

**Ten Year Enrollment Plan
University of North Carolina
General Administration**

Instructions

The forms for Ten Year Enrollment Plan can be found at the following web address:

<https://fred.northcarolina.edu/fordirs/enrlplan/index1.html>

The entry to the submission site is password protect since it is housed at the fordirts webpage. The form will ask for FICE code, name, email address and phone number. Once you have enter the information, click the submit button and you will then enter your forms page.

Enter the all information in the provided spaces on the form. Please note that UNC General Administration has pre-loaded projections for you; however, you can change these values.

Once you have completed the form, click the submit button. You will receive a summary page of your data you have entered including totals. At the top of the page are options for PDF and Excel to obtain summary of submitted data and measures associated with your submission, including the summary sheets, comparisons from 2007 to selected projected years, and reasonable measures which allow you to look at proportions and comparison of your submitted data to UNC General Administrations projected data.

Enclosed on the following pages are descriptions of the projection models and useful information for making your projections. Further instructions are to follow importing the file on January 30, 2008 by Diana Haywood.

These projections are preliminary and are due February 29, 2008. The final submission projected to be due in May.

Please contact me if you have any questions.

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Enrollment Projection Models

Earlier models had output in terms of graduate and undergraduate in-state and out-of-state students. In an attempt to provide more detail and particularly to project the number of new freshmen each campus could expect, new models were developed in 2003 in conjunction with the development of the ten-year plan for 2004-2012. They provide much more detail and in the same terms in which students are typically classified on campus. Those two models are continued and one new one has been developed, the County Diversity Model. As its title suggest it looks at county-by-county high school graduation data in much more detail then previously possible. The three models have been updated and are briefly described.

GA High School Graduates Model. This model, developed and first used in 2003 for the current ten-year plan, uses DPI-projected high school graduates by NC county (augmented by the addition of OP projections of special public and private high school graduates) as the input, and projects headcount enrollment in 20 mutually exclusive SDF-defined categories of students in undergraduate, masters, doctoral, and first professional programs. This model uses 7 years of historical data for past participation rates of 20 categories of SDF-defined students in each of our 16 institutions from 100 NC counties. It projects institutional participation rates for 10 years out and multiplies the projected rates times projected populations to arrive at projected institutional enrollments. With the increased possibility of cells with small numbers, this model is more sensitive to increasing or declining populations or participation rates than the Census Model described below. The participation rate is the overall participation rate and is not differentiated among diverse groups.

GA Census Model. This model, also developed and used in 2003 for the current ten-year plan, uses US Census data for NC as the input (state-wide, not by county), and projects headcount enrollment in 20 mutually exclusive SDF-defined categories of students in undergraduate, masters, doctoral, and first professional programs. This model uses 7 years of historical data for part participation rates of 20 categories of SDF -defined students at each of our 16 institutions from nine age categories taken from the NC state-wide US Census data. It projects institutional participation rates for 10 years out and multiplies the projected rates times projected populations to arrive at projected institutional enrollments. With a reduced possibility of cells with small numbers, this model is less sensitive to increasing or declining populations or participation rates than the HS Grad Model described above.

GA County Diversity Model. This model, newly developed in 2005, is based on the diversity of our counties. With the rapidly changing demographics in North Carolina, this is an attempt to capture the changing ethnic and racial composition of high school graduates in North Carolina. While this model draws on the work of the Western Interstate Commission for Higher Education and their state-by-state projection of high school graduates, it goes beyond that work by taking the diversity down to the county level. It is based on birth rates county by county in North Carolina and captures in migration. Based on 1991 to the most current actual DPI data, progression ratios from birth to high school are calculated for the diverse groups in each county. Ultimately,

more recent data were weighted for the progression ratios for Hispanic students to provide a more realistic picture since the rapid immigration in the late 1990s tended to inflate the birth to K, and Grade 1 ratios. The output of this model is also headcount enrollment in 20 mutually exclusive SDF-defined categories of students in undergraduate, masters, doctoral, and first professional programs.

