

**THE UNIVERSITY OF NORTH CAROLINA
CAPITAL EQUITY/ADEQUACY STUDY**

**PHASE II WORK PAPER II-B-8
ADDITIONAL SPACE PLANNING GUIDELINES**

FEBRUARY 18, 1999

Important Note: This document is an *Interim Work Paper*, and not a *Report*. It was prepared pursuant to Phase II of this *Study*, to present *Additional Space Planning Guidelines* for campus space categories not covered by the *Space Planning Standards* adopted by the Board of Governors in November 1998. These *guidelines* will be used to establish principles of *equity*, to assess *adequacy*, and to develop projects/costs for a *10-Year Capital Needs Plan* for UNC, particularly in relation to capacity-related needs.

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INTRODUCTION

In November 1998, the Board of Governors adopted *Space Planning Standards*, based on analyses conducted by Eva Klein & Associates, Ltd. (EKA). When the *Space Standards Study* was undertaken, UNC had not yet received the legislative mandate to conduct the *Capital Equity/Adequacy Study*. Therefore, at that time, the *Ad Hoc Task Force on Space Planning Standards* selected only certain categories of campus space for inclusion in the work. The *planning standards* the Board adopted covered four HEGIS *room use codes* most critical to primary missions of instruction, including Classrooms (110), Teaching Laboratories (210), Offices (310/350), and Study (Library) Facilities (400 series). Considerable work also was done on alternative planning standards for Research Laboratories (250) but our work together did not reach a conclusion for research space.

As a part of the *Capital Equity/Adequacy Study*, the General Assembly's newly revised *Special Provision* now mandates creation of a *10-Year Capital Needs Plan* and a related spending plan. We now need an analytical approach for projecting capital facilities that will be needed to accommodate expected enrollment growth of UNC during the next decade. Therefore, this *Work Paper* is being developed to establish additional *space planning guidelines* for additional HEGIS *Room Use Codes* (and NCHEMS *Program Codes*) that were not covered in the previous *Space Standards Study*.

At present, it is not our assumption that the Board of Governors formally will adopt these additional *Guidelines*. We expect, however, to use them in the development of the *10-Year Capital Needs Plan*. For this reason, we are making a deliberate distinction in the terminology—using the word “*standards*” to refer to those adopted by the Board of Governors and the word “*guidelines*” to denote the space criteria developed in this *Work Paper*, for use in the *Capital Equity/Adequacy Study*'s analyses.

HEGIS ROOM USE AND NCHEMS PROGRAM CODE CATEGORIES

HEGIS *Room Use Codes* that were reviewed for creation of additional *guidelines* were:

- 220 **Open Laboratory**
- 500 **Special Use Facilities**
- 600 **General Use Facilities**
- 700 **Support Facilities**
- 800 **Health Care Facilities**
- 900 **Residential Facilities**

Within the HEGIS *Room Use Codes*, only space that is further identified under certain NCHEMS *Program Codes* is included. Following is a discussion of the additional HEGIS *Room Use Codes* (by NCHEMS *Program Codes*) that are under consideration for this work and provides definitions of the *Room Use Codes* where the definition is not readily apparent. The definitions are from the *Facilities Inventory and Utilization Manual*, Fifth Edition, published by the NC Commission on Higher Education Facilities.¹

¹ Exhibit 1 shows the complete list of HEGIS *Room Use Codes*. Exhibit 2 is a complete list of all the NCHEMS *Program Codes*.

HEGIS 220 Open Laboratory

Open laboratories are discipline-related special areas for which there are neither regularly scheduled *Weekly Hours of Room Use* nor *Station Occupancy Ratios* when the room is in use. These are laboratories that are used primarily for unscheduled, or informally scheduled practice, study, or individualized instruction. Included in this category are rooms called music practice rooms, language laboratories, studios for individualized instruction or practice, special laboratories or learning laboratories if discipline-restricted, individual laboratories, and computer laboratories involving restrictive software or where access is limited to specific categories of students. Also, 220 space would be considered only for that space that is coded as *Program Code 11-Instruction*.

In some cases, as for science labs, a given room may be used both for scheduled instruction and for open use. In these cases, the room is coded—either 210 or 220—based on the predominant use. In all cases, UNC institutions provide only one room use coding, based on predominant use, in terms of time use.

HEGIS 500 Special Use Facilities

This category includes the following *room use codes*:

- 510/515 Armory and Armory Service: Room or area used by Reserve Officer Training Corps for military training or instructional purposes.**
- 520/525 Athletic or Physical Education and Service: Room or area used by students, staff or the public for athletic or physical education activities and includes gymnasia; basketball courts; handball, racquetball, and squash courts; wrestling rooms; weight or exercise rooms; indoor swimming pools, putting greens, tracks, ice rinks, and stadium fields. These facilities are typically used for more vigorous pursuits within physical educational, intercollegiate athletics, or intramural programs.**
- 523 Athletic Facilities Spectator Seating**
- 530/535 Media Production and Service: Includes TV, radio, sound, and photo studios; video or audio cassette and software production or distribution rooms; and media centers.**
- 540/545 Clinic and Clinic Service: Includes patient or client examination rooms, testing and consultation rooms.**
- 550/555 Demonstration and Demonstration Service: The key criterion defining this space is the practice activity within an instructional program which closely simulates a real-world or occupational setting.**
- 560 Field Building; Agricultural structure**
- 580/585 Animal Quarters**
- 580/585 Greenhouse**

For purposes of this *Work Paper*, it was determined that planning *guidelines* only would be developed for 520/525 space and moreover, only for 520/525 Athletic or Physical Education spaces that also are coded under:

Program Code 11—Instruction

Program Code 52—Social and Cultural Development

Program Code 55—Student Auxiliary Services

Program Code 56—Intercollegiate Athletics was excluded.

All other HEGIS *Room Use Codes* in this 500 series were not considered as they either represent indirect academic support functions or because they are not common to all/most UNC institutions.

HEGIS 600 General Use Facilities

This category includes the following *Room Use Codes*:

- 610/615 **Assembly Space and Service:** A room designed and equipped for many persons for events such as dramatic, musical, devotional, livestock judging, or commencement activities.
- 620/625 **Exhibition and Service:** Intended for the exhibition of materials, works of art, artifacts for general use by students, staff, and the public.
- 630/635 **Food Facility and Service**
- 640/645 **Day Care and Service**
- 650/655 **Lounge and Service:** A room used for rest and relaxation that is not restricted to a specific group of people, unit or area.
- 660/665 **Merchandising and Service:** An area used to sell products or services which may include bookstore, barber/beauty shops, post offices, campus food stores, walk-away vending machine rooms, etc.
- 670/675 **Recreation:** Used for recreational purposes such as exercise and general fitness rooms; billiards, game, arcade rooms, etc., used for recreation and amusement and not for instructional purposes.
- 680/685 **Meeting Room and Service:** Used by the institution or the public for a variety of non-class meetings. The key concept is public availability.

For purposes of this study it was determined to eliminate the following categories for the reasons that follow:

- 630/635 **Food Facility and Service:** A market driven area that is difficult to set planning guidelines for without setting minimal food service standards first.
- 640/645 **Day Care and Service:** Generally associated with education programs or run as an auxiliary to Human Resources programs.
- 660/665 **Merchandising and Service:** Generally market-driven and a determination of constituent institutions as to the amount of space that they wish to devote to this area.

HEGIS 700 Support Facilities

This category includes the following *Room Use Codes*:

- 710/715** **Central Computer or Telecommunications and Service:** An area used as a computer-based data processing or telecommunications center with applications that serve the overall administrative or academic needs of a central group of users, department, college, school or entire institution.
- 720/725** **Shop and Shop Service:** An area used for manufacture, repair or maintenance of products or equipment including the following services—carpentry, plumbing, HVAC, electrical, painting, and similar physical plant maintenance services.
- 730/735** **Central Storage and Service:** An area that is used to store equipment and materials and serves multiple room use categories, organizational units, or buildings.
- 740/745** **Vehicle Storage and Service:** An area or structure that is used to house or store vehicles.
- 750/755** **Central Service:** An area that is used for processing, preparation, testing, or delivery of complex-central or campus-wide support service which may be provided by special equipment, human activity, the special availability of space, or any combination of these elements. This generally includes centralized food storage, laundry facilities, printing and duplication services, mail facilities, receiving and shipping.
- 760/765** **Hazardous Waste Materials and Service:** A centralized facility for the storage, treatment, or disposal of hazardous or toxic materials that have been designated for specific or formal regulation on the basis of potential harm to plant or animal life.

For this category, the planning guideline will include all the *Room Use Codes*. For the 700 series space, we have eliminated space that is coded as *Program Code 71-Physical Plant Administrative Offices*, as these were included in the *space planning standards* for 310 office space.

HEGIS 800 Health Care Facilities

This series of HEGIS *room use codes* applies to patient care rooms that are located in separately organized health care facilities such as student infirmaries, teaching hospitals and clinics, and veterinary and medical schools.

The level of health care services provided to students via student infirmaries or health centers is a choice of the constituent institutions. Hence, it is not logical to attempt calculations of space needs based on *space planning guidelines* for this series of *Room Use Codes*.

HEGIS 900 Residential Facilities

This category includes the following *room use codes*:

910	Sleep/Study without Toilet or Bath
919	Toilet or Bath
920	Sleep/Study with Toilet or Bath
935	Sleep/Study Service
950/955	Apartment and Service
970	House

For purposes of this *Work Paper*, it was determined that only space coded as *Program Code 55* Student Auxiliary Services would be included. This restricts the data to only student housing and does not include faculty, staff, or administrative housing, if offered by the campus. The latter types of housing would be coded under *Program Code 65*—Faculty and Staff Auxiliary Services.

