Facilities
Space Standards
and Definitions

In response to CHE Facilities Reporting & Classifying Data Workshop
September 2006
CAPACITY / ENROLLMENT RATIO

The capacity/enrollment ratio, often referred to as the C/E ratio, is the amount of instructional and library space on campus divided by the total fall term student clock hours of that institution. The C/E ratio relates the amount of space directly used in an institution’s instructional programs to the instructional activity of the campus. It is one of the most commonly used indices of instructional utilization of institutional facilities.

In analyzing and comparing the capacity/enrollment ratios, it should be kept in mind that a relatively low ratio generally indicates a high level of space utilization. It should also be noted, however, that such factors as the level of an institution and the kind of instructional programs that it offers will affect the amount of space required and, therefore, the C/E ratio.

Instructional and Library Space

Instructional and library space is defined in terms of program codes and room use codes. It is the sum of the areas of all rooms which carry both a program designation of 11-18 (Instruction), 41 (Library Services), or 01 (Unassigned, Capable of Use), and one of the room use codes listed below, with the exception that office space is omitted from program 01:

- 110 Classroom
- 115 Classroom Service
- 210 Class Laboratory
- 215 Class Laboratory Service
- 220 Open Laboratory
- 225 Open Lab Service
- 310 Office
- 315 Office Service
- 410 Study Room
- 420 Stack
- 430 Open-Stack Study Room
- 440 Processing Room
- 455 Study Service
- 510 Armory
- 515 Armory Service
- 520 Athletic or Physical Ed.
- 525 Athletic or Physical Ed. Svc.
STUDENT CLOCK HOURS

Student clock hours is a measurement of the total weekly hours of scheduled instruction for all of an institution’s students. It is computed for each course by multiplying the number of times the course meets each week by the number of hours of each course meeting (rounded to the half hour), and multiplying that product by the number of students. Thus, if a course with 20 students meets Tuesdays and Thursdays from 9:00 a.m. until 10:30 a.m., the number of student clock hours resulting from that class would be 60 (2 meetings/week x 1.5 hours/meeting x 20 students).

The student clock hours used in these calculations are based upon on-campus courses, credit only, which were in progress during the week following the drop-add period of the fall term and which lasted for at least eight weeks.

CAPACITY/ENROLLMENT RATIO = \[
\frac{\text{INSTRUCTIONAL & LIBRARY SPACE}}{\text{TOTAL WEEKLY STUDENT CLOCK HOURS}}
\]
SQUARE FEET OF ACADEMIC FACILITIES
PER FTE STUDENT

The ratio of an institution’s square footage of academic facilities to its full-time equivalent (FTE) enrollment represents an important index of the instructional utilization of campus facilities. It was first used by the U. S. Office of Education as a planning standard in the 1960s. In 1969, the Office of Education published an extensive study entitled Federal Support for Higher Education Construction: Current Programs and Future Needs which provided normative figures by level and control of institution. The figures, which are still widely used in determining facilities needs, can be summarized as follows:

<table>
<thead>
<tr>
<th>Institutional Level</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>132</td>
<td>150</td>
<td>136</td>
</tr>
<tr>
<td>Four-year</td>
<td>93</td>
<td>103</td>
<td>98</td>
</tr>
<tr>
<td>Two-year</td>
<td>70</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>All Institutions</td>
<td>103</td>
<td>115</td>
<td>107</td>
</tr>
</tbody>
</table>

There is currently much national interest in updating these norms through a new national survey of higher education facilities.

Academic Facilities

“Academic facilities” is a broader concept than “instructional and library space.” In general terms, it includes all space used for instruction, research, and the administration or support of instruction or research.