One advantage of this model is that it distributes the participation rates to diverse student groupings based on their actual participation in UNC. The High School Projection Model uses state wide data and applies the overall participation rate to all high school graduates. In a period of rapidly changing demographics, we want to be able to predict which students will likely participate in UNC. Another advantage is that it provides campuses a detailed projection of the changing demographics in the counties they traditionally have drawn from.

**Projections of Assignable Square Footage
University of North Carolina
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New to the ten year planning process is the projection of assignable square footage (ASF). The space projections are divided into classrooms (110), instructional laboratories (210,220), offices (310), residences (910, 920, 950,970), and other assignable space. Available in the entry form are projections produced by UNC General Administration. These are to provided to give some guidance as you determine the space needs with you projected headcount growth

Projections for ASF were calculated by first examining historical data over the period of 2001 to 2006. For each year a ratio of ASF to headcount was determined. Next the highest and lowest ratios over the period were average. The average ratio for ASF to headcount is then multiplied to projected UNC-GA headcount to determine the projected ASF.

The projections given here are a rough estimate and better estimations can be given by the campuses. However; when considering your assignable square footage, consider the space planning standards outlined in the *Facilities Inventory and Utilization Study 2006* which has been provided to you with this document. We have also provided a document outlining the actual ASF for classrooms and instructional labs for 2001 through 2006 and the ideal classroom and instructional laboratory space given the standards provided from utilization study. An example is provided below:

Standard classroom space factor is assigned to be 18 ASF per classroom station divided by the standard average weekly room hours (35) multiplied by standard percent station utilization (0.65 or 65%).

Ideal classroom ASF is equal to the number of classroom stations X standard classroom space factor. This was determined for the period from 2001- 2006. The projected years were calculated as above using ideal numbers instead.

TABLE 11:

SPACE STANDARDS

(University of North Carolina only)

Space standards previously published in this study were selected from the Higher Education Facilities Planning and Management Manuals published by the Western Interstate Commission for Higher Education. While these published criteria were considered a useful baseline for subsequent space standards development both at the national level* and by individual states and institutions, the evolution of room configurations and needs at today's institutions of higher education had clarified the need for updated space planning standards in selected categories of space. To this end, the University of North Carolina, in conjunction with higher education consultants (Eva Klein and Associates, Ltd.), in 1997-98 developed space planning standards to be used as an additional variable in the evaluation of capital project needs at the UNC campuses.

It should be noted that the criteria presented here are *planning* guidelines for current and future needs based on specific assumptions of program, enrollment, employment, and/or research growth during a given planning period. They are therefore neither *programming* nor *design* standards for use as either architectural or cost estimation guides. In addition, these standards do not attempt to address quality issues of space in terms of either facility condition or suitability for current and future needs. Differences in institutional missions, program diversity, or specific strategic plans were also not included as components of the development. As a result, these standards are not intended as exclusive or absolute indicators for determination of project needs. Given these limitations, the adopted criteria are used within various standard formulas to develop totals for predicted space for each campus. These figures are in turn used, in comparison with inventoried space statistics, to calculate hypothetical surplus/deficit assignable square footages in the selected categories.

Space planning standards were developed for the first four series of HEGIS Room Use Codes as defined in both the national and N.C. facilities classification manuals. These standards were officially adopted by the UNC Board of Governors in October, 1998:

100 Series - Classroom Facilities - The standards apply only to the 110-Classroom Room Use Code. Room Use Code 115 (Classroom Service) is omitted in the calculations in accordance with typical comparative reporting practices in higher education.

*The most recent set of national space criteria was developed in 1985: Space Planning Guidelines, Council of Educational Facility Planners, International.

Space Standards

Table 11

200 Series - Laboratory Facilities - Two types of laboratory space were studied:

210 - Class Laboratory - This includes only those laboratories that are used for regularly scheduled instruction. Excluded are areas classified as 215-Class Laboratory Service, 220-Open Laboratory (irregularly scheduled), and 225-Open Laboratory Service.

