IMPROVING SPACE UTILIZATION
Administrative Leadership Meeting
May 10, 2011

Warwick Arden
Provost and Executive Vice Chancellor

Charles Leffler
Vice Chancellor of Finance and Business

Terri Lomax
Vice Chancellor for Research and Innovation
View of Campus
View of Campus

Centennial Campus

Administrative Leadership Meeting
Building Space Data
# Building Space Data

## Administrative Leadership Meeting

<table>
<thead>
<tr>
<th>Floor Level</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td></td>
</tr>
<tr>
<td>3rd Floor</td>
<td></td>
</tr>
<tr>
<td>2nd Floor</td>
<td></td>
</tr>
<tr>
<td>1st Floor</td>
<td></td>
</tr>
<tr>
<td>Basement</td>
<td></td>
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</tbody>
</table>
Drivers to Improve Space Utilization

- Constrained Resources
- Enrollment Growth / Graduate Program Growth
- Research Growth (Including Interdisciplinary Activities)
- Increased Accountability
- Sustainability Initiatives
Space Planning Process

• University Space Committee
  – Guiding Principles
  – Space Request
  – Local Space Committees

• Space Analysis Updated
  – Every 3 to 4 Years
  – Collaborative Effort
  – Interactive Process
  – Space Standards
Capital Project Plan

• Rolling 6-year Capital Plan
• Capital Projects List informed by College Space Analysis
• Current space deficits, future growth, space condition and university initiatives considered
• Facility Condition Assessment Program
• Appropriated vs Auxiliary Space
Space Standards

- UNC System Standards
  - NC State Specific
- Classifying Space
  - Occupant
  - Higher Ed Coding
- Data as a Tool

“Facilities are built and maintained to create a unified community that is comfortable and aesthetically pleasing and nurtures a fertile exchange of ideas across academic and administrative disciplines.”

A Campus of Neighborhoods and Paths: NC State University Physical Master Plan

Photograph: C. Williford

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Myth:
It’s MY space and I must protect it

• Cultural attitude toward space
• Colleges/Units are stewards of university space
• The most sustainable building is the one not built

[Image of dogs playing with a frisbee]
Myth: Occupancy = Fully Utilized Space

Often Office and Research space is underutilized due to condition or remote location.
Myth:
Utilized = Fully Occupied Space

Space may be occupied and still underutilized.
Myth: Space is FREE

The cost of space is not just construction. It also includes ongoing operations and maintenance.

Annual Cost of Space is Significant

<table>
<thead>
<tr>
<th>OFFICE &amp; CLASSROOM MAINTENANCE &amp; OPERATING COST</th>
<th>$15 / ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Office Annual Cost</td>
<td>$2,100</td>
</tr>
<tr>
<td>Mid-Size Classroom Annual Cost</td>
<td>$9,750</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESEARCH SPACE MAINTENANCE &amp; OPERATING COST</th>
<th>$18 / ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Size Research Lab</td>
<td>$16,200</td>
</tr>
</tbody>
</table>

(Includes utilities and maintenance cost; Excludes deferred maintenance cost)
Myth:
There are not enough classrooms

- Not meeting the UNC-System standard of 35 hours per week

- Factors:
  - Scheduling
  - Classroom Size
  - Technology
110 Classroom Utilization

Average Weekly Room Hours of Instruction in Classrooms

Hours

20.0 22.0 24.0 26.0 28.0 30.0 32.0 34.0 36.0 38.0 40.0

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009

- UNC System Standard
- Hours

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Photograph: L. Moore
210 Teaching Lab Utilization

Average Weekly Room Hours of Instruction in Class Laboratories

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>25.0</td>
</tr>
<tr>
<td>2001</td>
<td>23.0</td>
</tr>
<tr>
<td>2002</td>
<td>21.0</td>
</tr>
<tr>
<td>2003</td>
<td>19.0</td>
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<td>2004</td>
<td>17.0</td>
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<td>2005</td>
<td>15.0</td>
</tr>
<tr>
<td>2006</td>
<td>13.0</td>
</tr>
<tr>
<td>2007</td>
<td>11.0</td>
</tr>
<tr>
<td>2008</td>
<td>9.0</td>
</tr>
<tr>
<td>2009</td>
<td>7.0</td>
</tr>
</tbody>
</table>

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Photograph: L. Moore
TEACHING SPACE:

2000 = 15  ASF per student

2010 = 18  ASF per student
Student Study Space

Standard:
Study seats per student headcount = 20%

- In 2010 = 6.9%
- With Opening of Hunt Library = 11.8%
- With Modification in DH Hill = 13.3%

Sources: NC State UPA Fall 2010 census enrollment and 2012 projected enrollment; Hill Library Space Backfill Plan, September 21, 2009

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Space by Type

**2000**
- Support: 6%
- Health Care: 2%
- Classrooms: 5%
- Teaching Labs: 5%
- Open Labs: 6%
- Study / Library: 6%
- Research: 10%
- General Use: 16%
- Special Use: 19%

**2010**
- Support: 3%
- Health Care: 6%
- Classrooms: 5%
- Teaching Labs: 5%
- Open Labs: 5%
- Study / Library: 3%
- Research: 10%
- General Use: 16%
- Special Use: 18%
- Office: 29%

Housing not shown

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Space by Type

- General, Support & Health Care: 19%
- Office & Research: 63%
- Instruction & Study: 18%
- Office: 19%
- Research: 63%
- Special Use: 19%

Housing not shown
Office Space

• SF of Office Space
  2000 = 168 ASF per Employee
  2010 = 201 ASF per Employee

• Office Space Need is Met
  Currently at 23% above standard
Research Space

- 10% Growth in Research Faculty & Support Staff
- 23% Growth in Research Space
- 132,625 ASF of Research Space used for Service Centers
- Service Center Space impacts F&A Funding

Services Center Data: NC State Office of Contracts and Grants

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Change in Space by Type

- Classrooms: 27%
- Teaching Labs: 52%
- Open Labs: -30%
- Study / Library: 7%
- Office: 39%
- Research: 23%
- Special Use: 26%
- General Use: 34%
- Support: 21%
- Health Care: 110%

Housing not shown
Enrollment Change by College

- Agriculture & Life Science: 29% (2000), 22% (2010)
- Design: 5% (2000), 11% (2010)
- Education: 11% (2000), 61% (2010)
- Textiles: 0% (2000), 31% (2010)

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Change in Employees by College

Headcount

Agriculture & Life Science  Design  Education  Engineering  Natural Resources  Humanities & Social Sciences  Physical & Math Sciences  Textiles  Vet Medicine  Management

2000 2010

Non Faculty  Faculty

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Change in Assignable Space by College

- Agricultural & Life Sciences: 9%
- Design: 15%
- Education: 16%
- Engineering: 44%
- Natural Resources: 29%
- Humanities & Social Sciences: 35%
- Physical & Math Sciences: 42%
- Textiles: 0%
- Vet Medicine: 67%
- Management: 5%

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Factors to Improve Space Utilization

- Actionable Data
- Enforceable Space Standards
- Redeploying Space
- Incentives

Types of Incentives

- Award new space to units that are below standard
- Improve space to encourage sharing or shedding
- Penalize units for not meeting utilization targets
- Account for actual space costs at program level

Future Efforts

- Initiate College Space Analysis
- Re-alignment & Strategic Plans influence Space Allocations
- Re-evaluate Research Space Standard
- Connect Grant & Start-Up Packages with Space
- Decrease Lease Space
- Review Rental Rate Structure
- Repurpose Space