Academic facilities can be more precisely defined in terms of program codes and room use codes. The term refers to an institution’s total assignable area less the square footage of all rooms bearing program codes 42 (Museums and Galleries), 52 (Social and Cultural Development), 55 (Student Auxiliary Services), 56 (Intercollegiate Athletics), 65 (Faculty and Staff Auxiliary Services), 66 (Public Relations/Development), 9 1-92 (Independent Operations), and 02 (Incapable of Use). In addition, space with program code 63 (General Administration and Logistical Service) is deleted if it also has room use code 750 (Central Service), 755 (Central Service Support), 760 (Hazardous Materials), or 765 (Hazardous Materials Service). Space with program 01 (Unassigned, Capable of Use) and any of the following room use codes is also excluded from academic facilities: 523 (Athletic Facilities Spectator Seating), 630 (Food Facility), 635 (Food Facility Service), 660 (Merchandising), 665 (Merchandising Service), 750 (Central Service), 755 (Central Service Support), 760 (Hazardous Materials), 765 (Hazardous Materials Service), all of the 800s (Health Care Facilities), and all of the 900s (Residential Facilities).
FTE ENROLLMENT

Full-time equivalent (FTE) enrollment is computed by adding the credit hours of full- and part-time students enrolled in the fall and dividing the result by the following divisors:

- Undergraduate –15;
- First Professional (law) –14;
- First Professional (Medicine) – use headcount
- G-1 (master’s) – 12
- G-2 (doctorate) – 09

Non-credit students are not included in this calculation.

SQ. FT. OF ACADEMIC FACILITIES PER FTE STUDENT =

\[
\frac{\text{SQUARE FEET OF ACADEMIC FACILITIES}}{\text{FTE ENROLLMENT}}
\]
AVERAGE WEEKLY ROOM HOURS OF INSTRUCTION IN CLASSROOMS

The average weekly room hours of instruction in classrooms is calculated by dividing the total room hours of instruction in classrooms by the total number of classrooms. In more general terms, it is the average number of hours that an institution’s classrooms are used for instructional purposes each week. Weekly room hours of instruction is also referred to as the Room Utilization Rate (RUR).

The total room hours of instruction in classrooms is the number of hours each week that each classroom is used for regularly scheduled classes. Thus, a classroom which is used Mondays, Wednesdays, and Fridays from 9:00 a.m. until 1:00 p.m. and on Tuesdays and Thursdays from 8:30 a.m. until noon would generate 19 room hours (4 hours/day x 3 days/week + 3.5 hours/day x 2 days/week).

A classroom is defined as a room used to conduct classes that do not require special-purpose equipment for student use. Thus, a classroom is by definition a general use facility which could be used for teaching the lecture portion of any course. If a room is used for regularly-scheduled classes but has special equipment which ties it to a particular subject matter, then the room is a class laboratory and its use would not be taken into account for this calculation.

Average weekly room hours of instruction in classrooms can be separated into daytime and nighttime utilizations. Daytime utilization is based on all classes with beginning times between and including 5:00 a.m. and 4:59 p.m.; nighttime utilization is based on all other classes.

The average weekly room hours of classroom instruction can serve as an indicator of the adequacy of the number of classrooms at an institution. The South Carolina standard is 30 hours of instruction in classrooms per week.

\[
\text{AVG. WEEKLY ROOM HOURS OF INSTRUCTION IN CLASSROOMS} = \frac{\text{TOTAL ROOM HOURS OF INSTRUCTION IN CLASSROOMS}}{\text{TOTAL NUMBER OF CLASSROOMS}}
\]
AVERAGE WEEKLY ROOM HOURS OF INSTRUCTION IN CLASS LABORATORIES

The average weekly room hours of instruction in class laboratories is calculated by dividing the total room hours of instruction in class laboratories by the total number of class laboratories. In more general terms, it is the average number of hours that an institution’s class laboratories are used for instructional purposes each week. Weekly room hours of instruction is also referred to as the Room Utilization Rate (RUR).

The total room hours of instruction in class laboratories is the number of hours each week that each class laboratory is used for regularly scheduled classes.

A class laboratory is defined as a room used primarily for regularly scheduled classes that require special-purpose equipment for student participation, experimentation, observation, or practice in a field of study. This definition excludes rooms used for regularly scheduled classes which have no special-purpose equipment (i.e., classrooms) and also excludes rooms with special-purpose equipment which are not used for regularly scheduled classes (i.e., other kinds of laboratories).

The result of this calculation can provide some indication of the adequacy of the number of class laboratories at a particular institution. Unfortunately, since the data reflect the utilization of all class laboratories, it is impossible to determine whether an institution’s shortage (or surplus) of these rooms is limited to certain types or is “across the board.” In such cases, an institution might be able to make a more useful measurement by determining the average weekly use of each type of class laboratory.

