TRADELINE FORUM C

FACILITY SOLUTIONS FOR THE NEW MEDICAL EDUCATION MODELS AND THE

RENOVATE, REPURPOSE OR BUILD DECISION
2 INSTITUTIONS

UF College of Medicine UNIVERSITY of FLORIDA

MEDICAL SCHOOL UNIVERSITY OF MICHIGAN

1 CHOSE TO RENOVATE
1 CHOSE TO BUILD

Top Medical School in State
Top 20 Ranking for Public Research University
### How are they similar?

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>UF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEDICAL CLASS SIZE</strong></td>
<td>170 +/-</td>
<td>165 +/-</td>
</tr>
<tr>
<td><strong>CURRICULUM</strong></td>
<td>Six Domains</td>
<td>HowWeLearn</td>
</tr>
<tr>
<td><strong>CONSTRUCTION COST</strong></td>
<td>$31.3 M*</td>
<td>$33.7 M</td>
</tr>
<tr>
<td><strong>PROJECT SIZE</strong></td>
<td>101,900 gsf*</td>
<td>94,300 gsf</td>
</tr>
<tr>
<td><strong>$ per SQFT</strong></td>
<td>$307 SF</td>
<td>$358 SF</td>
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</tbody>
</table>

*Includes deferred maintenance + infrastructure work*
COMMON THEMES

- Wellness
- Social
- Biomedical
- Behavioral
- Sciences + Clinical Skills

Integration

Emphasize Critical Thinking Skills

Promote Inquiry

Collaboration + Team Work
How do they differ?
Parallel Tracks

**Decision**
- July 2011

**Start**
- May 2012
- 8 Months

**Design + Document**
- 15 Months

**Construction**
- 23 Months

**“Library Transformed”**
- Aug 2015

**14 Month Head Start**

**Start**
- July 2012
- 3

**Design + Document**
- 12 Months

**Funding**
- 3

**Construction**
- 16 Months

**“A New Era”**
- OPEN July 2015
DELIVERY MODEL

GC - Design / Bid / Build
CM working Parallel to GMP

FORMATION PROCESS

18 Month Formation + IPE Exploration
3 Month Program Verification

CORE CURRICULUM PROGRAM NEED

New Library, Student Wellness
+ Small Group Learning
Simulation, Student Wellness + Medical Class Team Learning
# Program Comparison

<table>
<thead>
<tr>
<th>Medical School</th>
<th>A. Alfred Taubman Health Sciences Library</th>
<th>George T. Harrell Medical Education Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Size</td>
<td>170</td>
<td>134</td>
</tr>
<tr>
<td>NSF</td>
<td>78,000</td>
<td>60,200</td>
</tr>
<tr>
<td>GSF</td>
<td>101,900</td>
<td>94,300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Seats</th>
<th>MD1+2 = 340+</th>
<th>Area</th>
<th>Seats</th>
<th>MD+PA = 348+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLASSROOMS</strong></td>
<td>9,200</td>
<td>672</td>
<td><strong>CLASSROOMS</strong></td>
<td>16,600</td>
<td>729</td>
</tr>
<tr>
<td><strong>CLINICAL SKILLS</strong></td>
<td>14,050</td>
<td>60</td>
<td><strong>CLINICAL SKILLS</strong></td>
<td>9,200</td>
<td>64</td>
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<tr>
<td><strong>SIMULATION</strong></td>
<td>N/A</td>
<td>—</td>
<td><strong>SIMULATION</strong></td>
<td>9,500</td>
<td>48</td>
</tr>
<tr>
<td><strong>LOUNGE STUDY</strong></td>
<td>10,150</td>
<td>501</td>
<td><strong>LOUNGE STUDY</strong></td>
<td>10,300</td>
<td>303</td>
</tr>
<tr>
<td><strong>COMPUTING</strong></td>
<td>12,400</td>
<td>156</td>
<td><strong>COMPUTING</strong></td>
<td>N/A</td>
<td>—</td>
</tr>
<tr>
<td><strong>ADMIN ADVISING</strong></td>
<td>10,400</td>
<td>142</td>
<td><strong>ADMIN ADVISING</strong></td>
<td>12,800</td>
<td>80</td>
</tr>
<tr>
<td><strong>LIBRARY</strong></td>
<td>12,900</td>
<td>200</td>
<td><strong>LIBRARY</strong></td>
<td>N/A</td>
<td>—</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>69,100</td>
<td>1,731</td>
<td><strong>TOTALS</strong></td>
<td>58,400</td>
<td>1,224</td>
</tr>
</tbody>
</table>