Groupings

Because the primary focus is to predict the need for additional space based upon predicted student enrollment growth, it was decided to look at HEGIS *Room Use Codes* that would be affected by growth. Also, the HEGIS *Room Use Code* series have been grouped into four “clusters” for ease of defining space adequacy for each institution. These four clusters were:

1. **ATHLETIC AND PHYSICAL EDUCATION FACILITIES (including only):**
 - **520/525-Athletic or Physical Education (Program Code 11)**

2. **STUDENT SERVICES FACILITIES (including):**
 - **520/525-Athletic or Physical Education (Program Codes 52 and 55)**
 - **610/615 Assembly (Program Codes 52 and 55 adjusted)**
 - **620/625 Exhibition (Program Codes 52 and 55 adjusted)**
 - **650/655 Lounge (Program Codes 52 and 55 adjusted)**
 - **670/675 Recreation (Program Codes 52 and 55 adjusted)**
 - **680/685 Meeting (Program Codes 52 and 55 adjusted)**

3. **SUPPORT FACILITIES (all 700 series room use codes)**

4. **RESIDENTIAL FACILITIES (including):**
 - **650/655 Lounge (Program Codes 52 and 55)**
 - **670/675 Recreation (Program Codes 52 and 55)**
 - **680/685 Meeting (Program Codes 52 and 55)**
 - **910 Sleep/Study without Bath (Program Code 55)**
 - **919 Toilet or Bath (Program Code 55)**
 - **920 Sleep/Study with Bath (Program Code 55)**
 - **935 Sleep/Study Service (Program Code 55)**
 - **950 Apartment (Program Code 55)**
 - **970 House (Program Code 55)**

Initially, the analysts looked at two additional *Room Use Codes* in the 600 series:

- 610/615 Assembly (Program Codes 52 and 55)
- 620/625 Exhibition (Program Codes 52 and 55)

However it was found that there is no space in residential buildings coded for these two *room use codes*.

In addition, it was decided to use selected *Program Codes* including:

Program Code 52—Social and Cultural Development: Includes those activities established to provide for the social and cultural development of the student outside of the formal academic program and includes those activities primarily supported and controlled by the student body.

Program Code 55—Student Auxiliary Services: Includes those conveniences and services needed to maintain an on-campus, resident student body and may include the following areas: housing, food services, retail services and concessions, and specialized services.

ADDITIONAL SPACE PLANNING GUIDELINES

This section of the *Work Paper* provides additional *space planning guidelines* to assist in projection of capital needs based upon the anticipated student enrollment growth for the next ten years. Each section provides a definition of the category, the format and units of measure, a discussion of relevant issues and problems, and the proposed guideline with a description of initial calculated variances

OPEN LABORATORIES

Definition of the Category

HEGIS room use code 220—Open Laboratory is a laboratory used primarily for individual or group instruction that is informally scheduled, unscheduled, or open. It is designed for or furnished with equipment that serves the needs of a particular discipline or discipline group for individual or group instruction where the room is not formally or regularly scheduled or access is limited to specific groups of students. Data for this *Room Use Code* is reported under *Program Code* 11—Instruction.

Discussion

The following is a review of considerations in development of a *space planning guideline* for 220—Open Laboratories.

National Data

The CEFPI *space planning guidelines* include 220—Open Laboratories in the same category as 210—Teaching Laboratories. Other university systems report either no space planning guidelines for this category, or mention that space for 220s is predicated only on programmatic needs.

Only Colorado mentions any specificity in *space planning guidelines* for this category, and then only by referring to specific room sizes or station sizes for selected rooms such as music practice rooms, language laboratories, audio-tutorial carrels, computerized self-paced instruction, graduate student art studios, and advanced architectural design studios. To justify space needs, it is necessary for the Colorado institutions to make a precise definition of academic course requirements based upon such factors as the number of students in courses which require individual practice, the estimated average number of hours a student will practice, the hours per week the rooms will be used, and the ASF per room or station.

UNC's 210 Teaching Lab Standard

By way of summary, in the recently adopted *UNC Space Planning Standards*, the planning standard for 210-Teaching Laboratories was comprised of a target of an *ASF Station Size*, *Weekly Hours of Room Use*, and a *Station Occupancy Ratio* when the room is in use. These three elements, combined into a *Space Factor*, were used to calculate projected space needs for each discipline. Four *ASF Station Sizes* were provided, ranging from 108 ASF to 33 ASF for groupings of disciplines from *Highly Intensive* to *Non-Intensive*.

Increasing Importance of 220 Labs

It is clear from campus visits and interviews with faculty and administrators that 220 Open Labs are a space type of increasing interest that plays a large (and potentially increasing) role in instructional delivery. In addition, the 220—Open Labs represent a significant amount of space on

most campuses and, in most cases, also have expensive equipment available for student instructional purposes.

Differences in Utilization Considerations

For 220—Open Laboratories, which are unscheduled, the utilization variables used for 210 space cannot be considered in the same way. Also, while there are some reported *Student Clock Hours* (SCH) for 220 space, most of these rooms are multi-use, i.e. they may serve as both 210 and 220 space and are coded for the primary use (in terms of time) of the room. ASF and ASF per station could be determined, but *Weekly Room Hours* would be a guess at best.

Possible Relationship of 220 Labs to 110 Classrooms

For 220—Open Labs, one solution that was considered was to base the analysis for 220 labs on the 110—Classroom SCHs by discipline and required or recommended hours of group or individual study/practice hours for each student enrolled in a class. This would allow the use of similar variables and formula for calculating Standard ASF as is done for 110 and 210. However, SCHs for 110—Classrooms are not reported by discipline, i.e., they are all coded *General Instruction* because of multi-disciplinary use. Therefore, there is no practical way of relating potential 220 needs to SCHs for classrooms.

Possible Relationship of 220 Labs to 210 Labs

A next attempt involved looking for relationships between existing inventories of 220 Labs and 210 Labs, to determine if the 210 Labs could be the basis for projecting needs in the 220 category. This would have permitted a guideline for 220 that is expressed similarly to the 210s, but perhaps as a percentage of the 210s. Review of the actual inventories reveals that there are wide variations in the existing square footages of Teaching Lab and Open Lab spaces within disciplines and from campus to campus. This may be a result of old facility configurations, differing teaching styles, increasing emphasis on team and/or individual projects, or differences in how campuses are coding the (primary use of the) space. In any case, it was found that using 210 as the basis for predicting 220 needs does not work.

Proposed Guideline and Units of Measure

It was concluded that the best approach would be to establish a *space planning guideline* for 220—Open Labs using the same four categories of discipline groupings and ASF per Station established for 210—Teaching Labs in the *Space Planning Guidelines* and using *Converted FTEs* multiplied by the average *Station Size* to calculate *Standard ASF*.

Therefore, the proposed analysis uses *Student Credit Hours* in place of *Student Clock Hours* as the initial unit of measure. Following are the steps in the analysis:

1. For each discipline, the *Student Credit Hours* were converted to FTEs by dividing by 12, the minimum number of hours necessary to classify a student as full-time.
2. The FTEs then were converted into a notional number to represent the number of FTE student users for a given room/space during the course of an assumed 40-hour week. These are called *Converted FTEs*. This is done by dividing the numbers of FTEs for the discipline by a factor of students that would use the student station weekly. For example, if one assumes that music students practice 20 hours per week, then the factor for any music practice room is 2, because two students would need the full 40-hour week of room use.

3. The size of a *Student Station* was taken directly from the 210 standard—that is, there are four *Student Station* sizes, ranging from 108 ASF to 33 ASF for Highly Intensive to Non-Intensive disciplines.
4. The *Standard ASF* is calculated by multiplying the *Converted FTEs* by the ASF per station established for each discipline.

Station Sizes

Figure 1 shows the discipline category and programs for that category plus the ASF per station from *Space Planning Standards*. In the *Space Planning Standards*, Fine Arts programs were split between three categories: Highly-Intensive for Applied Design, Dance, and Dramatic Arts; Moderately-Intensive for Art; and Non-Intensive for Cinematography, Music, and General. It is not possible to break out the different areas of Fine Arts from the *Student Credit Hour* data. Therefore, the Fine Arts programs have been placed in the Intensive discipline category, which is the closest to the average of the three ASFs per station.

Figure 1 HEGIS 220 Open Laboratories Categories of Disciplines and Average Station Size		
Teaching Lab Category	Discipline	ASF per Station
Highly-Intensive	Engineering (including Textiles)	108
Intensive	Agriculture, Architecture, Biological Sciences, Fine Arts, Health Professions, Library Sciences, and Physical Sciences	70
Moderately- Intensive	Communications, Computer and Information Sciences, Education, Home Economics, and Psychology	50
Non-Intensive	Business and Management, Language, Letters, Mathematics, Public Affairs, and Social Sciences	33
<small>Note: Health Professions includes Environmental Health, Medical Lab Technology, Nursing, Physical Therapy, Health Services management, and General. Medicine, Dentistry, and pharmacy are excluded.</small>		

Difference for Majors and Non-Majors

It is apparent that some Open Labs are used only by majors, such as engineering, agriculture, and architecture. Other Open Labs are used by both majors in the discipline and students who take introductory or elective courses in the discipline, e.g., Biological Sciences and Physical Sciences, and Fine Arts programs. Therefore, the calculation of *Standard ASF* would be based either on just the major *Student Credit Hours* or the total *Student Credit Hours* of majors and non-majors. The following lists propose a division of the disciplines into two groups—those in which only majors would use Open Labs and those in which both majors and non-majors would use Open Labs.

Disciplines where only majors use Open Labs are:

Engineering
Agriculture
Architecture
Health Professions
Library Sciences
Education
Home Economics

Disciplines where both majors and non-majors would require use of Open Labs are:

Fine Arts
Biological Sciences
Physical Sciences
Communications
Computer Sciences
Psychology
Business Management
Language
Letters
Mathematics
Public Affairs
Social Sciences

For purposes of calculating space needs, it was determined that space needs would not be calculated if either of the following two items were present:

- **No Actual ASF was reported for the discipline**
- **No Student Credit Hours were reported for majors where space need is based on majors only.**

Initial Calculation of Variances

Figure 2 shows the major and non-major *Student Credit Hours*, the total *Student Credit Hours*, the calculated number of total FTEs, the number of students that would use a station in a given week, the *Converted FTEs*, actual ASF for 220 space, the *Standard ASF* and the *ASF Variance from Standard*.