Because each class laboratory is designed for use in a particular field of study, most of them are not used as frequently as classrooms. SC does not have a standard for average use of class laboratories. However, one suggested standard for the average use of class laboratories is 20 hours per week.

\[
\text{AVG. WEEKLY ROOM HOURS OF INSTRUCTION IN CLASS LABORATORIES} = \frac{\text{TOTAL ROOM HOURS OF INSTRUCTION IN CLASS LABORATORIES}}{\text{TOTAL NUMBER OF CLASS LABORATORIES}}
\]
AVERAGE WEEKLY USE OF STUDENT STATIONS IN CLASSROOMS

Average weekly use of student stations in classrooms is calculated by dividing the total number of student clock hours generated in classrooms by the total number of student stations in classrooms. More generally, it can be thought of as the average number of hours each week that each classroom student station is used.

The average weekly use of student stations can serve as an indicator of the adequacy of the number of student stations in classrooms. A norm which has been frequently cited is 22.75 hours per week. This figure is based on the assumption that the average weekly use of classrooms is 35 hours and that there is 65% utilization of student stations when classrooms are in use. In SC, however, the standard for average weekly use of classrooms is 30 hours, and the percent station utilization is 60% making the standard for average weekly use of classrooms 18.00 hours. Averages below 18 hours indicate a surplus of classrooms available for use.

AVERAGE WEEKLY USE OF STUDENT STATIONS IN CLASSROOMS =

\[
\frac{\text{Total Student Clock Hours in Classrooms}}{\text{Total Student Stations in Classrooms}}
\]
AVERAGE WEEKLY USE OF STUDENT STATIONS IN CLASS LABORATORIES

Average weekly use of student stations in class laboratories is calculated by dividing the total number of student clock hours generated in class laboratories by the total number of student stations in class laboratories. More generally, it can be thought of as the average number of hours each week that each class lab student station is used.

The average weekly use of student stations can serve as an indicator of the adequacy of the number of stations in class laboratories. South Carolina does not have an established standard. However, a norm which has been frequently cited is 15 hours. This figure is based on the assumption that the average weekly use of class labs is 20 hours and that there is 75% utilization of student stations when class labs are in use.

AVERAGE WEEKLY USE OF STUDENT STATIONS IN CLASS LABORATORIES =

\[
\frac{\text{TOTAL STUDENT CLOCK HOURS IN CLASS LABORATORIES}}{\text{TOTAL STUDENT STATIONS IN CLASS LABORATORIES}}
\]
STUDENT CLOCK HOURS OF INSTRUCTION

Student clock hours of instruction are based on classes being conducted at the end of the fall drop-add period. Student clock hours are computed by multiplying for each course the number of hours that the course meets each week by the number of students enrolled. (To compute the number of hours that the course meets each week, the class length is rounded to the nearest half hour and multiplied by the number of times the class meets weekly.) Only credit courses which are at least eight weeks in duration are counted.

Thus, if a course with 20 students meets Tuesdays and Thursdays from 9:00 a.m. until 10:30 a.m., the number of student clock hours resulting from that class would be 60.

\[
(2 \text{ MEETINGS PER WEEK} \times 1.5 \text{ HOURS PER MEETING}) \times 20 \text{ STUDENTS} = 60
\]

STUDENT CLOCK HOURS

The number of clock hours conducted in a particular category of space is a function of the number of students enrolled, the nature of the instructional programs being pursued by the students, and the instructional philosophy of the institution. As a result, the number of student clock hours generated per FTE student varies by type of institution.
SPACE FACTORS

A space factor is the assignable square feet of a given type of space divided by the student clock hours of instruction generated from that type of space. It is very useful to facilities planners in that it combines into a single factor the concepts of weekly room hours, percent student station utilization, and assignable square feet per student station. The lower the space factor, the more effectively the space is being utilized for instructional purposes.