- **MD1+2 = 340+**
- **MD+PA = 348+**
Program Comparison

University of Michigan
MED Class: 170 learners
101,900 gsf

University of Florida
MED Class: 165 learners
94,300 gsf
PA Class: 60

Johns Hopkins University
MED Class: 110 learners
100,000 gsf

Virginia Commonwealth
MED Class: 250 learners
204,500 gsf

Temple University
Med Class: 250 learners
450,000 gsf

Seating per Learner:
- University of Michigan: 5.09
- University of Florida: 3.94
- Johns Hopkins University: 8.46
- Virginia Commonwealth: 3.47
- Temple University: 4.76

Seating Details:
- University of Michigan: 1,730 seats, 340 learners
- University of Florida: 1,229 seats, 310 learners
- Johns Hopkins University: 1,862 seats, 220 learners
- Virginia Commonwealth: 1,736 seats, 500 learners
- Temple University: 2,383 seats, 500 learners

Seating Classifications:
- Informal (□)
- Formal (■)
- Specialized (△)
- Computing (▶)
- Advising (◇)
Decision Framework ‘Repurpose or Build’

MEDICAL SCHOOL VISION

PROGRAM REQUIREMENTS

STAY COMPETITIVE

NEW CURRICULUM

DECISION FACTORS

- ANTICIPATED PROGRAM TYPES
- ANTICIPATED PROGRAM COHORT SIZES
- RETAINED VALUE
- CODE COMPLIANCE
- FLOOR-TO-FLOOR HEIGHT
- SYSTEMS
- CAMPUS CONTRIBUTION
- CENTRAL CAMPUS LOCATION

Renovate / Repurpose

Build / Relocate
Social Interaction Planning
Social Interaction Planning
Social Interaction Planning
Social Interaction Planning
Social Interaction Planning
Key Drivers

Accreditation - Liaison Committee on Medical Education (LCME)

- Previous concerns expressed about relaxation space / lounge
- Self-study raised concerns about study space

New curriculum – “cart before the horse”

- Transformation of curriculum being envisioned (although very preliminary at the time) – key aspects: more small groups, more inter-professional learning, IT-facilitated, increased role of simulation, emphasis on community and wellness

Benchmarking

- Increasing comments from applicants about higher quality learning spaces at peer schools
History

• Site of the Second University Hospital
• Relationship with named donor – learning space
• Library “Culture”
  • Strong focus on learning, rather than books
  • History of innovation in digital learning objects (Google, Hathi Trust)
  • Consolidation of Health Professional School Libraries: TML -> THSL

Collaboration with the medical school

• Clinical informatics education – UME and GME
• Enhanced clinical care – practice guidelines, E.H.R. integration
• Information Mobility

Analysis: Win/Win – Space, Curriculum AND Library Transformation
Decision for **Renovation vs. Build**
- Staged discussions between medical school, library and provost
- Increased scale of the envisioned space

**Enabler – Funding source**
- Funding Source – Medical School, Provost – to help influence the collaborative nature of the building

**The HOW**
- Staged renovation vs. “Go. Full Go. Move out.”
- Implications
  - Financial
  - Time
  - “Living in a building being renovated”
  - Availability of functional swing space
Workgroups Process

Choices – organize workgroups by FLOOR (6th, 5th, etc...), by LEARNER (medical student, graduate student, inter-professional student), or by DOMAIN

- Small group learning
- IT-mediated learning
- Clinical Skills, Inter-professional learning
- Wellness and recreation
- Library
- Administrative space

Broad Constituencies

- Faculty, staff, and students
- Representation from the medical school, library, provost’s office, health professional schools
The Michigan Curriculum

**SCIENTIFIC TRUNK**
- Organ-Based Sequences Includes 5-Week Summer
- Chief Concern Course & OPCC (EBM)*

**CLINICAL TRUNK**
- Multidisciplinary Clinically Driven Learning
- Department-Based Clinical Rotations
- Science in the Clinical Context
- Leadership & Paths of Excellence
- DOCTORING
- M-Home/Professional Identity and Balance

**BRANCHES**
- Study Period and Step 1
- Electives/Bootcamps
- Science in the Clinical Context
- Impact Opportunities (Research, Global Health, Scholarship)

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*Optimizing Patient Care Curriculum (Evidence-Based Medicine) For Incoming class of 20%. Subject to change.*
A. Alfred Taubman Health Sciences Library
How did we plan for the space?
## Benchmarking Peers

