



*Office of Facilities Coordination*

# **Academic Space Projection Model**

**Overview of the Components and Methodologies  
Used to Determine Space Requirements**

*As developed by the Texas Higher Education Coordinating Board*



# Academic 5-Factor Model

- Approved by the THECB in 1992
- The model predicts the net assignable area of E&G space an institution needs in five categories:
  1. Teaching
  2. Library
  3. Research
  4. Office
  5. Support
- Auxiliary spaces are excluded.



# Academic 5-Factor Model

## Uses:

- **New Construction Request**
- **Funding**
  - Funding Formulas (1997)
  - Higher Education Assistance Fund (HEAF) fund allocation formula



# Academic 5-Factor Model

- Classrooms
- Class Labs
- Special Class Labs
- Self-Study Labs
- Physical Education
- Demonstration
- Audio/Visual
- Animal Quarters
- Assembly
- Exhibition
- Lounge/Meeting Rooms
- Locker Rooms



# Academic 5-Factor Model

- **Teaching Space**

- FTSE is calculated for each program area

- Undergraduate SCH / 15
- Masters SCH/12
- PhD SCH/9

- The derived teaching space depends on funded semester credit hour production by program area and level of course.



# Academic 5-Factor Model

- **Program Areas:**

- Area 1: Most space intensive programs

- Agriculture, Architecture, Engineering, Optometry, Trade and Industrial Arts, Visual/Performing Arts

- Area 2:

- Computer & Information Sci, Health Sci, Home Economics, Life & Physical Sci, Basic Skills, Psychology, Communications, Foreign Lang, Law

- Area 3: All other programs (not space intensive)



# Academic 5-Factor Model

- Teaching Space Program Area per FTSE

	<u>Area 1</u>	<u>Area 2</u>	<u>Area 3</u>
Undergraduate	75.0	60.0	45.0
Masters	52.5	42.0	31.5
Doctorate	30.0	24.0	18.0



# Academic 5-Factor Model

- **Teaching Space Coefficient:**
  - Economy of scale factor
    - Applied to those institutions with more than 15,000 undergraduate FTSE.
  - Applied to the same proportion of predicted undergraduate teaching space as the proportion of undergraduate FTSE.
    - A factor of 0.98 is used for 0-1,000 FTSE above 15,000
    - Decreases 0.02 for each 1,000 undergraduate FTSE.
    - Applied only to the predicted undergraduate space.





# Academic 5-Factor Model

- **Space Types:**

- Reading/Study Rooms
- Stack Space
- Library Service Rooms
- Offices with Library Use Codes

- **Calculation based on:**

- Association of College & Research Libraries standards for college libraries
- Data from Nat'l Center for Education Statistics
  - Integrated Postsecondary Education Data Systems (IPEDS)



# Academic 5-Factor Model

- **Calculation:**
  - Stack Space = FTSE x (Volumes x .10 NASF)
  - Study Space = FTSE x 6.25 NASF
  - Staff Space = 12.5% of the Total space Calc
- **Total Prediction = Sum of above**



# Academic 5-Factor Model

- **Space Types:**
  - Research Lab & Laboratory Service Rooms
- **Calculation based on:**
  - 9,000 sqft for every \$1.174927 million in Research Expenditures
    - Average of Last 3 years' expenditures
    - Consumer Price Index inflation factor reflected in the variable



# Academic 5-Factor Model

- **Space Types:**
  - Offices, Conference Rooms
  - Associated Service Areas
- **Calculation based on:**
  - Personnel
    - Faculty FTE as reported in the CBM-005
    - Non-Faculty = 1.8 x Faculty FTE
  - Space Needs
    - 190 Sqft x Faculty FTE
    - 170 Sqft x Non-Faculty FTE



# Academic 5-Factor Model

- **Space Types:**
  - Data Processing/Computer Rooms
  - Shops, Storage, Vehicle Storage
  - Associated Service Areas
- **Calculation based on:**
  - 9% of the Sum of Predicted Space from:
    - Teaching
    - Library
    - Research
    - Office



# TAMU Infrastructure Funding

Factor	Academic	Health-Related	Service Agencies	
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Teaching	X	X	X	
Library	X		X	X
Research	X	X		X
Office	X	X	X	X
Support	X	X	X	X
Clinical		X		
Multiple Campus Adjustment		X		

<sup>1</sup>Texas Cooperative Extension (formerly TAES)



# Summary

Institution/Agency	Predicted	Actual	Surplus/ Deficit
Texas A&M University	5,023,404	4,757,136	(266,268)
<b><u>TAMUS Agencies</u></b>			
Tx Engineering Exp Station	603,092	424,118	(178,974)
Tx Engineering Ext Service	166,868	213,898	47,030
Tx Transportation Institute	247,280	176,702	(70,578)
Tx Agricultural Exp Station	833,457	744,196	(89,261)
Tx Agricultural Ext Service	122,829	151,134	28,305
Tx Vet Med Diagnostic Lab	19,450	33,135	13,685
Tx Forest Service	6,732	11,078	4,346
<b>TAMUS Health Science Center</b>	<b>476,843</b>	<b>535,460</b>	<b>58,617</b>