Space factors can be specifically defined in two ways. One formula is:

\[
\text{SPACE FACTOR} = \frac{\text{ASSIGNABLE SQ. FT. PER STUDENT STATION}}{(\text{AVG. WEEKLY ROOM HOURS} \times \text{PERCENT STATION UTILIZATION})}
\]

An alternative formula is:

\[
\text{SPACE FACTOR} = \frac{\text{ASSIGNABLE SQ. FT.}}{\text{STUDENT CLOCK HOURS}}
\]

Note that space factors must relate to a specified type of space. For example, a classroom space factor is calculated by dividing the assignable square feet of classroom space by the student clock hours generated in classrooms.

Although the two are equivalent, they may produce slightly different results because of the rounding which is inherent in the first formula. Both formulas are useful in calculating space factor norms.

For example, if SC standards are used for the three factors which comprise the first formula, the result is a space factor of 1.22:

\[
\text{SC Space Factor Standard} = \frac{22}{(30 \times .60)} = 1.22
\]

In scoring project requests for Capital Improvement Bonds, CHE uses the above calculation.
SPACE STANDARDS

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. 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.

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.

Classroom (110) Standards

<table>
<thead>
<tr>
<th>Metric</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Student Station Size</td>
<td>22 ASF</td>
</tr>
<tr>
<td>Average Weekly Room Hours</td>
<td>30 hours/week</td>
</tr>
<tr>
<td>Station Occupancy Ratio</td>
<td>60%</td>
</tr>
<tr>
<td>Space Factor</td>
<td>1.22</td>
</tr>
</tbody>
</table>

200 Series – Laboratory Facilities – There are two basic types of laboratory space:

210 – Class Laboratory – This includes only those laboratories that are used for regularly scheduled instruction. Excluded are areas classified as 215-Class Laboratory Service, 200-Open Laboratory (irregularly scheduled), and 225-Open Laboratory Service.

250 – Research/Non-class laboratory – based on typical industry reporting standards, this category also includes space classified as 255-Research/Nonclass Laboratory Service as an aggregate for calculations. Only 250/255 are used in the calculations.

Class Laboratories. The average assignable square footage per station in class laboratories varies widely among different types of labs. The following guidelines may be used for determining lab utilization.

High Intensive – (e.g., Engineering and intensive Fine Arts) is assigned a space factor standard of 7.20. This is based on standards of 20 weekly room hours (Room Utilization Rate), a percent student station utilization (or station occupancy rate) of 0.75, and ASF per student station (station size) of 108 square feet.
Intensive – (e.g., Agriculture, Architecture, Biological Sciences, Health Professions, Library and Physical Sciences) is assigned a space factor standard of 4.67. This is based on standards of 20 weekly room hours, a percent student station utilization of 0.75, and ASF per student station of 70 square feet.

Moderately Intensive – (e.g., Communications, Education) is assigned a space factor standard of 3.33. This is based on standards of 20 weekly room hours, a percent student station utilization of 0.75, and ASF per student station of 50 square feet.

Non-Intensive – (e.g., Business, Cinematography, Languages) is assigned a space factor of 2.20. This is based on standards of 20 weekly room hours, a percent student station utilization of 0.75, and ASF per student station of 33 square feet.

Teaching Areas. Teaching areas represent the sum of classroom and class laboratory space. A space factor norm for teaching areas has not been derived, but the group means can be useful in assessing the extent of utilization.

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.

<table>
<thead>
<tr>
<th>Teaching Lab Category</th>
<th>Discipline</th>
<th>ASF Per Station</th>
<th>Space Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Intensive</td>
<td>Engineering (including Textiles), Applied Design, Dance, Dramatic Arts</td>
<td>108</td>
<td>7.2</td>
</tr>
<tr>
<td>Intensive</td>
<td>Agriculture, Architecture, Biological Sciences, Health Professions, Library Sciences Physical Sciences</td>
<td>70</td>
<td>4.67</td>
</tr>
<tr>
<td>Non-Intensive</td>
<td>Business, Cinematography, Music, Language, Letters, Mathematics, Public Affairs, Social Sciences</td>
<td>33</td>
<td>2.2</td>
</tr>
</tbody>
</table>
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 research universities – Clemson, USC-Columbia, and MUSC.