<table>
<thead>
<tr>
<th>COLLABORATIVE LEARNING</th>
<th>CLINICAL SKILLS &amp; SIMULATION</th>
<th>COMPUTATIONAL &amp; TESTING</th>
<th>STUDENT LOUNGE / STUDY</th>
<th>DEVELOPMENT ADVISING</th>
<th>HEALTH SCIENCE LIBRARY</th>
<th>BIG TAKEAWAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARVARD UNIVERSITY</td>
<td>24-25 Small Group Rooms; Experimenting Now with New Small Group Model</td>
<td>Dispersed in hospitals, 5 Room Simulation at School</td>
<td>Computer Labs Needed for Testing Not at One Time</td>
<td>Big Atrium Commons Trying to Change Visited Others</td>
<td>Early Adopter of Academic 1987 Model, Here to Stay</td>
<td>Nearby, But Not in Building; Not Used Much</td>
</tr>
<tr>
<td>JOHN HOPKINS UNIVERSITY</td>
<td>Lecture and Small Group Model</td>
<td>In Adjoining Building; Doubling After Two Years</td>
<td>Computational Center &amp; Large Lecture for Testing</td>
<td>Lots of Venues for Food / Cooley Recreational Center Adjoining</td>
<td>Success with Colleges Big $ Commitment</td>
<td>Becoming GME Center</td>
</tr>
<tr>
<td>PENN</td>
<td>Would Like the Business School Model of Lecture Hall</td>
<td>Remote Site @ Graduate Hospital, 22,000 SF</td>
<td>40 Computers in 1 Room; Move to On-Line Testing</td>
<td>Not Mentioned as a Focus</td>
<td>No Interest in Learning Communities; No to Advising Center</td>
<td>Dramatically Downising; Aiming for Advising Commons</td>
</tr>
<tr>
<td>WASHINGTON UNIVERSITY</td>
<td>RelUse Lecture Halls / 300 Seats Predominance of Small Groups: 20</td>
<td>8th Floor Sim Lab and Clinical Skills; 13 Rooms + 4 OR's + Satellites at 2 Other Locations</td>
<td>Automating Lectures On-Line Use of &quot;B&quot; Line Technology</td>
<td>Atrium Formed by New/Old Buildings; No To Academic Societies</td>
<td>Student Affairs and Support Services Left Behind in Existing Building</td>
<td>Not Included in New Complex; Share With Other Health Professions</td>
</tr>
<tr>
<td>UNIV. OF CALIF, SAN FRANCISCO</td>
<td>Just Completing Revamp to Flat Floor, Small Group Model Lecture Model Doomed</td>
<td>Very Successful 12 Room Model / Want to Double: Anatomy Learning Center</td>
<td>50 PCs located in a Tech Commons</td>
<td>Student Amenity Trumped by Other Priorities: Nooks &amp; Crannies Only</td>
<td>Not Using This Model</td>
<td>Multi-Campus Model / Dispersed Components on 4 Sites</td>
</tr>
<tr>
<td>STANFORD UNIVERSITY</td>
<td>Old Lecture Hall Replaced with Flexible Classroom: Flat Floor for TBL, Multiple Screens</td>
<td>Ground Floor Sim Facility; 13 Standardized Patient Rooms, 2 Double as Mock Hospital Rooms</td>
<td>Computer Kiosks Throughout Building; Testing On-Line, Classroom Laptop or I pods</td>
<td>Vibrant Cafe on Main Floor; Student Commons Top Floor for Med &amp; Graduate Students</td>
<td>Student Services Not in Building</td>
<td>Kiosks with Resource Librarian; Evolved to Digital Library</td>
</tr>
<tr>
<td>DUKE UNIVERSITY</td>
<td>Large and Small Group Learning Modeled after Law Schools; Focus on Flexibility</td>
<td>12 Station Clinical Skills Lab; 2 OR's / 1 ICU, Low to High Fidelity; Infrastructure to Support</td>
<td>Testing On-Line, No Dedicated Space, Materials Accessed on Curricular Management System</td>
<td>Student Lounge with Rooftop Terrace; Dean's Group but No Societies or Learning Communities</td>
<td>Each Advisory Dean has Office with Living Room and Large Gathering Space</td>
<td>2 Floors Break Through to HS Library; Library Stays in Existing Building but Integrated</td>
</tr>
<tr>
<td>COLUMBIA UNIVERSITY</td>
<td>Renovation of Library 2 Floors: Classrooms, Computer Simulation, Career Counseling</td>
<td>Upgrade Lecture; Trying Interprofessional; Downplay Wet Labs; 10 Room Sim</td>
<td>On Line Testing; Distance Learning; Experiment Updated</td>
<td>Underground World; Food as Community Event / Study</td>
<td>Counseling Not Included; Left Out A Lot of Admin Space</td>
<td>Downsizing Dramatically</td>
</tr>
<tr>
<td>UNIV. OF CALIF, LOS ANGELES</td>
<td>Low Slope Lecture with Collaboration + Learning Studio for Entire Class</td>
<td>18 Room Clinical Skills Simulation in Hospital</td>
<td>On Line Computing 100 People Testing Capacity at a Time</td>
<td>Minimal Provision; Gym on Campus; Kitchenettes Only</td>
<td>Learning Community for 3rd / 4th Year; Pathways for M1 + M2</td>
<td>Elsewhere on Campus; Remote Access Model</td>
</tr>
</tbody>
</table>

