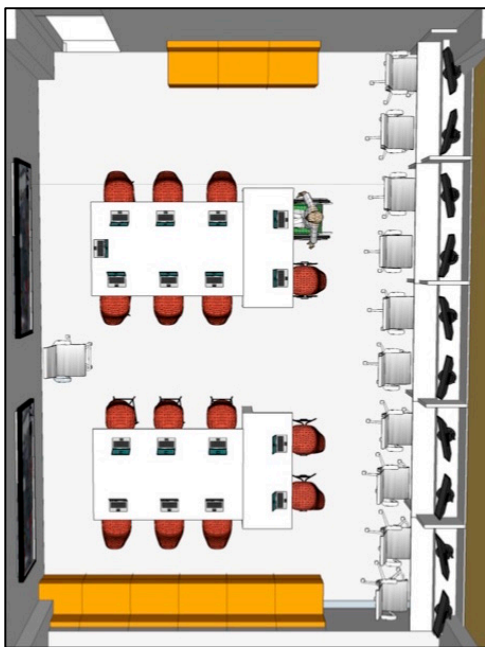
reorganization—of course, something that faculty do in the Namm classrooms now—in an easy and quiet way as to reduce classroom disruption in the faculty member's classroom doing the reorganization as well as reduce classroom disruption in the classrooms adjoining the reorganized classroom in all three dimensions (adjacent, across the hall, above, and below).

This design provides the greatest number of student seats for the number of possible seating configurations and classroom technology options.

Namm Classroom Study with Two Plan Desks and Seated Computer Workstations 26 Student Seats



In our most innovative proposed use of Namm classroom space, we combine table seating and workstation seating to enable a variety of different, yet overlapping learning experiences. This design includes two 8-seat plan desks with cubbies, laptop storage, and electrical/internet/AV outlets, and five shared seated computer workstations. Additionally, there is a window wall bench for informal seating. Not including the informal seating bench, this design accommodates 26 student seats.



In lieu of a podium, the instructor's workstation is at the opposite end of one student plan table, and it is connected to the two LCD displays or projector screens on the sidewall opposite the five shared seated computer workstations for student use.

This classroom arrangement enables different kinds of student work. The plan tables support laptops for individual student use, and the five shared seated computer workstations support peer-to-peer learning and collaboration. Students can rotate from one space to the other within a class period or on a class-to-class basis. The plan tables' laptops can be secured with long-lead Kensington locks and stowed away in the cubbyholes beneath the tabletop surface. This opens the table surface for traditional notebook paper and textbook exercises without the computers taking up table space. The additional electrical and ethernet outlets would

accommodate student BYOD technology in addition to the secured laptops and shared computer workstations.

While this arrangement has the lowest student seating of the proposed arrangements, it is the most experimental and most technology rich, which could make it an ideal candidate for learning space research and utilized only by faculty with expertise or training in teaching in such a classroom.