<table>
<thead>
<tr>
<th>Research Lab Category</th>
<th>Discipline</th>
<th>ASF per $1 M Averaged Organized Research Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Intensive</td>
<td>Production Agriculture/Animal, Crop, Poultry, Soil Sciences</td>
<td>11,000</td>
</tr>
<tr>
<td>Intensive</td>
<td>Agriculture Sciences (other than Production Agriculture), Architecture and Related Programs, Conservation and Renewable Resources/Textiles, Forestry, Marine Sciences, Engineering, Health Professions, Physical Sciences</td>
<td>9,000</td>
</tr>
<tr>
<td>Moderately Intensive</td>
<td>Biological Sciences, Home Economics, Psychology</td>
<td>6,000</td>
</tr>
</tbody>
</table>
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

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

Central Libraries only (Program Code 41)

Study Space (Includes 410-Study Room and 50% of 430-Open-Stack Study Room space) 25 ASF per station for 20% of FTE students plus 8% of FTE Faculty

Stack Space (Includes 420-Stack and 50% of 430-Open-Stack Study Room Space) 0.08 ASF per volume

Service Space (Includes 440-Processing Room and 455-Study Service space) 15% of the combined predicted requirement for study and stack space
PERCENTAGE DISTRIBUTION OF ASSIGNABLE AREA
BY FUNCTIONAL USE

All colleges and universities conduct a wide range of activities in pursuit of their missions as institutions of higher education. The Program Classification Structure, developed by the National Center for Higher Education Management Systems in 1978, attempts to categorize these activities. The structure divides all of an institution’s activities into 10 major categories, called programs or functions.

Program Definitions

10 Instruction Program. This program includes activities carried out for the express purpose of eliciting some measure of educational change in a learner or group of learners. An instructional activity need not be eligible for credit in meeting specified formal curricular requirements leading to a postsecondary degree or certificate.

20 Research Program. Any activity intended to produce one or more research outcomes – including the creation of knowledge, the organization of knowledge, and the application of knowledge – is included within this program. A research activity may be conducted with institutional funds or under the terms of agreement with an agency external to the institution.

30 Public Service. The Public Service Program includes activities established to make available to the public the various resources and capabilities of the institution for the specific purpose of responding to a community need or solving a community problem.

40 Academic Support Program. Any activity carried out in direct support of one or more of the Instruction (10), Research (20), and Public Service (30) Programs is classified as Academic Support.

50 Student Service Program. The objective of the Student Service Program is to contribute to the emotional and physical well-being of the students, as well as to their intellectual, cultural, and social development outside of the context of the institution’s formal Instruction Program.

60 Institutional Administration Program. This program consists of those activities carried out to provide for both the day-to-day functioning and the long-range viability of the institution as an operating organization. The ultimate goal of the Institutional Administration Program is to provide for the institution’s organizational effectiveness and continuity.

70 Physical Plant Operations Program. Activities related to maintaining existing grounds and facilities, providing utility services, and planning and designing future plant expansions and modifications are included within the Physical Plant Operations Program.
80 **Student Financial Support (Scholarships & Grants) Program.** This program includes only the financial assistance provided to students in the form of outright grants, trainee stipends, and prizes, awarded by and/or administered through the institution. Although it is part of the Program Classification Structure, this program applies only to funds and not to space or activities. It is not, therefore, used in facilities inventories.

90 **Independent Operations Program.** Those institutional activities that are owned or controlled by the institution as investments, and which are financed as part of the institution’s current operations, comprise the Independent Operations Program.

00 **Unassigned.** Facilities that are not in use at the time of the inventory are classified under this program. It is unique to facilities management and is not included in the Program Classification Structure.
ASSIGNABLE SQUARE FEET PER STUDENT STATION
FOR CLASSROOMS

The number of students that a classroom can accommodate is an important factor in
determining how efficiently classroom space is used. This can be measured in terms of
assignable square feet per student station and the average number of stations per classroom.

The assignable square feet per student station in a classroom is largely determined by the
number and type of stations in the room. Generally, rooms with relatively large numbers of
stations require less space per station. As for types of stations, tables and chairs require more
space per station than standard student desks, which require more space than theater seating. Al-
though the space required per station can vary from less than 10 assignable square feet to more
than 30, CHE has adopted a standard of 22 square feet per station.

