CHAPTER 4
THE ROOM INVENTORY

General

This chapter provides the data elements, technical definitions, data collection procedures, and coding structures for developing and maintaining the Room Inventory file. As with Chapter 3 for buildings, much of this material closely follows the concepts presented in the NCES 1992 national manual. The Building and Room Inventory files also share a number of identical or similar data elements and collection procedures. For both inventory files, all of North Carolina's higher education institutions are already familiar with the basic concepts and procedures and have maintained these files, with HEFC guidance and coordination, since 1967.

As noted in the chapter on buildings, *rooms are subdivisions of the Assignable Area component of a building's space.* The campus Room Inventories maintained by HEFC include only two minor additions to the inventory of assignable area: *public restrooms equipped for the mobility impaired* and *passenger elevators.* These two examples of *nonassignable area* are included simply to demonstrate features of a building associated with accessibility to the mobility impaired; they are assigned zero square footage to indicate that they are nonassignable space. As pointed out in this manual's introduction, it is recommended that campuses locally maintain, in either the Room Inventory or a separate file, space data for Nonassignable Area (Building Service, Circulation, Mechanical space) and Structural Area. These data should be recorded in terms of either individual areas of space or, at the very least, summary aggregations for each building. The end of the Room Use Category section of this chapter includes suggested alpha codes for classifying these areas. Appendix 4 provides definitions, descriptions, and architectural drawing examples of Nonassignable Area and Structural Area. Again, with the above exceptions, HEFC does not collect or record data for these types of space.

Definition of "Room"

*A room is defined as a partitioned part of the inside of a building.* The boundaries of a room are partitioned most frequently by walls. In some instances, the recognizable physical limits of a room may be defined by bookshelves, carpeting, or counters. Where there are no recognizable physical boundaries, such as an open lobby with a receptionist station or a hallway where a desk station has been placed, the "partitioning" must be applied by what is commonly termed the "phantom wall" concept. This concept is frequently used on floor plans to separate adjacent uses or assignments by adding dashed lines. In the example here, the lobby and hallway are *nonassignable* (circulation) areas which have smaller *assignable* areas occupying sections of the open space. Reasonable *estimated* physical boundaries should be applied to each station area in order to separate out the assignable (in these examples, offices) from the nonassignable space. These estimates then determine the assignable square footage to be assigned and entered into the room records for these physically non-partitioned areas.
Some large rooms such as classrooms have *movable partitions* such as built-in curtains or panels on tracks to divide them into two separate smaller areas. Because this enables different classes to be conducted concurrently in what is defined by fixed walls as one large open room, it is recommended that the smaller "rooms" be recorded separately on the Room Inventory. Room numbering can indicate the relationship of the two small classrooms (e.g., 00214A and 00214B). This division enables a more accurate tracking of utilization of the instructional space (see Chapter 5 on the utilization component of the survey).

In specific cases, *collapsing of several identically used rooms or areas into one room record* can be done for convenience without affecting the statistics or subsequent analysis of the assignable area:

1. Large office areas with multiple stations divided by temporary movable partitions may be recorded as a large office with the appropriate station count. In the absence of temporary partitions, the same room record may be recorded without attempting to apply "phantom walls."

2. Houses and apartments are usually entered on the Room Inventory with one room record encompassing all interior space. For example, an apartment would be listed in one record with a Room Use Code of 950 and the total interior living space designated as the assignable square footage.

3. Residential rooms of the same type in dormitories or rooming houses, i.e., rooms which are classified with Room Use Code 910 (Sleep/Study without Toilet/Bath), 920 (Sleep/Study with Toilet/Bath), or 919 (Toilet or Bath), are most frequently collapsed into one room record indicating the sum totals of the square footages and bed stations of the individual sleep/study rooms.

**Rooms to be Included**

*All assignable area in a building should be included in the Room Inventory.* This space includes all rooms which are assigned to, or functionally usable by, occupants or other users of the building. The formal definition and description for Assignable Area as a component of total building space are included in Chapter 3.

All of a building's assignable space should be classified into one of the ten major use categories listed below. Each of these broad categories or "series" encompasses several sub-categories of more specialized uses (e.g., different kinds of laboratories). Coding of individual rooms is applied at the level of these sub-categories and usually aggregated to the more general categories for reports. The individual numerical codes along with their detailed technical definitions, descriptions, and limitations are provided later in this chapter.

*All assignable space should be classified according to the following ten major use categories:*

**Classrooms**

General purpose classrooms, lecture halls, recitation rooms, seminar
rooms, and other rooms used primarily for scheduled non-laboratory instruction.

**Laboratory Facilities**  
Rooms characterized by special purpose equipment or a specific configuration that ties instructional or research activities to a particular discipline or a closely related group of disciplines.

**Office Facilities**  
Offices and conference rooms specifically assigned to each of the various academic, administrative, and service functions.

**Study Facilities**  
Study rooms, stacks, open-stack reading rooms, and library processing rooms.

**Special Use Facilities**  
Military training rooms, athletic and physical education spaces, media production rooms, clinics, demonstration areas, field buildings, animal quarters, greenhouses, and other room categories which are sufficiently specialized in their primary activity or function to merit a unique room code.

**General Use Facilities**  
Assembly rooms, exhibition space, food facilities, lounges, merchandising facilities, recreational facilities, meeting rooms, child and adult care rooms, and other facilities that are characterized by a broader availability to faculty, students, staff, or the public than are special use areas.

**Support Facilities**  
Computing facilities, shops, central storage areas, vehicle storage areas, and central service space that provide centralized support for the activities of a campus.