250 - Research/Nonclass Laboratory - Based again on typical industry reporting standards, this analysis also includes space classified as 255-Research/Nonclass Laboratory Service as an aggregate for calculations. Only 250/255 space further classified under the Program Codes for Research (codes 21 and 22) are used in the calculations.

300 - Office Facilities - Recommendations for office space standards aggregate inventoried square footages for the four Room Use Codes in the 300-series: 310-Office, 315-Office Service, 350-Conference Room, and 355-Conference Room Service. This is again in accordance with recently inventoried space standards for higher education systems and institutions throughout the country.

400 - Study Facilities - For study facilities, separate figures for predicted space are calculated for 410-Study Room, 420-Stack, 430-Open-Stack Study Room (using an assumption of an equal assignment of space to stack and study area within the formula), 440-Processing Room, and 455-Study Service. For surplus/deficit estimations, these figures are aggregated to study, stack, and service space and then subset under Program Code 41-Library Services for application to campus central libraries (i.e., excludes departmental libraries and study areas within residential and other buildings).

CLASSROOM (110) STANDARDS

Average Student Station Size <i>(See Table 16)</i>	18 ASF
Average Weekly Room Hours <i>(Also Room Utilization Rate - see Table 3)</i>	35 hours/week
Station Occupancy Ratio <i>(Also Percent Student Station Utilization - see Table 7)</i>	65%
Space Factor <i>(see Table 9)</i>	0.79

Space Standards

Table 11

CLASS (TEACHING) LABORATORY (210) STANDARDS

Space Factors are based on a Percent Student Station Utilization (Station Occupancy Ratio) of 75% and a Weekly Room Hour (Room Utilization Rate) standard of 20 hours.

<u>Teaching Lab Category</u>	<u>Discipline</u>	<u>ASF Per Station</u>	<u>Space Factor</u>
Highly Intensive	Engineering (including Textiles), Applied Design, Dance, Dramatic Arts.	108	7.2
Intensive	Agriculture, Architecture Biological Sciences, Health Professions, Library Sciences, Physical Sciences.	70	4.67
Moderately Intensive	Communications, Computer/ Info Tech, Education, Art, Home Economics, Law, Psychology.	50	3.33
Non-Intensive	Business, Cinematography, Music, Language, Letters, Mathematics, Public Affairs, Social Sciences.	33	2.2

RESEARCH/NONCLASS LABORATORY (250/255) STANDARDS

Currently, a research space planning standard ASF allowance of 9,000 square feet per \$1 million of organized research expenditures, averaged over five years, is recommended for application to only the two major research universities—UNC-Chapel Hill and N.C. State University. For all other UNC institutions, program considerations, and not planning standards, remain as the basis for justification for research space capital requests. A recommendation is in place to ultimately develop four categories of disciplines with corresponding ASF allowances per \$1 million of averaged expenditures:

Space Standards

Table 11

RESEARCH/NONCLASS LABORATORY (250/255) STANDARDS (continued)

<u>Research Lab Category</u>	<u>Discipline</u>	<u>ASF per \$1 M Averaged Organized Research Expenditures</u>
Highly Intensive	Production Agriculture/ Animal, Crop, Poultry, Soil Sciences.	11,000
Intensive	Agricultural Sciences (other than Production Agriculture), Architecture and Related Programs, Conservation and Renewable Resources/Textiles, Forestry, Marine Sciences, Engineering, Health Professions, Physical Sciences.	9,000
Moderately Intensive	Biological Sciences, Home Economics, Psychology.	6,000
Non-Intensive	Applied Math/Statistics, Business, Communications, Education, Fine Arts, Languages, Law, Letters, Library Sciences, Public Affairs, Social Sciences.	4,000

OFFICE FACILITY (310/315, 350/355) STANDARDS

Office standards are based on an aggregation of all office facilities space (Office-310, Office Service-315, Conference Room-350, Conference Room Service-355). Four standards of ASF allowance, based on personnel categories, were developed.