Assignable Square Feet Per Station Criteria

<table>
<thead>
<tr>
<th>Number of Stations</th>
<th>ASF for Tables and Chairs</th>
<th>ASF for Armchair Desks Small</th>
<th>ASF for Armchair Desks Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>10-30</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>20-29</td>
<td>20-30</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>30-39</td>
<td>20-25</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>40-59</td>
<td>18-22</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>60-99</td>
<td>18-22</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>100-149</td>
<td>16-20</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>150-299</td>
<td>16-20</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>300+</td>
<td>16-18</td>
<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

The average number of stations per classroom tends to vary according to the size and
instructional philosophy of the institution. Graduate institutions and institutions which rely
heavily on large lecture courses will generally have large numbers of stations per classroom.
ASSIGNABLE SQUARE FEET PER STUDENT STATION
FOR CLASS LABORATORIES

The square footage per student station in class laboratories varies to a greater extent than in classrooms because of the widely differing space requirements of the various kinds of laboratories. An automotive lab, for example, usually requires much more space per station than a chemistry lab. In general, institutions which offer academic programs in such areas as agriculture, engineering, or medicine, or in vocational/technical programs such as automotive mechanics, textiles, and welding require more class lab space per station than do institutions which focus on liberal arts, business, and education. Moreover, graduate-level laboratories usually require more space per station than undergraduate labs.

Guidelines for ASF-per-station standards for four discipline categories of space have been developed:

<table>
<thead>
<tr>
<th>Category</th>
<th>ASF</th>
<th>Includes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Intensive – 108 ASF</td>
<td></td>
<td>Includes Engineering (including Textiles), Applied Design, Dance, and Dramatic Arts</td>
</tr>
<tr>
<td>Intensive – 70 ASF</td>
<td></td>
<td>Includes Architecture, Health Professions, Library Science, and Physical Sciences</td>
</tr>
<tr>
<td>Moderately Intensive – 50 ASF</td>
<td></td>
<td>Includes Agriculture, Biological Sciences, Communications, Computer/Information Technologies, Education, Art, Home Economics, Law, and Psychology</td>
</tr>
<tr>
<td>Non-Intensive – 33 ASF</td>
<td></td>
<td>Includes Business, Cinematography, Music, Languages, Letters, Mathematics, Public Affairs, Social Sciences</td>
</tr>
</tbody>
</table>
NET-TO-GROSS RATIO

The net-to-gross ratio is the assignable (or net) area of a building or group of buildings divided by the gross area. It is generally used as a measure of the efficiency of a building: the higher the net-to-gross ratio, the more space that can be assigned to the various programs for which the building was intended.

Simply stated, the gross area of a building is the sum of the floor areas of the outside faces of its exterior walls for all of the building’s stories (or areas that have floor surfaces). A building’s assignable area is the sum of all areas on all floors which are assigned to, or available for assignment to, an occupant or specific use. More specifically, it is the building’s gross area less its building service, circulation, mechanical, and structural areas.

Beginning in 1985, parking deck space was coded as non-assignable. This change in policy, while providing a truer picture of interior space characteristics, has the effect of decreasing the net-to-gross ratios of institutions with parking decks because gross area figures include these structures. In order to provide a more accurate index of campus space efficiency, adjusted net-to-gross figures for institutions with parking decks provide a more accurate index of campus space efficiency.

If a renovation can increase the amount of assignable space in a building, then part of the cost of the renovation can be justified purely on a cost-savings basis. By using the following calculation, you can estimate the approximate cost of new construction vs. renovation. The following calculation suggests that new construction costs average $143 per gross square foot. If the average net-to-gross ratio is .618, this means that new construction costs are approximately $231 per assignable square foot.

\[
\text{CONSTRUCTION COST PER ASF} = \frac{\text{CONSTRUCTION COST PER GSF}}{\text{GSF NET-TO-GROSS RATIO}}
\]

\[
\text{CONSTRUCTION COST PER ASF} = \frac{143}{.618} = 231
\]

Thus, every assignable square foot created through a renovation can be viewed as saving the institution $231 in new construction costs.
SOUTH CAROLINA COMMISSION ON HIGHER EDUCATION
MANAGEMENT INFORMATION SYSTEM

ELEMENT TITLE: Building Condition
SUPPLIED BY: Institution
DEFINITION: The aggregate point total representing the physical status of the building at the time of the inventory or audit, based on the best judgment of those persons familiar with the physical characteristics and condition of the campus.