Figure 2
 Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor Institution	SCH				Engineering						Agriculture						Var. from STD		
	Mjr	Non-Mjr	Total	FTEs	# of Svs	Convtd FTEs	Act ASF	STD ASF	Var. from STD	Mjr	Non-Mjr	Total	FTEs	# of Svs	Convtd FTEs	Act ASF		STD ASF	Var. from STD
				12															
Res. Univ. I																			
NCSU	32,558.0	4,056.0	36,612	2,713.0	4.0	678.3	42,629	73,251	(30,622)	9,668	12,499	22,167	1,847.3	5.0	369.5	23,194	25,862	(2,668)	
UNC-CH-AA																			
Doc Univ. I																			
UNC-G																			
Doc Univ. II																			
ECU-AA	1,228.0	4,030.0	5,258	102.3	4.0	25.6	1,375	2,763	(1,386)										
ECU-HA																			
Mtrs/Comp																			
Co/Univ I																			
ASU																			
FSU																			
NCCU																			
NCA&T	12,022.0	1,682.0	13,704	1,001.8	4.0	250.5	14,189	27,050	(12,861)	1,064	1,446	2,510	88.7	5.0	17.7	10,551	12,241	9,310	
NCCU																			
UNC-C	7,481.0	1,362.0	8,843	623.4	4.0	155.9	14,610	16,832	(2,222)										
UNC-P																			
UNC-W																			
WCU	403.0	268.0	671	33.6	4.0	8.4	7,797	907	6,890										
Bac. Col. I																			
UNC-A																			
Bac. Col. II																			
ECSU																			
WSSU																			
Spec. Inst't																			
NCSA																			
UNC Totals			65,088					120,803	(40,203)							33,745	12,521	21,224	

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions.
 Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor	SCH				Architecture				Biological Sciences				Var from STD						
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total		FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD
Institution				12															
Res. Univ. I																			
NCSU	6,221	1,797	8,018	518.4	3.0	172.8	10,373	12,096	(1,723)	7,374	11,405	18,779	1,584.9	5.0	313.0	15,011	21,909	(6,898)	
UNC-CH-AA	990	388	1,378	82.5	3.0	27.5		1,925	(1,925)	6,358	9,927	16,285	1,357.1	5.0	271.4	3,817	18,999	(15,182)	
Doc Univ. I																			
UNC-G										2,003	5,250	7,253	604.4	5.0	120.9	12	8,462	(8,450)	
Doc Univ. II																			
ECU-AA										2,187	13,273	15,460	1,288.3	5.0	257.7	3,753	18,037	(14,284)	
Mtrs/Comp Col/Univ I																			
ASU																			
FSU										807	969	1,776	148.0	5.0	29.6	91	2,072	(1,981)	
NCA&T										1,174	2,715	3,889	324.1	5.0	64.8	1,911	4,537	(2,626)	
NCCU										1,395	1,168	2,563	213.6	5.0	42.7	1,691	2,990	(1,299)	
UNC-C	2,439	587	3,026	203.3	3.0	67.8	7,770	4,743	3,028	2,958	4,692	7,650	637.5	5.0	127.5	4,414	8,925	(4,511)	
UNC-P										1,068	1,485	2,553	212.8	5.0	42.6	1,560	2,979	(1,419)	
UNC-W										2,910	6,265	9,175	764.6	5.0	152.9	12,784	10,704	2,080	
WCU										953	2,358	3,311	275.9	5.0	55.2	901	3,863	(2,962)	
Bac. Col. I																			
UNC-A										628	1,319	1,947	162.3	5.0	32.5	1,112	2,272	(1,160)	
Bac. Col. II																			
ECSU										850	111	961	80.1	5.0	16.0	208	1,121	(913)	
WSSU										608	2,298	2,906	242.2	5.0	48.4	1,064	3,390	(2,326)	
Spec. Inst't																			
NCSA																			
UNC Totals							18,143	18,764	(621)							48,329	110,259	(61,930)	

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
 Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor	SCH			Fine Arts				Health Professions						Var from STD				
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total	FTEs		# of Sts	Convtd FTEs	Act ASF	STD ASF
Institution				12														
Res. Univ. I																		
NCSU																		
UNC-CH-AA	2,212	10,317	12,529	1,044.1	2.0	522.0	6,989	36,543	(29,554)									
Doc Univ. I																		
UNC-G	6,564	8,034	14,598	1,216.5	4.0	304.1	17,890	21,289	(3,399)	1,269	4,933	6,202	105.8	10.0	10.6	2,375	740	1,635
Doc Univ. II																		
ECU-AA	9,220	8,260	17,480	1,456.7	4.0	364.2	23,547	25,492	(1,945)	11,311	2,595	13,906	942.6	10.0	94.3	851	6,598	(5,747)
Mtrs/Comp Col/Univ I																		
ASU																		
FSU																		
NCA&T																		
NCCU																		
UNC-C	4,428	6,908	11,336	944.7	4.0	236.2	1,535	16,532	(14,997)	3,535	1,048	4,583	294.6	10.0	29.5	1,839	2,062	(223)
UNC-P	553	1,425	1,978	164.8	4.0	41.2	31	2,885	(2,854)	310		310	25.8	10.0	2.6	348	181	167
UNC-W	1,382	3,461	4,843	403.6	4.0	100.9	303	7,063	(6,760)	1,842		1,842						
WCU	2,121	4,027	6,148	512.3	4.0	128.1	2,528	8,966	(6,438)	2,148	1,200	3,348	179.0	10.0	17.9	734	1,253	(519)
Bac. Col. I																		
UNC-A	621	1,290	1,911	159.3	4.0	39.8	1,854	2,787	(933)									
Bac. Col. II																		
ECSU																		
WSSU																		
Spec. Inst't																		
NCSA	9,149	57	9,206	767.2	4.0	191.8	45,550	20,714	24,837									
UNC Totals							100,227	142,269	(42,042)							6,537	11,908	(5,371)

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor Institution	SCH				Library Sciences										Physical Sciences					
	Mjr	Non- Mjr	Total	FTEs 12	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non- Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD		
Res. Univ. I NCSU	1,921	631	2,552	212.7	10.0	21.3	1,694	1,489	205	4512	31236	35,748	376.0	3.0	125.3	9,335	8,773	562		
UNC-CH-AA							1,694	1,489	205	3833	15898	19,831	327.8	3.0	109.3	29,997	7,648	22,350		
Doc Univ. I UNC-G	699	396	1,095	91.3	10.0	9.1	386	639	(253)	532	4391	4,923	44.3	3.0	14.8	2,873	1,034	1,839		
Doc Univ. II ECU-AA										1,059	13,165	14,224	88.3	3.0	29.4	10,307	2,059	8,248		
Mtrs/Comp Co/Unlv I																				
ASU										937	6156	7,093	78.1	3.0	26.0	4,713	1,822	2,891		
FSU										112	3101	3,213	9.3	3.0	3.1	591	218	373		
NCA&T										536	6215	6,751	44.7	3.0	14.9	5,377	1,042	4,335		
NCCU	672	321	993	82.8	10.0	8.3	651	579	72	561	3396	3,957	46.8	3.0	15.6	5,657	1,091	4,566		
UNC-C										1565	10298	11,863	130.4	3.0	43.5	16,987	3,043	13,944		
UNC-P										351	2172	2,523	29.3	3.0	9.8	281	683	(402)		
UNC-W										1709	7768	9,477	142.4	3.0	47.5	10,672	3,323	7,349		
WCU										447	4735	5,182	37.3	3.0	12.4	6,347	869	5,478		
Bac. Col. I UNC-A		514	514	42.8	10.0	4.3	59	300	(241)	431	2741	3,172	35.9	3.0	12.0	3,350	838	2,512		
Bac. Col. II ECSU										221	1570	1,791	18.4	3.0	6.1	4,151	430	3,721		
WSSU										143	1929	2,072	11.9	3.0	4.0	490	278	212		
Spec. Inst't NCSA																				
UNC Totals							2,790	3,007	(217)							111,128	33,151	77,977		

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

	SCH				Computer and Information Sciences														
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	
Factor				12															
Institution																			
Res. Univ. I																			
NCSU										3,971	7,525	11,496	958	8	120	11,018	2,395	8,623	
UNC-CH-AA	7,970	3,331	11,301	942	8	118	2,381	2,354	27	764	1,685	2,449	204	8	28	1,946	510	1,436	
Doc Univ. I																			
UNC-G										387	384	771	64	8	8	357	161	196	
Doc Univ. II																			
ECU-AA	1,712	3,238	4,948	412	8	52	397	1,031	(634)	527	6,388	6,915	576	8	72	5,107	1,441	3,666	
Mtrs/Comp																			
Col/Univ I																			
ASU	3,709	3,056	6,765	564	8	70	2,142	1,409	733	1,727	3,151	4,878	407	8	51	2,272	1,016	1,256	
FSU										817	755	1,572	131	8	16	1,163	328	836	
NC A&T										1,865	1,167	3,032	253	8	32	880	632	248	
NCCU																			
UNC-C										3,132	2,363	5,495	458	8	57	2,602	1,145	1,457	
UNC-P										383	471	854	71	8	9	2,296	178	2,118	
UNC-W										1,097	1,104	2,201	183	8	23	3,445	459	2,986	
WCU										762	1,589	2,351	196	8	24	2,822	490	2,332	
Bac. Col. I																			
UNC-A	348	364	712	59	8	7	259	148	111										
Bac. Col. II																			
ECSU		125	125	10	8	1	602	26	576										
WSSU	482	341	823	69	8	9	1,341	171	1,170										
Spec. Inst't																			
NCSA																			
UNC Totals							7,525	5,688	1,837						33,908	8,753	25,155		

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
 Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

