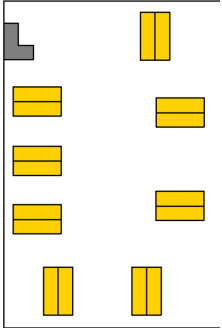
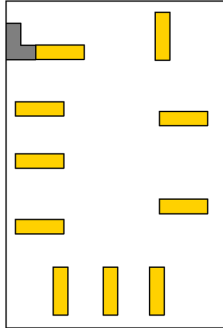
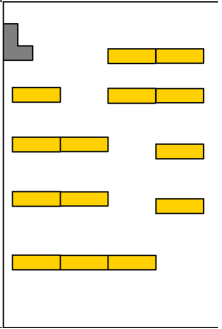
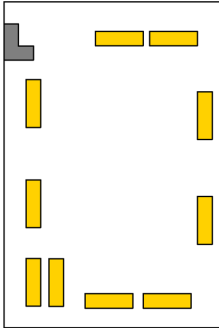
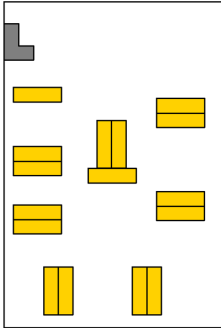


## Tips for Using a Flexible Classroom

**Furniture:** Movable furniture can be configured for multiple uses, such as lecture-style teaching, or student group collaborative work.

- Instructors have used different layouts (top row of table) to support different learning activities (bottom row of table) in the flexible classrooms. Example layouts include:

				
Small groups (double tables)	Small groups (single tables)	Front-facing rows	All tables at wall	Large middle table
Collaborative group work, Lecture		Lecture	Final project demonstrations at each table	Final project presentations at front screen

- **Small group layouts facilitated discussion between students**, particularly during collaborative group work or active learning activities.
- **Small group layouts allowed instructors to interact more with students**, particularly during collaborative group work or active learning activities.
  - Many instructors sat down in an empty chair to talk with student groups.
- **Instructors didn't perceive that students objected to lecture while sitting in groups**, even though some students had their back to the instructor.
- **Recommendations:**
  - Before the semester begins, think about ways that you can use the flexible classroom for active learning.
  - Set the classroom norms at the beginning of the semester:
    - Explain room layouts you'll use so students can learn how to rearrange the furniture.
      - Use the provided PowerPoint template to easily make a layout diagram.
    - Tell students where they should sit, especially if your class does not fill the room.

**Technology:** Wall-mounted monitors and movable whiteboards can aid students during collaborative group work.

- Monitors around the periphery of the room can be connected to:
  - The instructor's computer (wired or [wirelessly](#))
    - Connect to AirPlay wirelessly through the CAEN-Presenter WiFi network (password *appletv1*)
    - Use AirParrot app to connect to a Windows device
    - Instructor sends content to the screens through the touch panel on the lectern
  - Students' laptops (wired)
    - Students select the source through the button-based interface below each monitor
  - CAEN computers (only in some rooms)
- Monitors were used in different ways, including:
  - By the instructors to project slides, lecture notes, and other class content
    - Allowed all students to see the material, even if their back was to the instructor
  - By students for collaborative group work. Instructors found this had two advantages:
    - **Using the monitors kept students accountable.**
    - **Using the monitors allowed instructors to easily observe** how their students were working together and understanding the material.
- Having students use the movable whiteboards during collaborative group work also helped to keep them accountable and allowed instructors to easily see students' work.
- Recommendations:
  - Ask students to use the monitors or whiteboards during collaborative group work and active learning activities.
  - Bring extra whiteboard markers to class for you and students to use.
  - Test out the technology before the first class.
  - Be aware that students may have changed the monitor settings between classes (particularly in 224 GFL).

## Resources:

- CRLT-Engin website (Request a Service): [crlte.engin.umich.edu](http://crlte.engin.umich.edu)
- CRLT webpage on active learning: [www.crlt.umich.edu/active\\_learning\\_introduction](http://www.crlt.umich.edu/active_learning_introduction)
- CAEN webpage on flexible classroom technology: [caen.engin.umich.edu/classrooms/flexible/](http://caen.engin.umich.edu/classrooms/flexible/)
  - Includes list of the technology in each flexible classroom.
- CAEN webpage on tips for flexible classroom layouts: [caen.engin.umich.edu/classrooms/flexible/layouts](http://caen.engin.umich.edu/classrooms/flexible/layouts)
  - Includes link to downloadable PowerPoint layout template.
- Michigan News article on flexible classrooms research: [news.umich.edu/setting-the-desks-free-how-flexible-classrooms-impact-learning-teaching/](http://news.umich.edu/setting-the-desks-free-how-flexible-classrooms-impact-learning-teaching/)