CODES, CATEGORIES, AND COMMENTS:

001 – 100 Range of poor to excellent

NOTE: Procedures and criteria will be detailed in the revised CHE Facilities Manual.

Building Condition codes will be grouped as follows:
- Satisfactory Gross: 95 – 100 Building is suitable for use with normal maintenance. Any required restoration to present acceptable standards without major room use changes, alterations, or modernization is no more than 5% of the estimated replacement cost of the building. The range reported would reflect the percentage required. For example, a code of 100 means no restoration is required, while a code of 96 means 4% restoration required, and a code of 98 means 2% restoration required.
- Remodeling A Gross: 76 – 94 Required restoration is less than 25% but more than 5%.
- Remodeling B Gross: 51 – 75 Required restoration is more than 25% but less than 50%.
- Remodeling C Gross: 26 – 50 Required restoration is more than 50% but less than 75%.
- Demolition or Termination: 01 – 25 Required restoration is more than 75% of the building and building should probably be demolished.

FIELD SPECIFICATIONS

REQUIRED TYPE: Mandatory - Null Allowed
DATA VALUE RANGE: 001-100, 999; 999=Null
FIELD LENGTH: 3
FIELD TYPE: Numeric
ENTRY EXAMPLE: 065 (represents an aggregate point total of 65)

WHERE USED (File): BLDG.TRANS
WHERE USED (Table):
WHERE USED (Tape): TAPE.FACIL
ELEMENT TITLE: Ownership Status

SUPPLIED BY: Institution

DEFINITION: The agency with which the title to the facility rests.

CODES, CATEGORIES, AND COMMENTS:

1 = Owner Fee Simple

2 = Title Vested, Institution - and being paid an amortization schedule.

3 = Title Vested, Holding Company - building corporation or foundation to which payments are being made by the institution; title will ultimately pass to the institution. (Includes lease-purchase arrangements).

4 = Leased/Rented Unaffiliated - Not owned by the institution, but leased or rented to the institution by an unaffiliated third party.

5 = Leased/Rented Affiliated - Not owned by the institution but leased or rented to the institution by a related entity (i.e.; institutional foundations, trusts, etc.).

6 = Leased to an institution for Nominal Costs/Eligible for Capital Improvement Bonds

FIELD SPECIFICATIONS

REQUIREMENT TYPE: Mandatory - Null Not Allowed

DATA VALUE RANGE: 1-6

FIELD LENGTH: 1

FIELD TYPE: Alphanumeric

ENTRY EXAMPLE: 1 (represents Owner Fee Simple)

WHERE USED (File): BLDG.TRANS

WHERE USED (Table): TBL.OWNER

WHERE USED (Tape): TAPE.FACIL
SOUTH CAROLINA COMMISSION ON HIGHER EDUCATION
MANAGEMENT INFORMATION SYSTEM

ELEMENT TITLE: Type of Construction
SUPPLIED BY: Institution
DEFINITION: The major construction components of the building. The following codes are derived from the Markel Appraisal Chart Company.

CODES, CATEGORIES, AND COMMENTS:

01 = FIREPROOF: Incombustible with steel protected by masonry
02 = SEMI-FIREPROOF: Incombustible with steel unprotected
03 = BRICK: Masonry and wood construction
04 = FRAME: Wooden construction

FIELD SPECIFICATIONS

REQUIREMENT TYPE: Mandatory – Null Not Allowed
DATA VALUE RANGE: 01-04
FIELD LENGTH: 2
FIELD TYPE: Numeric
ENTRY EXAMPLE: 04 (represents FRAME: Wooden construction)

WHERE USED (File): BLDG.TRANS
WHERE USED (Table): TBL.CONST
WHERE USED (Tape): TAPE.FACIL