	SCH					Education					Home Economics							
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD
Factor				12														
Institution																		
Res. Unlv. I																		
NCSU	6,008	4,100	10,108	501	8	63	11,376	1,252	10,124									
UNC-CH-AA	5,093	7,486	12,579	424	8	53	7,610	1,061	6,549									
Doc Unlv. I																		
UNC-G										4,598	4,656	10,235	383	8	48	662	958	(296)
Doc Unlv. II																		
ECU-AA	7,491	4,548	12,039	624	8	78	17,637	1,561	16,076	5,139	4,614	9,753	428	8	54	2,910	1,071	1,839
Mtrs/Comp																		
Col/Univ I																		
ASU	13,687	11,295	24,982	1,141	8	143	9,745	2,851	6,894									
FSU																		
NCA&T	5,423	3,740	9,163	452	8	56	4,047	1,130	2,917									
NCCU	1,704	3,045	4,749	142	8	18	2,220	355	1,865	1,325	3,080	4,405	110	8	14	2,412	276	2,136
UNC-C	8,690	5,650	14,340	724	8	91	1,143	1,810	(667)									
UNC-P	1,718	1,339	3,057	143	8	18	2,717	358	2,359									
UNC-W	5,026	8,010	13,036	419	8	52	149	1,047	(898)									
WCU	6,319	3,881	10,200	527	8	66	4,267	1,316	2,951	1,445	535	1,980	120	8	15	154	301	(147)
Bac. Col. I																		
UNC-A																		
Bac. Col. II																		
ECSU	1,053	1,657	2,710	88	8	11	3,114	219	2,895									
WSSU	862	1,410	2,272	72	8	9	800	180	620									
Spec. Inst't																		
NCSA																		
UNC Totals							64,825	13,140	51,685						6,138	2,606		3,532

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions.
 Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor	SCH				Psychology										Business Management					Var from STD
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD		
Institution				12																
Res. Univ. I																				
NCSU	2713	6461	9,174	765	8	96	788	1,911	(1,123)	15,950	6,558	22,508	1,876	10	188	3,671	6,190	(2,519)		
UNC-CH-AA	5461	8613	14,074	1,173	8	147	817	2,932	(2,115)											
Doc Univ. I																				
UNC-G										11,427	3,019	14,446	1,204	10	120	2,274	3,973	(1,699)		
Doc Univ. II																				
ECU-AA	2,272	11,067	13,339	1,112	8	139	1,535	2,779	(1,244)	5,091	9,263	14,354	1,196	10	120	4,089	3,947	152		
Mtrs/Comp Col/Univ I ASU																				
FSU																				
NCA&T	1,352	1,802	3,154	263	8	33	102	657	(555)	9,686	3,841	13,527	1,127	10	113	1,360	3,720	(2,360)		
NCCU										2,911	2,345	5,256	438	10	44	1,001	1,445	(444)		
UNC-C	3,729	6,495	10,224	852	8	107	3,340	2,130	1,210	17,524	3,513	21,037	1,753	10	175	4,248	5,785	(1,537)		
UNC-P	470	1,505	1,975	165	8	21	717	411	306	2,292	600	2,892	241	10	24	719	795	(76)		
UNC-W	2,764	5,481	8,245	687	8	86	1,174	1,718	(544)	6,099	4,724	10,823	902	10	90	3,542	2,976	566		
WCU																				
Bac. Col. I																				
UNC-A	621	1,773	2,394	200	8	25	1,526	499	1,027	1,107	1,521	2,628	219	10	22	120	723	(603)		
Bac. Col. II																				
ECSU	336	801	1,137	95	8	12	363	237	126	1,663	683	2,346	196	10	20	1,272	645	627		
WSSU	382	1,807	2,189	182	8	23	1,665	456	1,209	2,676	1,407	4,083	340	10	34	795	1,123	(328)		
Spec. Inst't																				
NCSA																				
UNC Totals							12,027	13,730	(1,703)					31.5		23,101	31,323	(8,222)		

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor Institution	SCH				Language				Letters				Var from STD					
	Mjr	Non- Mjr	Total	FTEs 12	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non- Mjr	Total		FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF
Res. Univ. I NCSU	533	10,648	11,181	932	8	116	1,694	3,843	(2,149)	2,894	20,636	23,530	1,961	10	196	3,340	6,471	(3,131)
UNC-CH-AA	1,721	24,850	26,571	2,214	8	277	4,853	9,134	(4,281)	3,413	17,457	20,870	1,739	10	174	1,347	5,739	(4,392)
Doc Univ. I UNC-G	629	6,267	8,896	741	8	93	1,397	3,058	(1,661)	3,228	10,624	13,852	1,154	10	115	642	3,809	(3,167)
Doc Univ. II ECU-AA	215	4,551	4,766	397	8	50	2,574	1,638	936	1,675	17,260	18,935	1,578	10	158	1,676	5,207	(3,531)
Mtrs/Comp Col/Univ I	349	3,848	4,197	350	8	44	1,087	1,443	(356)									
ASU																		
FSU																		
NC A&T																		
NCCU	57	3,621	3,678	307	8	38	1,704	1,264	440	1,743	5,256	6,999	583	10	58	764	1,925	(1,161)
UNC-C	428	6,242	6,670	556	8	69	1,568	2,293	(725)	2,329	10,563	12,892	1,074	10	107	1,630	3,545	(1,915)
UNC-P																		
UNC-W																		
WCU	138	1,299	5,276	440	8	55	717	1,814	(1,097)	5,932	9,355	15,287	1,274	10	127	76	4,204	(4,128)
Bac. Col. I UNC-A	192	2,067	2,259	188	8	24	656	777	(121)	474	2,439	2,913	243	10	24	841	801	40
Bac. Col. II ECSU		258	258	22	8	3	192	89	103	572	3,770	4,342	362	10	36	606	1,194	(588)
WSSU	9	296	305	25	8	3	1,404	105	1,289	207	3,853	4,060	338	10	34	912	1,117	(205)
Spec. Inst't NCSA																		
UNC Totals							18,566	27,271	(8,705)						13,687	39,205		(25,518)

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education and Public Service, UNC General Administration
Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Factor	SCH				Mathematics								Public Affairs					
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD
Institution				12														
Res. Univ. I																		
NCSU	2,635	32,766	35,401	2,950	8	369	4,950	12,169	(7,219)									
UNC-CH-AA	1,637	12,807	14,444	1,204	8	150	598	4,965	(4,367)									
Doc Univ. I																		
UNC-G	336	6,367	6,703	559	8	70	357	2,304	(1,947)									
Doc Univ. II																		
ECU-AA	392	13,565	13,957	1,163	8	145	1,527	4,798	(3,271)									
Mtrs/Comp Col/Univ I																		
ASU																		
FSU																		
NC A&T	513	11,568	12,081	1,007	8	126	2,665	4,153	(1,488)									
NCCU	335	4,297	4,632	386	8	48	1,289	1,592	(303)									
UNC-C	829	14,901	15,730	1,311	8	164	5,224	5,407	(183)									
UNC-P	269	3,311	3,580	298	8	37	636	1,231	(595)									
UNC-W	671	7,891	8,362	697	8	87	1,449	2,874	(1,425)									
WCU	231	4,047	4,278	357	8	45	2,997	1,471	1,526									
Bac. Col. I																		
UNC-A	152	3,350	3,502	292	8	36	571	1,204	(633)									
Bac. Col. II																		
ECSU	278	2,619	2,897	241	8	30	109	996	(887)									
WSSU																		
Spec. Inst't																		
NCSA																		
UNC Totals							22,372	43,164	(20,792)							2,023	6,000	(3,977)

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions. Student Credit Hours are provided by the Office of Program Assessment and Public Service, UNC General Administration

Figure 2
Calculation of Standard ASF, Variances from Standard for 220 Open Laboratories

Social Sciences									
SCH									
	Mjr	Non-Mjr	Total	FTEs	# of Sts	Convtd FTEs	Act ASF	STD ASF	Var from STD
Factor				12					
Institution									
Res. Univ. I									
NCSU	6,490	38,081	44,571	3,714	8	464	2,665	15,321	(12,656)
UNC-CH-AA	13,274	51,969	65,243	5,437	8	680	2,996	22,427	(19,431)
Doc Univ. I									
UNC-G	5,687	23,335	29,022	2,419	8	302	1,249	9,976	(8,727)
Doc Univ. II									
ECU-AA	4,980	31,095	36,075	3,006	8	376	1,282	12,401	(11,119)
Mtrs/Comp									
Col/Univ I									
ASU	6,193	26,729	32,922	2,744	8	343	1,846	11,317	(9,471)
FSU									
NC A&T	1,968	8,810	10,778	898	8	112	163	3,705	(3,542)
NCCU	3,179	6,204	9,383	782	8	98	796	3,225	(2,429)
UNC-C	7,075	28,863	35,938	2,995	8	374	2,239	12,354	(10,115)
UNC-P	1,825	8,934	10,759	897	8	112	799	3,698	(2,899)
UNC-W	3,404	13,408	16,812	1,401	8	175	1,927	5,779	(3,852)
WCU									
Bac. Col. I									
UNC-A	2,326	9,811	12,137	1,011	8	126	284	4,172	(3,888)
Bac. Col. II									
ECSU	927	4,227	5,154	430	8	54	348	1,772	(1,424)
WSSU									
Spec. Inst't									
NCSA									
UNC Totals							16,594	106,148	(89,554)

Sources: Reports on Actual ASF prepared by NC Commission on Higher Education Facilities based on Fall 1997 data as reported by the Institutions.

ATHLETICS AND PHYSICAL EDUCATION

Definition of the Category

HEGIS *Room Use Codes* 520—Athletic and Physical Education Facilities and 525—Athletic and Physical Education Service that are used for scheduled instruction are reported under *Program Code* 11. Such facilities used for intramural and recreational uses are reported under *Program Code* 52—Social and Cultural Development or *Program Code* 55—Student Auxiliary Services. Those used for intercollegiate athletics are under *Program Code* 56—Intercollegiate Athletics.

