

Son of man, describe the temple to the house of Israel... Write it down in their sight, so that they may keep its whole design and all its ordinances, and perform them. - *Ezek 4:10-11*

Spaced Out

Turning the ERA into a design center



Outline

- Design in the ECS curriculum
- ABET: pointing out the obvious
- Current needs for design space
- The ERA: potential and problems
- Images from Detroit-Mercy
- Open discussion



Design in the ECS Curriculum

- CS:
 - Gaming Track capstone 10-15 one sem
 - CS & SW Engineering ~30 one sem
 - Bioinformatics 10-12 one sem
- EGR:
 - Junior Design 40-60 each sem
 - Senior Design 40-60 each sem
- OTHER:
 - Baja Car
 - EWM
 - Independent projects

20 – 40 students per semester

80 – 120 students per semester



The Senior Design Lab



The Junior Design Lab



The Shop



What ABET Said

"Future growth in the number of students in the three engineering programs, which is likely given current trends, would require additional laboratory space to support the program's major culminating design experience in EGR 4390."

"The space allocated to senior design is at capacity. Continued program growth may jeopardize compliance."

"The areas for senior and junior design seem small, considering the number of student teams who need to meet collaboratively to work on their projects."



(Roughly) Estimated Present Needs

- CS:
 - ~10 clusters of 4-5 computers each.
- EGR:
 - Shop space and staff
 - Open project space, reconfigurable, clusters of desks/workbenches
 - Storage space: racks, shelves, closets
 - Computer area for CAD
 - Meeting/discussion area closed off from everything else. (Already exists in ERA.)

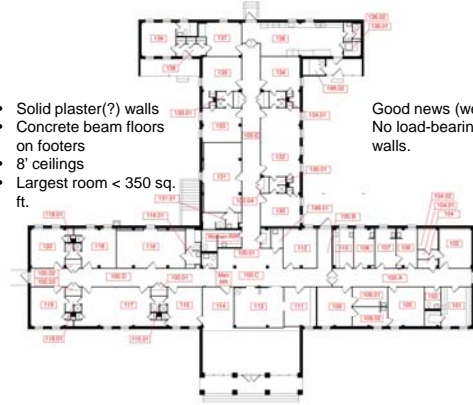


(Roughly) Estimated Sq. Ft. for Present Needs

- Average 120 sq. ft. per project cluster
- Average 28 simultaneous CS/EGR capstone projects that require assign
- Elsewhere in TX?
 - Rice Design Kitchen: 12,000 sq. ft.
 - Planned UT EERC: 430,000 sq. ft.
- 800 sq. ft.
- 1000 sq. ft.
- 500 sq. ft.
- 1000 sq. ft. for large projects
- 600 sq. ft. restrooms
- 400 sq. ft. engineering CAD lab
- **TOTAL: 7660 sq. ft.** (not including classroom/meeting space)



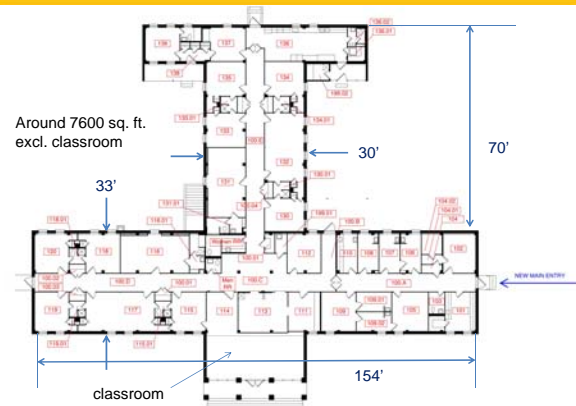
- Solid plaster(?) walls
 - Concrete beam floors on footers
 - 8' ceilings
 - Largest room < 350 sq. ft.
- Good news (we think):
No load-bearing internal walls.



ERA BUILDING

REVISED FLOOR PLAN

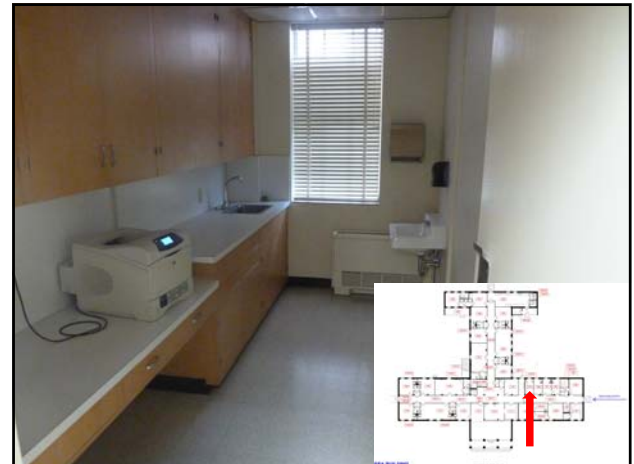
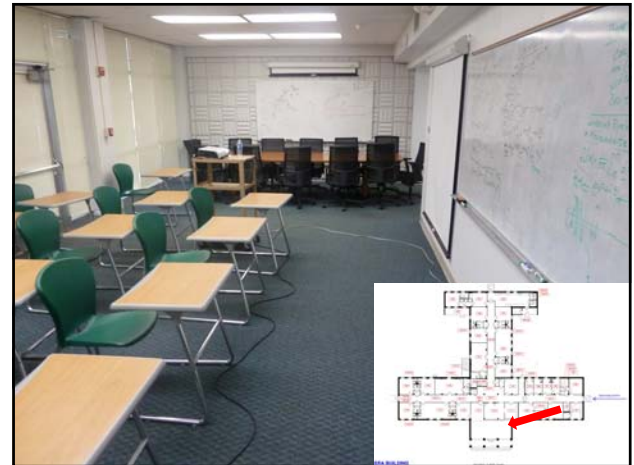
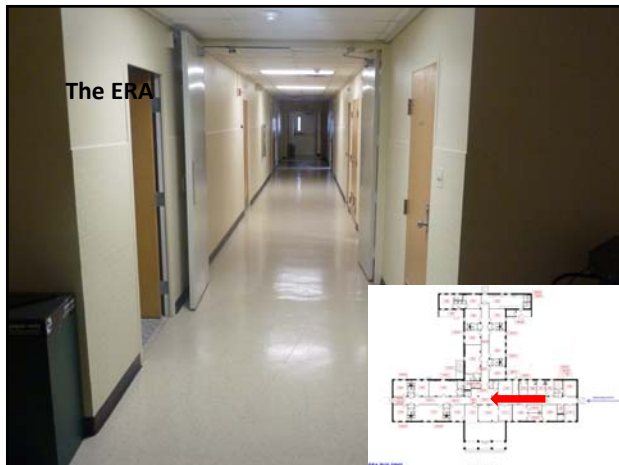
Around 7600 sq. ft. excl. classroom



ERA BUILDING

REVISED FLOOR PLAN





Potential Problems

- Way too many walls.
- Asbestos in flooring (and at least some walls)
- Restrooms!
- Concrete floor may not be strong enough
- No interior doors amenable to card swipe access
- Low ceilings
- Parking



U. Detroit-Mercy





Discussion