Administrative	275 ASF
Instructional and Professional	190 ASF
Technical and Clerical	140 ASF
Graduate Assistants	95 ASF

Space Standards

Table 11

STUDY FACILITY (410, 420, 430, 440, 455) STANDARDS

Central Libraries only (Program Code 41)

Study Space (<i>Includes 410-Study Room and 50% of 430-Open-Stack Study Room space</i>)	25 ASF per station for 20% of FTE students plus 8% of FTE faculty.
Stack Space (<i>Includes 420-Stack and 50% of 430-Open-Stack Study Room Space</i>)	0.08 ASF per volume
Service Space (<i>Includes 440-Processing Room and 455-Study Service space</i>)	15% of the combined predicted requirement for study and stack space.

**Comparisons of Actual and Ideal Classroom and Laboratory ASF
Historical Data 2001-2006, Projected 2007-2017**

		2001		2002		2003		2004		2005		2006	
		Actual	Ideal	Actual	Ideal	Actual	Ideal	Actual	Ideal	Actual	Ideal	Actual	Ideal
ASU	Classrooms	157,227	112,383	155,123	121,736	149,612	122,322	146,222	118,907	133,716	102,811	159,870	127,381
	Laboratories	108,370	71,991	104,564	81,460	108,155	83,682	107,803	94,844	95,239	69,130	117,608	94,610
	Total	265,597	184,374	259,687	203,196	257,767	206,004	254,025	213,751	228,955	171,941	277,478	221,991
ECU	Classrooms	157,722	151,972	154,964	159,310	159,115	158,065	170,526	164,489	168,116	154,515	167,289	161,376
	Laboratories	131,182	133,271	131,183	134,921	146,583	137,960	141,183	134,652	146,652	124,101	160,727	133,849
	Total	288,904	285,243	286,147	294,232	305,698	296,025	311,709	299,141	314,768	278,617	328,016	295,224
ECSU	Classrooms	37,732	17,794	38,087	19,145	37,123	18,113	37,095	21,114	36,918	20,163	42,208	22,616
	Laboratories	46,992	28,031	46,905	29,473	46,522	33,290	45,498	26,896	45,370	23,615	46,679	25,662
	Total	84,724	45,825	84,992	48,618	83,645	51,403	82,593	48,010	82,288	43,777	88,887	48,277
FSU	Classrooms	50,879	39,956	51,810	45,447	51,614	47,541	51,614	46,590	47,789	41,977	40,479	44,177
	Laboratories	29,663	24,069	32,816	24,251	31,907	28,048	31,561	27,748	31,290	28,884	34,663	39,600
	Total	80,542	64,025	84,626	69,697	83,521	75,589	83,175	74,338	79,079	70,861	75,142	83,777
NCA&T	Classrooms	101,196	78,175	98,779	85,225	101,176	94,515	100,689	95,611	113,037	101,793	104,918	84,307
	Laboratories	110,170	56,482	111,462	71,251	83,886	55,908	113,542	75,964	83,100	51,019	104,458	56,719
	Total	211,366	134,657	210,241	156,476	185,062	150,423	214,231	171,575	196,137	152,812	209,376	141,026
NCCU	Classrooms	80,508	47,386	79,917	51,172	80,114	57,297	86,845	63,490	86,331	63,942	90,651	61,659
	Laboratories	48,114	25,246	44,053	24,795	42,210	26,301	40,174	26,108	53,608	35,625	50,344	37,938
	Total	128,622	72,631	123,970	75,967	122,324	83,599	127,019	89,598	139,939	99,567	140,995	99,597
NCSA	Classrooms	15,845	7,796	15,400	7,541	23,678	8,389	25,044	8,308	25,812	8,478	27,344	8,316
	Laboratories	89,630	112,639	87,151	113,898	75,979	99,987	70,676	95,123	103,313	116,261	107,331	125,114
	Total	105,475	120,435	102,551	121,439	99,657	108,375	95,720	103,431	129,125	124,738	134,675	133,430
NCSU	Classrooms	205,790	232,600	210,522	237,861	209,643	240,475	214,974	236,967	219,222	225,134	219,443	238,379