Discussion

National Data

In the recent *Survey of Space Standards*, many university systems reported *space planning guidelines* either as a core minimum ASF plus additional ASF for students over the base number of students, or as an ASF allowance per student with no core minimum ASF. The definition of core minimum ASF varied from a low of 9 ASF to a high of 35 ASF per student FTE. The average was 16.5 ASF per FTE. The additional ASF allowance per student FTE above the core minimum ranged from a low of 3 ASF/FTE to a high of 10 ASF/FTE. The average was 7.4 ASF/FTE.

The Council for Educational Facilities Planners International (CEFPI) recommends a core requirement of 20,000 ASF for 1,000 student FTEs and an additional allowance of 5 ASF per student FTE above 1,000.

In neither the *Survey of Space Standards*, nor in the CEFPI planning guidelines, are any attempts made to define how the space should be allocated between different types of areas such as gymnasias, wrestling, exercise rooms, squash/hand/racquetball courts, etc.

Exhibit 3 shows the table from the *Other States Survey* summarizing the space planning guidelines for other university systems.

Variables

Although this is a facilities category that is used for instruction, there is no direct correlation to the number of *Student Clock Hours*, *Weekly Hours of Room Use* or *Station Occupancy Ratio* because these types of facilities play a dual role—both for instruction in physical education and for intramural sports and recreation. For this reason, CEFPI and other state guidelines are expressed in terms of FTEs, not unit measures of instructional use. As noted above, intercollegiate activities use is not included.

Proposed Guideline and Units of Measure

The proposed *space planning guideline* for HEGIS *Room Use Codes* 520/525 for *Program Code* 11 allows for a core of 20,000 ASF per 1,000 student FTEs, with an allowance of 7.5 ASF per student FTE above the core minimum of 1,000.

This *guideline* is in line with the CEFPI guidelines for a core minimum ASF, but provides for a richer ASF per student FTE than the CEFPI guidelines and it is the average for the guidelines from the *Other States Survey*.

Initial Calculation of Variances

Figure 3 shows the current FTEs, the ASF of 520 and 525 Athletic and Physical Education Facilities, the total ASF, the *Standard ASF* based upon the recommendation, the *Variance from Standard*, the percent of Institutional *Variance from Standard*, and the percent of Institutional Share of the System Capacity.

Figure 3 Calculations of Standard ASF, Variances from Standard for 520/525 Athletic and Physical Education (Instruction Only)						
	FTEs	Athletic & Phys. Ed. 520	Athletic Service 525	Total ASF	Standard ASF 7.5	Variance from Standard
NC State	23,236	164,528	41,594	206,122	186,770	19,352
UNC Chapel Hill	21,451	160,353	47,146	207,499	173,383	34,117
UNC Greensboro	10,631	20,579	15,683	36,262	92,233	(55,971)
East Carolina	16,423	29,914	5,964	35,878	135,673	(99,795)
Appalachian St.	11,610	65,263	31,575	96,838	99,575	(2,737)
Fayetteville State	3,414	40,156	15,900	56,056	38,105	17,951
NC A&T	6,870	63,882	13,118	77,000	64,025	12,975
NC Central	4,932	55,449	13,454	68,903	49,490	19,413
UNC Charlotte	13,585	53,299	25,386	78,685	114,388	(35,703)
UNC Pembroke	2,592	46,025	14,123	60,148	31,940	28,208
UNC Wilmington	8,382	29,349	10,249	39,598	75,365	(35,767)
Western Carolina	6,007	71,823	9,510	81,333	57,553	23,781
UNC Asheville	2,668	54,801	10,338	65,139	32,510	32,629
Elizabeth City St.	1,829	39,809	8,183	47,992	26,218	21,775
Winston-Salem St.	2,557	25,116	4,696	29,812	31,678	(1,866)
NC School of Arts	1,061	7,508	3,260	10,768	20,458	(9,690)
UNC Total		927,854	270,179	1,198,033	1,229,360	(31,327)

Sources: Report 3A from the NC Commission on Higher Education Facilities

STUDENT SERVICES

Definition of the Category

For purposes of this *Work Paper*, Student Support Services space is defined as facilities that are typically found in student unions/centers, recreation buildings not included in the previous guideline as *Program Code 11—Instruction*, and other general student services areas. The *HEGIS Room Use Codes* used are as follows:

- 520/525-Athletic or Physical Education (Program Codes 52 and 55)**
- 610/615 Assembly (Program Codes 52 and 55 adjusted)**
- 620/625 Exhibition (Program Codes 52 and 55 adjusted)**
- 650/655 Lounge (Program Codes 52 and 55 adjusted)**
- 670/675 Recreation (Program Codes 52 and 55 adjusted)**
- 680/685 Meeting (Program Codes 52 and 55 adjusted)**

Because guidelines are proposed separately for Residential Facilities, for this category, *Program Codes 52 and 55* have been adjusted by the NC Commission on Higher Education Facilities to remove square footage of the selected 600 series space that is located in residential facilities.

Discussion

National Data

Athletic or Physical Education and Service

Please see the Format of Space Planning Standard and Units of Measure for Athletic and Physical Education guidelines, which were discussed previously (above).

Assembly/Exhibition and Service

The *Survey of Space Standards* found that state systems vary in defining *space planning guidelines* for Assembly and Exhibition space. Some university systems set separate standards for Assembly and Exhibition space. Other systems combined the two room types into one standard.

University systems that defined Assembly space separately specified a core minimum ASF plus an ASF allowance per student FTE over a specified number of FTEs. In some cases an ASF allowance was also included for faculty. Other systems make specific reference to additional allowances based upon the intensity level of the Fine Arts program at an institution.

For university systems that established a core minimum ASF, those minimums ranged from 14,500 ASF for the first 2,000 student FTEs, plus 6 ASF/FTE over 2,000, to a core minimum of 19,000 ASF for the first 5,000 student FTEs, plus 1 ASF for each FTE over 5,000.

Few university systems set separate Exhibition space planning guidelines. The few that did usually defined it as a minimum of 1 ASF to 2.5 ASF per 1,000 student FTEs and additional space allowance of 0.5 ASF to 1 ASF over the core minimum student FTEs.

The university systems that reported space planning guidelines reflecting active degree programs in the Fine and Performing Arts field used a base core of 2.8 ASF per 1,000 student FTEs. This space allowance was increased to 8 ASF per student FTE with an active Fine Arts degree program.

For institutions of 5,000 student FTEs or larger, a space allowance of 6 ASF per student FTE for each student FTE over 5,000 was allowed for the addition of theater and music degree programs.

University systems that combined both Assembly and Exhibition space into one standard set an allowance of 3 ASF per student FTE with a core minimum ASF of 25,000 ASF. Another university system set an ASF allowance based on a range of student FTEs. This range was a minimum of 1,000 student FTEs and 55,200 ASF to a high of 30,000 student FTEs and 84,120 ASF.

Lounge and Service

Few university systems directly addressed the issue of Lounge and Lounge Service space in planning guidelines. In general, lounge areas for student services are addressed in a broader formula that addresses other areas in student service centers. See the discussion of Student Services at the end of this section for more information.

Recreation

Two of the three university systems that reported Recreation *space planning guidelines* for Student Services used FTEs as a basis and the third used headcount enrollment as the basis. The core minimum ASF for Recreation space ranged from a core minimum of 3,000 ASF plus 1.5 ASF per FTE to a core minimum of 20,000 ASF for the first 1,000 student FTEs and an additional 1.5 ASF per student FTE over 1,000.

The state using headcount enrollment as a basis for setting Recreation standards used 40,800 ASF for a headcount of 1,000 and 68,000 ASF for a headcount of 5,000; 9 ASF/headcount was the additional allowance for space above the baseline headcount.

Other criteria used only the FTEs for day students, i.e. only those students enrolled from 8AM to 5PM. Another criterion was an allowance of 15 percent for future growth. One state's guideline stated that recreation space was to be predicated on programmatic needs.

Meeting and Meeting Service

Only two university systems reported any specificity on Meeting Space planning guidelines. Colorado provides ASF per seat depending on room configuration of tables and chairs, chairs, or auditorium style seating. Pennsylvania sets a planning guideline of a core allowance of 5,000 ASF and 1 ASF/FTE over a base of 5,000 FTEs. Most of the university systems grouped the HEGIS *room use codes* 650 to 680 into one category called Student Services.

Student Services

Student Services were generally defined as student unions or centers. Of the 14 university systems reporting *space planning guidelines* for the category of Student Services, 10 use FTE as a basis and four use headcount enrollment as a basis. The ASF per FTE or headcount ranged from 6.5 ASF to 18 ASF with an average of 11.9 ASF per FTE or headcount.

Proposed Guideline and Units of Measure

For purposes of defining Student Services it was determined that a single *space planning guideline* which allowed institutions the latitude to determine the mix of facility types was more appropriate than specifying space planning guidelines for each of the *Room Use Codes* applicable to Student Services.

A space planning guideline for Student Services would include HEGIS *Room Use Codes* for Assembly and Service (610/615), Exhibit and Service space (620/625), Lounge and Lounge Service

(650/655), Recreation and Recreation Service (670/675), Meeting and Meeting Service (680/685). For this analysis, a *space planning guideline* of 12 ASF per student FTE would be adopted.

Initial Calculation of Variances

Exhibit 4 is a summary table from the *Other States Survey* providing space planning guidelines for other university systems. Exhibit 7 is the worksheet for this category and shows the ASF for all *Program Code 52* space, the ASF for HEGIS *room use codes* 650/655, 670/675, 680/685, other space with Programs Codes 52 and 55, the total space with these categories, and the adjustment for space within these categories in the Residential Facilities. Most of the reported space in the column labeled "other" is study rooms or open stack/study rooms.

Figure 4 shows the current FTEs, the total ASF of student service space from the worksheet, the *Standard ASF* based upon the recommendation, and the *Variance from Standard*.