**Big Takeaway**
- 1987 Building: Difficult to Change: Not Flexible
- Exchange Night Vision Goggles for Ray-Ban; New Building at 105K SF
- Big Success
Adaptable + Scalable Planning
Modular Spaces to Fit Learning Needs
The Buzz: A Library Without Books

University of Michigan reopens medical library without books

U-M reopens medical library without books

The University of Michigan has reopened its Taubman Health Sciences Library after a $55 million overhaul and rethinking of how a library for medical students should function.

Hundreds of thousands of books were moved to an offsite location and are available on demand for delivery, and by becoming bookless the school said that frees up space for medical student education. The facility on the school’s Ann Arbor campus officially reopened over the weekend.

Reinventing U.S. college libraries in the digital age

Stay Connected

There's no shortage of stories about college libraries these days—some say they're obsolete, others say they're reinventing themselves.

University of Michigan reopens medical library without books

Why College Libraries Are Going Bookless

We're all familiar with the news stories about college libraries these days: Some are being closed, others are being renovated, and many are rethinking how they operate.

Why are college libraries going bookless? Here are some reasons:

1. Space
2. Cost
3. Accessibility
4. Technology

In the digital age, college libraries are finding new ways to serve students and faculty.
+1 Year Post-Occupancy

• Add light, add food, add rooms = education hub
• White board walls are great ideas – can they handle the use?
• Computer clusters may be at end of lifespan
• Students will make a lounge into whatever they need it to be
• When you build great space, the word gets out
Harrell Medical Education Building

UF
College of Medicine
UNIVERSITY of FLORIDA
Curriculum Themes

- Patient centered
- Collaborative, team-based learning and patient care
- Communication and clinical skills
- Experiential learning and assessment
- Application: “Flipped Classroom”
- Scholarship
Learner Centered: “Form Follows Function”

- Large and Small Group Collaborative Learning Spaces (~45%)
- Clinical Skills and Simulation (~30%)
- Essential Student + Curriculum Support Services (15%)
  - Admissions Office
  - Offices of Medical Education Student Affairs & Counseling
  - Physician Assistants Program
  - Reception / Gathering Space
“Form Follows Function” (continued)

- Individual Study and Community Student Space (10%)
- Foster Interaction: “Learner Collisions”
- Flexibility & Leverage Instructional Technology
- Future Needs
Pre-2012

Shands Hospital

Dentistry

Medicine

Nursing

Pharmacy

Health Professions

THE HMEB GATOR
Collaborative Learning
Collaborative Learning
Experiential Learning & Assessment
Facility Needs

Adaptable

Flexible Learning Spaces
Planning: Experiential Theater

- FLOOR BOXES – POWER / AIR
- MOBILE HEADWALLS
- SURGICAL LIGHTS, MEDGAS
- AV+LCD SCREENS
- TECHNICAL GRID
- GEN LIGHTING ABOVE GRID
- SKYFOLD WALLS
- CAMERAS, LIGHTS / MICS
- MEP ABOVE GRID
Planning: Experiential Theater

HEALTH [R+D] EDUCATION
Scalable: Experiential Theater
Social Collaboration
Funding Process

• Total: $44M
• Philanthropy (60%)
  – Donors
  – UF Shands Hospital
• UF Foundation Loan
  – Tuition + Philanthropy
• No State Funding
• Admissions: HMEB reflects the College’s commitment to education
• Student + Teaching Faculty involvement throughout the design
+1 Year Post-Occupancy

- Academic + Social “home” for students (cafe, open plan, daylight)
- Variety and Flexibility of learning spaces: Highly Valued
- High demand for simulation
- Faculty Adaptability + Development (learning studios and maximizing technology)
- High demand for events (admissions, receptions, poster presentations, etc.)
- Technology Support
- Balancing audio in the learning studios
- “Wink” walls
- “Birds and windows”
1. Forecast a balanced space portfolio which aligns with future curriculum goals. Test formal + informal program types with the goal to evaluate re-purposing opportunities.

2. Engage in value determination of existing facilities for re-use. Assess which spaces are poorly utilized and not able to meet the goals of the future ... in some cases it may cost as much to renovate as to build new.

3. Identify the transformational goals of your initiative and no matter the container, apply these priorities to either solution pathway.
Q&A

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