	Laboratories	175,479	155,654	183,899	167,169	188,695	152,297	193,735	162,347	175,714	136,938	187,892	158,032
	Total	381,269	388,254	394,421	405,030	398,338	392,773	408,709	399,314	394,936	362,072	407,335	396,412
UNC-A	Classrooms	36,435	27,920	36,191	28,421	38,179	30,608	35,162	29,720	35,774	28,845	36,161	29,769
	Laboratories	41,997	28,498	40,989	28,990	40,072	31,247	38,652	29,036	38,209	27,696	41,148	32,493
	Total	78,432	56,418	77,180	57,411	78,251	61,855	73,814	58,756	73,983	56,540	77,309	62,262
UNC-CH	Classrooms	206,488	188,564	196,267	187,505	188,154	186,727	202,291	194,508	207,039	190,533	202,474	190,962
	Laboratories	75,127	56,480	92,925	67,534	70,099	53,034	69,124	53,285	70,164	56,430	69,801	60,651
	Total	281,615	245,044	289,192	255,039	258,253	239,761	271,415	247,792	277,203	246,964	272,275	251,613
UNC-C	Classrooms	101,685	143,868	105,375	154,232	104,766	158,067	112,633	160,325	130,900	162,049	140,062	161,176
	Laboratories	103,743	105,438	99,615	99,129	105,048	105,252	119,925	109,116	131,082	123,901	149,904	131,902
	Total	205,428	249,307	204,990	253,361	209,814	263,319	232,558	269,441	261,982	285,951	289,966	293,078
UNC-G	Classrooms	113,271	101,577	107,052	114,030	113,476	105,187	113,222	107,557	120,665	119,547	115,082	129,654
	Laboratories	94,663	81,225	79,943	74,009	98,867	82,877	112,450	91,509	82,738	86,571	124,074	112,146
	Total	207,934	182,801	186,995	188,039	212,343	188,064	225,672	199,066	203,403	206,118	239,156	241,800
UNC-P	Classrooms	45,308	30,898	44,495	34,637	46,832	37,049	51,751	36,912	52,506	40,248	55,621	43,558
	Laboratories	23,162	14,356	25,536	16,343	23,246	15,289	28,110	16,683	25,708	17,416	29,393	26,006
	Total	68,470	45,254	70,031	50,980	70,078	52,337	79,861	53,595	78,214	57,665	85,014	69,564
UNC-W	Classrooms	82,405	90,469	82,711	93,223	83,975	94,501	89,583	100,032	90,240	104,544	90,540	107,901
	Laboratories	55,314	54,535	55,774	55,938	59,544	55,733	55,811	59,220	55,976	59,885	64,813	65,351
	Total	137,719	145,004	138,485	149,161	143,519	150,233	145,394	159,252	146,216	164,429	155,353	173,252
WCU	Classrooms	81,841	46,459	71,527	45,921	81,239	50,770	81,160	56,178	89,289	63,089	89,171	67,946
	Laboratories	67,446	34,775	61,829	31,823	58,771	35,280	66,450	39,396	72,815	39,744	67,345	44,787
	Total	149,287	81,234	133,356	77,744	140,010	86,050	147,610	95,573	162,104	102,834	156,516	112,733
WSSU	Classrooms	45,880	21,216	47,507	23,234	50,004	25,468	47,103	25,066	48,069	30,223	60,784	40,711
	Laboratories	23,602	17,685	24,537	16,821	30,865	26,218	30,041	29,373	34,769	29,883	47,037	50,313
	Total	69,482	38,901	72,044	40,055	80,869	51,686	77,144	54,439	82,838	60,107	107,821	91,024
UNC Total	Classrooms	1,520,212	1,339,033	1,495,727	1,408,639	1,518,700	1,435,093	1,565,914	1,465,775	1,605,423	1,457,893	1,642,097	1,519,887
	Laboratories	1,224,654	1,000,376	1,223,181	1,037,805	1,210,449	1,022,403	1,264,735	1,071,300	1,245,747	1,027,099	1,403,217	1,195,172
	Total	2,744,866	2,339,408	2,718,908	2,446,444	2,729,149	2,457,496	2,830,649	2,537,075	2,851,170	2,484,992	3,045,314	2,715,059