Figure 4 Calculations of Standard ASF, Variances from Standard for Student Services				
	FTEs	Total ASF	Standard ASF	Variance from Standard
			12	
NC State	23,236	130,655	278,832	(148,177)
UNC Chapel Hill	21,451	168,717	257,412	(88,695)
UNC Greensboro	10,631	84,084	127,572	(43,488)
East Carolina	16,423	244,278	197,076	47,202
Appalachian State	11,610	204,566	139,320	65,246
Fayetteville State	3,414	49,886	40,968	8,918
NC A&T	6,870	66,764	82,440	(15,676)
NC Central	4,932	69,628	59,184	10,444
UNC Charlotte	13,585	207,279	163,020	44,259
UNC Pembroke	2,592	56,124	31,104	25,020
UNC Wilmington	8,382	62,871	100,584	(37,713)
Western Carolina	6,007	120,029	72,084	47,945
UNC Asheville	2,668	28,214	32,016	(3,802)
Elizabeth City	1,829	46,970	21,948	25,022
Winston-Salem	2,557	62,756	30,684	32,072
NC School of the Arts	1,061	33,497	12,732	20,765
UNC Total		1,636,318	1,646,976	(10,658)

SUPPORT FACILITIES

Definition of the Category

HEGIS *Room Use Code* series 700 covers support facilities that provide space for various auxiliary support systems and services that help keep institutional programs and activities operational. Included in this area are the following *Room Use Codes*:

710/715	Central Computer or Telecommunications
720/725	Shop and Service
730/735	Central Storage and Service
740/745	Vehicle Storage and Service
750/755	Central Service and Support
760/765	Hazardous Materials and Service

Discussion

Although this area is not affected directly by anticipated enrollment growth, it will be affected by the growth in capital facilities on the campuses. Because there is an increased emphasis within the State and the University system for maintaining and renovating facilities, this series of HEGIS *Room Use Codes* is being included.

National Data

The two methods used to describe space planning guidelines for Support Services are either as a percentage of the total campus ASF, excluding the 700 series space, or as an ASF allowance based on FTEs.

University systems that reported space guidelines as an ASF of total space on campus ranged from 3 percent to 8 percent of ASF space either as E&G only, or all space, excluding the 700 series.

University systems that reported space guidelines as an ASF allowance per student FTE, the guidelines ranged from 4 ASF to 7 ASF per student FTE.

Exhibit 5 is a table from the *Other States Survey* summarizing the other university space planning guidelines for Support Facilities.

Proposed Guideline and Units of Measure

A space planning guideline of 4 percent of all campus ASF, excluding the 700 series space, could be used for predicting footage needs for central support services. Excluded from the calculation of this ASF would be *Program Code 71*—Physical Plant Administration (offices), which is covered by the space planning guideline for offices.

There are no recommendations here for individual HEGIS series 700 *Room Use Codes*. The proposed guideline is for an aggregated ASF allowance, which provides a basic quantitative estimate but allows institutions variability in determining actual space uses.

Initial Calculation of Variances

Figure 5 shows the current ASF of all HEGIS 700 space, the space coded as *Program Code 71*—Physical Plant Administration (which is being deducted), the adjusted ASF for the 700 series, the total ASF for the institution, the adjusted campus ASF (minus the 700 series) the *Standard ASF*, and the *Variance from Standard*.

Figure 5 Calculations of Standard ASF, Variance from Standard for 700 - Support Services							
	Total 700 ASF	Less Program Code 71	Adjusted ASF	Total Campus ASF	Adjusted Campus ASF	Standard ASF	Variance from Standard
						0.04	
NC State	412,395	15,424	396,971	6,177,076	5,764,681	230,587	166,384
NC State Vet	14,901		14,901	267,531	252,630	10,105	4,796
UNC Chapel Hill	296,755	19,973	276,782	5,008,065	4,711,310	188,452	88,330
UNC Chapel Hill-HA	36,033		36,033	1,620,861	1,584,828	63,393	(27,360)
UNC Greensboro	94,345	8,288	86,057	1,947,204	1,852,859	74,114	11,943
East Carolina	95,432	6,461	88,971	2,413,118	2,317,686	92,707	(3,736)
East Carolina-HA	44,817	987	43,830	563,788	518,971	20,759	23,071
Appalachian State	78,516	5,837	72,679	2,133,104	2,054,588	82,184	(9,505)
Fayetteville State	27,115		27,115	692,189	665,074	26,603	512
NC A&T	30,689	1,943	28,746	1,579,667	1,548,978	61,959	(33,213)
NC Central	28,635	1,779	26,856	1,012,760	984,125	39,365	(12,509)
UNC Charlotte	29,100	2,647	26,453	1,927,914	1,898,814	75,953	(49,500)
UNC Pembroke	15,325	2,870	12,455	514,263	498,938	19,958	(7,503)
UNC Wilmington	36,673	3,901	32,772	1,085,258	1,048,585	41,943	(9,171)
Western Carolina	70,322	3,136	67,186	1,593,013	1,522,691	60,908	6,278
UNC Asheville	18,200	1,939	16,261	585,321	567,121	22,685	(6,424)
Elizabeth City	15,709	1,084	14,625	588,636	572,927	22,917	(8,292)
Winston-Salem	26,416	792	25,624	687,942	661,526	26,461	(837)
NC School of the Arts	14,873	205	14,668	456,565	441,692	17,668	(3,000)
UNC Total	1,386,251	77,266	1,308,985	30,854,275	29,468,024	1,178,721	130,264

Sources: Report 3A and Table 15 from the Facilities Inventory and Utilization Study, 1997, NC Commission on Higher Education Facilities

RESIDENTIAL FACILITIES

Definition of the Category

Residential facilities are defined as buildings in which 80 percent or more of the facility is used for housing and generally include the following HEGIS *Room Use Codes*:

- 910 Sleep/Study without Bath
- 919 Toilet or Bath
- 920 Sleep/Study with Bath
- 935 Sleep/Study Service
- 950 Apartment
- 970 House

In addition to setting *guidelines* for residential facilities, it was determined that additional programming areas should be provided within the residential buildings. Therefore, data on the ASF for each institution, for the following HEGIS *Room Use Codes* within the residential facilities, were provided by the NC Commission on Higher Education Facilities by first subsetting residential buildings and then subsetting these HEGIS *Room Use Codes* for *Program Code 52*—Social and Cultural Development and *Program Code 55*—Student Auxiliary Services.

- 610/615 Assembly (*Program Codes 52 and 55*)
- 620/625 Exhibition (*Program Codes 52 and 55*)
- 650/655 Lounge (*Program Codes 52 and 55*)
- 670/675 Recreation (*Program Codes 52 and 55*)
- 680/685 Meeting (*Program Codes 52 and 55*)

No space was reported in the Athletic and Physical Education, Assembly, or Exhibit *Room Use Codes* for residential buildings in these two *Program Codes* for Residential Facilities..

Discussion

National Data

In the *Survey*, it was found that only two university systems specifically addressed the space planning guidelines for residential buildings. These *space planning guidelines* are:

- | | |
|------------------------------|-----------------------------|
| 910 Sleep/Study without Bath | 150 ASF to 215 ASF/Resident |
| 919 Toilet or Bath | 30 ASF/Resident |
| 920 Sleep/Study with Bath | 190 ASF/Resident |
| 950 Apartment | 180 ASF/Resident |

Exhibit 6 is a table from the *Other States Survey* summarizing the *space planning guidelines* for Residential Facilities.

Types of Housing Stock at UNC Institutions

The type and size of housing established on the various constituent institutions varies. It is evident that a great deal of the current student housing inventory was built in the 1960s when federal monies were available to build these facilities. The average square foot per resident varies from institution to institution and may be influenced by the type of housing and the years when they were built. Most of the older housing inventory is the traditional double loaded corridor (910) with common bath facilities (919) and with or without lounge or general use (650 and 935) area on each floor. The newest housing in the inventories reflects changed perception of housing needs and typically includes more suite (920) or apartment (950) type arrangements. These styles of housing not only appeal to today's student but also reflect a larger square footage per resident than the traditional housing configurations required.

Proposed Guideline and Units of Measure

The unit of measure is *Beds*. The data on total beds are from a special data report provided by the NC Commission on Higher Education Facilities which represents the numbers of beds available in university-owned or controlled housing.

These calculations are done using numbers of beds defined as those beds currently in student housing owned by or controlled by the universities. These numbers therefore would not include any number of students who may have wished to be in university housing but could not be accommodated and who may be living in privately-owned housing. For this reason, these initial calculations may understate the demand for University controlled housing in the case of any institution that has significant demand for beds that it cannot meet.

A space planning guideline of 150 ASF per resident student would cover all categories of housing. Also, this guideline would include service and student support space such as lounges, meeting rooms and recreation rooms (650/655, 670/675, and 680/685), in addition to service space (935) which generally consists of storage areas and small kitchenettes, and the rest of the 900 series space. Thus, the guideline is a general allowance that does not specify breakdown of room types and allows for considerable variations.

Initial Calculation of Variances

Exhibit 8 is the worksheet for this category and shows ASF for all relevant HEGIS *room use codes*, the subtotal Residential ASF, the ASF for the appropriate 600 series space in the Residential Facilities, the subtotal for Student Service space, and the total for all Residential space.

Figure 6 shows the Headcount, the current number of beds available (station or bed count), the subtotal ASF for Residential space, the subtotal ASF for Non-Residential space, the total ASF in residential facilities, and the percent of headcount for which beds are available. Due to the fact that the numbers of beds available is more important than the square footage, no calculation of space variance was performed for residential facilities. A more realistic approach to determining need for residential facilities is the percent of students that the University wishes to house. In preparation of *Work Paper II-B-9 Enrollment Driven Capital Needs*, this methodology will be used.

**Figure 6
Headcount, Total Beds, Residential ASF and Percent Housed for 900 Residential Facilities**

	HC	Total Beds	Subtotal Residential ASF	Non- Residential ASF	Total ASF	Percent of HC Housed
NC State	27,529	7,732	1,040,370	47,811	1,088,181	28%
UNC Chapel Hill	23,668	7,152	1,070,632	81,363	1,151,995	30%
UNC Greensboro	12,308	3,596	499,418	82,217	581,635	29%
East Carolina	17,846	5,582	709,488	34,450	743,938	31%
Appalachian State	12,108	4,681	681,043	61,899	742,942	39%
Fayetteville State	3,916	1,225	162,460	9,975	172,435	31%
NC A&T	7,468	2,901	346,093	15,902	361,995	39%
NC Central	5,664	2,014	252,073	19,906	271,979	36%
UNC Charlotte	16,370	4,137	575,499	39,287	614,786	25%
UNC Pembroke	3,034	918	105,152	5,064	110,216	30%
UNC Wilmington	9,176	2,104	277,254	12,459	289,713	23%
Western Carolina	6,531	2,944	435,799	23,120	458,919	45%
UNC Asheville	3,179	933	128,925	8,806	137,731	29%
Elizabeth City	1,920	1,457	165,057	9,116	174,173	76%
Winston-Salem	2,865	1,109	146,225	8,157	154,382	39%
NC School of the Arts	1,032	714	84,593	3,508	88,101	69%
UNC Total	154,614	49,199	6,680,081	463,040	7,143,121	

Sources: Report 3A and a special report prepared by the NC Commission on Higher Education Facilities

EXHIBIT I – HEGIS ROOM USE CODES

100 Classroom Facilities	650 Lounge
110 Classroom	655 Lounge Service
115 Classroom Service	660 Merchandising
	665 Merchandising Service
200 Laboratory Facilities	670 Recreation
210 Class Laboratories	675 Recreation Service
215 Class Laboratories Service	680 Meeting Room
220 Open Laboratory	685 Meeting Room Service
225 Open Laboratory Service	
250 Research/Non-class Laboratory	700 Support Services
255 Research/Non-class Laboratory Service	710 Central Computer or Telecommunications
	715 Central Computer or Telecommunications Service
300 Office Facilities	720 Shop
310 Office	725 Shop Service
315 Office Service	730 Central Storage
350 Conference Room	735 Central Storage Service
355 Conference Room Service	740 Vehicle Storage
	745 Vehicle Storage Service
400 Study Facilities	750 Central Service
410 Study Room	755 Central Service Support
420 Stack	760 Hazardous Material
430 Open-Stack Study Room	765 Hazardous Material Service
440 Processing Room	
455 Study Service	800 Health Care Facilities
	810 Patient Bedroom
500 Special Use Facilities	815 Patient Bedroom Service
510 Armory	820 Patient Bath
515 Armory Service	830 Nurse Station
520 Athletic or Physical Education	835 Nurse Station Service
523 Athletic Facilities Spectator Seating	840 Surgery
525 Athletic or Physical Education Service	845 Surgery Service
530 Media Production	850 Treatment/Examination
535 Media Production Service	855 Treatment/Examination Service
540 Clinic	860 Diagnostic Service Laboratory
545 Clinic Service	865 Diagnostic Service Laboratory Support
550 Demonstration	870 Central Supplies
555 Demonstration Service	880 Public Waiting
560 Field Building	890 Staff On-Call Facility
570 Animal Quarters	895 Staff On-Call Facility Service
575 Animal Quarters Service	
580 Greenhouse	900 Residential Facilities
585 Greenhouse Service	910 Sleep/Study Without Toilet or Bath
590 Other (All Purpose)	919 Toilet or Bath
	920 Sleep/Study With Toilet or Bath
600 General Use Facilities	935 Sleep/Study Service
610 Assembly	950 Apartment
615 Assembly Service	955 Apartment Service
620 Exhibition	970 House
625 Exhibition Service	
630 Food Facility	
635 Food Facility Service	
640 Day Care	
645 Day Care Service	

EXHIBIT 2 –NCHEMS PROGRAM CLASSIFICATION STRUCTURE (PCS)

<p>10 INSTRUCTION</p> <p>11 General Academic Instruction (Degree-related)</p> <p>12 Vocational/Technical Instruction (Degree-related)</p> <p>13 Requisite Preparatory/Remedial Instruction</p> <p>14 General Studies (Nondegree)</p> <p>15 Occupational-related Instruction (Nondegree)</p> <p>16 Social Roles/Interaction Instruction (Nondegree)</p> <p>17 Home and Family Life Instruction (Nondegree)</p> <p>18 Personal Interest and Leisure Instruction (Nondegree)</p>	<p>54 Financial Aid Administration</p> <p>55 Student Auxiliary Services</p> <p>56 Intercollegiate Athletics</p> <p>57 Student Health/Medical Services</p>
<p>20 RESEARCH</p> <p>21 Institute and Research Centers</p> <p>22 Individual or Project Research</p>	<p>60 INSTITUTIONAL ADMINISTRATION</p> <p>61 Executive Management</p> <p>62 Financial Management and Operations</p> <p>63 General Administration and Logistical Service</p> <p>64 Administrative Computing Support</p> <p>65 Faculty and Staff Auxiliary Services</p> <p>66 Public Relations/Development</p> <p>67 Student Recruitment and Admissions</p> <p>68 Student Records</p>
<p>30 PUBLIC SERVICE</p> <p>31 Direct Patient Care</p> <p>32 Health Care Supportive Services</p> <p>33 Community Services</p> <p>34 Cooperative Extension Services</p> <p>35 Public Broadcasting Services</p>	<p>70 PHYSICAL PLANT OPERATIONS</p> <p>71 Physical Plant Administration</p> <p>72 Building Maintenance</p> <p>73 Custodial Services</p> <p>74 Utilities</p> <p>75 Landscape and Ground Maintenance</p> <p>76 Major repairs and Renovations</p>
<p>40 ACADEMIC SUPPORT</p> <p>41 Library Services</p> <p>42 Museums and Galleries</p> <p>43 Educational Media Services</p> <p>44 Academic Computing Support</p> <p>45 Ancillary Support</p> <p>46 Academic Administration</p> <p>47 Course and Curriculum Development</p> <p>48 Academic Personnel Development</p>	<p>80 STUDENT FINANCIAL SUPPORT*</p> <p>81 Scholarships</p> <p>82 Fellowships</p>
<p>50 STUDENT SERVICE</p> <p>51 Student Service Administration</p> <p>52 Social and Cultural Development</p> <p>53 Counseling and Career Guidance</p>	<p>90 INDEPENDENT OPERATION</p> <p>91 Independent Operations/Institutional</p> <p>92 Independent operations/External agencies</p>
	<p>00 UNASSIGNED**</p> <p>01 Capable of Use</p> <p>02 Incapable of Use</p> <p>03 Building Service</p>

* The 80-Student Financial Support series is not used in institutional room inventories.

** Program series 00-Unassigned is not a Program Classification Structure category. It has been created exclusively for use in NC institutional room inventories.

EXHIBIT 3 – SUMMARY OF SPECIAL USE FACILITIES

FIGURE I SUMMARY OF SPECIAL USE FACILITIES SPACE STANDARDS (520/530)		
State/ System	Physical Education	Media Production
Range		
Mean		
California (CSU)	up to 10,000 ASF/FTE = $12.1 - 0.0004 \times$ campus FTE; over 10,000 = $8.1 - 0.00014 \times$ (campus FTE - 10,000)	ASF = 5,000 ASF + (1 ASF x FTE) for basic services; ASF = 10,000 ASF + (1 ASF x FTE) for comprehensive services
Colorado	RUR = 20 hours/week SOR = 80% ASF/student station = 160	
Florida	50,000 NASF for first 5,000 FTE and 3 NASF/FTE over 5,000 FTE	10,000 NASF and .05 NASF/FTE over 40, 000 FTE
Kansas		1.5 staff member/1,000 FTSE at 80 NASF/station
Minnesota	68,000 ASF for first 5,000, 9 ASF for each student over 5,000; 35 ASF for majors and 20 ASF for minors	
Montana	9 NASF/FTSE	
Nebraska	40-50,000 ASF core requirement, plus 9 ASF/resident HC and 1 ASF for non-resident and faculty/staff	
New Hampshire	40,000 ASF at colleges, 60,000 ASF at UNH plus 9 ASF/FTSE	5,000 ASF base plus 1 ASF/student
New Jersey	16,000 NASF for first 1,000 FTSE and 10, 000 NASF for additional FTSE above 1,000	1 NASF/FTSE with minimum of 5,000 NASF
New York (CUNY)	40-58,000 ASF core requirement, plus 9 ASF/resident HC and 1 ASF/non-resident and faculty/staff	varies by program
New York (SUNY – Univ. Centers)	1-12,000 FTE = 115,000 ASF 12-20,000 FTE = 186,000 ASF 20-30,000 FTE = 282,000 ASF	
Oregon	indoor: 16 ASF/FTSE with minimum based on 3,000 FTSE; outdoor: 100 ASF/FTSE with minimum based on 3,000 FTSE	
Pennsylvania	indoor: 50,000 ASF/first 1,500 FTSE plus 6 ASF/FTSE; outdoor: 10,000 ASF/first 2, 000 FTSE plus 6 ASF/FTSE	25 ASF x FTSE for majors and 3 ASF x FTSE for general enrollment
South Carolina	ASF = (core requirement + # of students above core) x 5 ASF; Core requirement of 20, 000 for first 1,000 students; use HC when enrollment is below 2,000 and FTE when above 2,000	3 ASF x HC FTSE + 25 ASF x FTSE in related disciplines + 100 FTE faculty doing research in related disciplines
Tennessee	Daytime FTE x 10 SF, minimum of 20,000 NASF	
Utah	Minimum 35,000 ASF plus 6 ASF/FTE over first 1,000 FTE	

EXHIBIT 4 - SUMMARY OF GENERAL USE FACILITIES

FIGURE 2				
SUMMARY OF GENERAL USE FACILITIES SPACE STANDARDS (610, 620, 670, AND STUDENT SERVICES)				
State/System	Assembly	Exhibition	Recreation	Student Services
Range				6.5 to 18
Mean				11.9
California (CSU)	Auditorium: minimum seating = 1, 200 Little Theater = 500 Music Hall = 200	Minimum of 1 at 3, 000SF		
Colorado				9.75 ASF/HC
Florida	3 NASF/FTE with a minimum of 25, 000 NASF for main campuses			7.5 ASF/FTE
Kansas				14.5 NASF/HC
Illinois				8.25 ASF/FTE
Maryland			Core of 3,000 ASF plus 1.5 ASF/FTE exclusive of residence halls recreation space	
Minnesota			1,000 HC = 40,800 ASF 5,000 HC = 68,000 ASF plus 9 ASF/HC above core	9 ASF/FTSE for student unions
Nebraska			Based on programmatic needs	6.5 ASF/delivery site HC
New Hampshire	3 NASF/FTE with a minimum of 25, 000 NASF for main campuses			
New Jersey	19, 000 NASF for the first 5, 000 FTE, 1 NASF for each additional FTSE over 5, 000 FTE. Add 5,000 NASF/program for fine and performing arts programs	1 NASF for the first 4, 000 FTSE, 0.5 NASF for each additional FTSE above 4, 000.	Same as Athletics and Physical Education	10 ASF/FTSE for student centers, 2 NASF/FTE other space
New York (CUNY)				6.5 ASF/delivery site HC
New York (SUNY - Univ. Centers)	1-12, 000 FTE = 55, 200 ASF 12-20, 000 FTE = 61, 450 ASF 20-30, 000 FTE = 84, 120 ASF			10.5 ASF/FTE
Oregon				first 2, 400 FTE = 18 ASF/FTSE; 2,401 FTE or more = 12-18 ASF/FTSE
Pennsylvania	14, 500 ASF + 6 ASF/FTSE over 2, 000 FTSE + 6 ASF/FTEF	5, 000 ASF for first 2, 000 FTSE + 1 ASF/FTSE over 2, 000 FTSE + 1 ASF/FTEN	20,000 ASF for first 1,000 FTSE, 5 ASF/additional FTSE over 1,000 FTSE. Add 15% for future growth	10 ASF/FTSE
South Carolina	Basic Core (limited Fine Arts program) = 5, 600 ASF; Enhanced Core (active Fine Arts program) = 16, 000 ASF; Larger Core (Minimum 5, 000 FTE + active Fine Arts program) = 22, 450 ASF; Music Option = 22, 500 ASF + 5, 000 ASF + 6 ASF/FTE over 5, 000		Same as Athletics and Physical Education	9 ASF/FTE
Tennessee				Daytime FTE x 8.25 SF
Virginia				7 to 10 ASF/FTE

EXHIBIT 5 - SUMMARY OF SUPPORT FACILITIES

FIGURE 3			
SUMMARY OF SUPPORT FACILITIES SPACE STANDARDS (710/720)			
State/System	Physical Plant	Data Processing	Support Services
Range			
Mean			
Colorado	7.5% of E&G ASF		
Florida	5% of formula generated NASF		
Kansas	5 NASF/FTSE		
Nebraska	Building Maintenance: 0.75% of ASF campus wide, Grounds Maintenance: 50 ASF/campus acreage	10 ASF/computer terminal 5-15 ASF per printer	
New Hampshire	5% of all other E&G ASF space	1.5 - 6 ASF/FTSE by lower, upper, & grad division	
New York (CUNY)	Building Maintenance: 0.75% of ASF campus wide, Grounds Maintenance: 50 ASF/campus acreage	10 ASF/computer terminal 5-15 ASF per printer	10.5 ASF x FTE Day Students
New York (SUNY-Univ. Centers)	3% of all other categories		4% of total of all other categories
Oregon	Central Services = 6% of the buildings fully served	as required	
Pennsylvania			5% of total ASF + allowance for local conditions
South Carolina	8% of room types 100 - 715 plus 800s & 900s	4,500 ASF + [(1 - 3.5/ASF) x FTE] > 5,000	
Tennessee	5.2% of total space		
Texas			9% of the total of all other calculated space
Virginia	4 ASF/FTE student, up to 7 ASF per FTE student with justification		

EXHIBIT 6 – SUMMARY OF RESIDENTIAL FACILITIES

Residential facilities are classified within the HEGIS *room use code* 900 series and include the categories of sleep/study without toilet or bath (910), toilet or bath (919), sleep/study with toilet or bath (920), apartment (950), and house (970).

Three states list residential guidelines. Oregon gives general guidelines without reporting any quantitative measures. Nebraska provides general guidelines and a standard for double occupancy, sleep/study rooms without baths. Only Pennsylvania reported quantitative residential facilities space standards. These space standards are:

Sleep/study without toilet or bath = 150 to 215 ASF x # of residents

Toilet or bath (traditional dorm) = 30 ASF x # of residents

Sleep/study with toilet or bath = 190 ASF x # of residents

Apartment:

- **student occupied = 180 ASF x # of residents as justified by local conditions**
- **Resident Hall Director = up to 750 ASF per Director.**

EXHIBIT 7 - STUDENT SERVICES WORKSHEET

	Program Code 55—Student Auxiliary Services											Less Resdt. Halls	Adjusted Total
	Total Program Code 52	Athletic 520	Lounge 650	Lounge Service 655	Recreat. 670	Recreat. Service 675	Meeting 680	Meeting Service 685	Other	Total ASF			
NC State	120,785		35,389	343	16,069	419	4,789	672		178,466	47,811	130,655	
UNC Chapel Hill	137,071		66,669	94	17,667	70	1,253		27,256	250,080	81,363	168,717	
UNC Greensboro	136,736				25,694		1,917		1,954	166,301	82,217	84,084	
East Carolina	244,019		22,824		9,443	2,442				278,728	34,450	244,278	
Appalachian State	195,632		60,123	1,582	2,454		4,097		2,577	266,465	61,899	204,566	
Fayetteville State	43,009		9,937	544		2,143			4,228	59,861	9,975	49,886	
NC A&T	57,826		19,586		5,254					82,666	15,902	66,764	
NC Central	54,666		19,122	254	6,904		540		8,048	89,534	19,906	69,628	
UNC Charlotte	176,998		37,638	48	4,144	372	6,443	85	20,838	246,566	39,287	207,279	
UNC Pembroke	45,243		13,089	511					2,345	61,188	5,064	56,124	
UNC Wilmington	60,049		10,795	63			1,522	89	2,812	75,330	12,459	62,871	
Western Carolina	119,486	306	23,357							143,149	23,120	120,029	
UNC Asheville	22,147		10,270	186			803		3,614	37,020	8,806	28,214	
Elizabeth City	38,004		10,425	575	979	48	912	108	5,035	56,086	9,116	46,970	
Winston-Salem	58,715		7,110	167	3,961				960	70,913	8,157	62,756	
NC School of the Arts	29,909		5,543	599					954	37,005	3,508	33,497	
UNC Total	1,540,295	306	351,877	4,966	92,569	5,494	22,276	954	80,621	2,099,358	463,040	1,636,318	

Notes: Athletic (520) is for Program Code 55 only.

Source: Report 3A and a special report prepared by the NC Commission on Higher Education Facilities

EXHIBIT 8 - RESIDENTIAL FACILITIES WORKSHEET

	Sleep w/o Bath	Sleep w/o Bath	Toilet or Bath	Toilet or Bath	Sleep w/Bath	Sleep w/Bath	Sleep Service	Apt.	Apt. Service	House	Subttl Resident. Space	Lounge & Service	Recreat. & Service	Meet. & Service	Sdtd. Svcs.	Td Resdtd
	910	910X	919	919X	920	920X	935	950	950X	970	Space	650/655	670/675	680/685		
NC State	601,338		68,752		159,860		26,346	180,005		1,665	1,040,370	26,665	19,439	1,707	47,811	1,088,181
UNC Chapel Hill	260,494	19,117	31,211	3,662	498,190	10,047	49,896	198,015			1,070,632	65,202	14,908	1,253	81,363	1,151,995
UNC Greensboro	327,966	3,953	48,304	4,360	10,798	3,041	33,093	60,379	7,524		499,418	54,606	25,694	1,917	82,217	581,635
East Carolina	517,762	5,110	31,039	550	140,419		14,608				709,488	22,565	11,885		34,450	743,938
Appalachian	350,772	2,097	47,879	1,647	117,292	10,058	24,356	113,384	225		681,043	55,348	2,454	4,097	61,899	742,942
Fayetteville	60,248		7,824		77,985	6,216	9,266	921			162,460	7,832	2,143		9,975	172,435
NC A&T	203,569	1,664	11,598		114,126		5,363	5,313		4,460	346,093	10,648	5,254		15,902	361,995
NC Central	172,871	12,593	23,868	1,997	236		20,458	20,050			252,073	12,462	6,904	540	19,906	271,979
UNC Charlotte	156,250	4,082	23,700		93,762	4,409	20,852	256,361	16,083		575,499	28,243	4,516	6,528	39,287	614,786
UNC Pembroke	50,957		6,192		45,655	2,260	88				105,152	5,064			5,064	110,216
UNC Wilmington	45,264	1,056	3,080	3,568	77,275	1,651	4,943	117,210	22,156		277,254	10,848		1,611	12,459	289,713
Western Carolina	187,622	850	31,020	170	139,606	543	40,385	34,434	1,169		435,799	22,589	531		23,120	458,919
UNC Asheville	26,696	252	3,404	336	86,491	4,166	5,752	1,828			128,925	8,003		803	8,806	137,731
Elizabeth City	64,823		7,892		80,366	3,895	6,482	845		754	165,057	6,969	1,027	1,120	9,116	174,173
Winston-Salem	72,586		8,829	2,189	47,544	4,528	3,185	5,906	1,458		146,225	4,196	3,961		8,157	154,382
NC School of Arts	46,905		6,200		11,424			20,064			84,593	3,508			3,508	88,101

Notes: An "X" after a room use code denotes facilities that are specifically designed and equipped for the mobility-impaired.
Source: Report 3A and a special report prepared by the NC Commission on Higher Education Facilities