**Health Care Facilities**  
Facilities used to provide patient care (human and animal).

**Residential Facilities**  
Housing facilities for students, faculty, staff, and visitors to the campus.

**Unclassified Facilities**  
Inactive or unfinished areas, or areas in the process of alteration or conversion.

As previously noted, two types of Nonassignable Area are also collected and reported in the Room Inventory as maintained by HEFC. These are included because of their relevance to the accessibility of facilities to the mobility impaired. Their room records show zero assignable square footage to indicate that the areas are nonassignable.

1. **Public restrooms which are specially designed and equipped for the mobility impaired.** Public restrooms are situated for use by anyone in the building and are usually located off of hallways or lobbies. **Private** restrooms serve occupants of a
specific room (e.g., office, conference room) and are coded as assignable space with a room use service code (e.g., 315, 355, etc.). "Specially designed and equipped for the mobility impaired" is usually indicated by a standard logo on or near the restroom door. It would indicate such features as grab bars, a stall door which swings out, and other building code features. If a public restroom is not specially equipped for the mobility impaired, it should be excluded from the Room Inventory.

2. Passenger elevators. Passenger elevators, although nonassignable (Circulation) space, are also included on the Room Inventory as an indication of a building feature which assists the mobility impaired. A room record (usually with a Room Number ending with "99") should be assigned for each floor that the elevator serves. Freight elevators are excluded unless they have been altered to code to serve as passenger elevators.

Space to be Excluded

Nonassignable Area, with the two exceptions above, and Structural Area should be excluded from the Room Inventory. Nonassignable space falls into three general categories:

1. Building Service. These are areas of the building used to support its cleaning and public hygiene functions. They include small custodial storage rooms, janitorial sink rooms, and public restrooms. As noted in the above section, public restrooms which are specially designed and equipped for the mobility impaired are included on the inventory with zero assignable square footage.

2. Circulation. These are the areas of a building required for physical access to subdivisions of the building's space. Included are public corridors, fire towers, entrance and elevator lobbies, tunnels, bridges, and each floor's footprint of elevator shafts, escalators, and stairways. Elevator footprints are included on the Room Inventory indicating zero square footage (see previous section).

3. Mechanical. These building areas house mechanical and telecommunications equipment, utility services, and shaft areas. Included are central utility plants, boiler rooms, mechanical and electrical equipment rooms or closets, fuel rooms, meter and communications closets, and each floor's footprint of air ducts, pipe shafts, mechanical service shafts, service chutes, and stacks.

Structural Area is represented by a building's unusable structural features. Included in this category are exterior walls, fire walls, permanent partitions, unusable areas in attics or basements (or comparable portions of a building with ceiling height restrictions), and excavated basement areas. Structural Area is classified as neither assignable nor nonassignable and is regarded as the building's residual of the two.

Appendix 4 provides detailed definitions, descriptions, and architectural drawing examples for
Building Service, Circulation, Mechanical, and Structural space.

Classification of Rooms

One room may differ from another in three distinct ways: the use to which it is put; the program or broad institutional objective which it serves; and if applicable, the academic discipline or specific support activity which it serves or to which it is assigned. As a consequence, three systems of coding have been developed to specifically classify a room:

*Rroom Use Codes* classify the room according to its *actual use*, regardless of design intent. This classification system identifies a room under such familiar uses as classroom, office, lounge, study room, etc. Because the HEFC room file format allows for only one Room Use Code, (i.e., there is no proration to multiple codes for multiple uses), a determination must be made of the primary use of the room for assignment of the single code. *All rooms must be assigned a Room Use Code.*

*Program Codes* classify a room according to the institutional mission or objective (instruction, research, public service, academic support, etc.) the room serves among the approximately 50 Programs in the Program Classification Structure used for this survey. This manual retains the previous edition's Program Classification Structure which was developed in 1978; a 1988 modification of this structure is not used because it expands the previous two-digit to a three-digit code. *The Program Codes and Category Codes are the only data elements which can be prorated (multiple codes for multiple classifications) in the HEFC room record format.* Provision is made for up to four prorations of either different Program Codes or different Program-Category Code combinations. A more detailed discussion of this proration is provided later in this chapter. *Every room must be assigned at least one Program Code.*

*Category Codes* allow for a more specific classification of a room, where applicable, by academic discipline or specific support or service activity. As noted in the introduction, HEFC uses for this purpose the HEGIS taxonomy of disciplines previously developed and used by NCES. Annual revisions and updates are made to this North Carolina adaptation of the coding structure, and revised lists are regularly mailed to campus Project Officers. Category Codes may be prorated as they occur in different combinations with Program Codes. *Many rooms should not be assigned a Category classification.*

All of these classification structures, with names, codes, and where appropriate, definitions and descriptions, are presented in the labeled and divided sections at the end of this chapter. General descriptions as individual data elements are included in the next section.

Room Data Elements

The HEFC Room Inventory file, which represents a core minimum of important room information items which should be collected and maintained through updates, contains fifteen different data
elements or "characteristics". (Three of these elements, Program, Category, and Proration, may appear up to four times as a result of proration). These items can be used to produce many important statistics across assignable space and have uses at institutional, state, and national levels. Table 5 lists the room file data elements collected and maintained by HEFC. Appendix 5 provides a list of additional room data elements which campuses may find useful to collect and maintain.

<table>
<thead>
<tr>
<th>TABLE 5: Room File Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Number</td>
</tr>
<tr>
<td>Campus Number</td>
</tr>
<tr>
<td>Building Number</td>
</tr>
<tr>
<td>Room Number</td>
</tr>
<tr>
<td>Room Name</td>
</tr>
<tr>
<td>Room Use Code</td>
</tr>
<tr>
<td>Stations</td>
</tr>
<tr>
<td>Assignable Area</td>
</tr>
</tbody>
</table>

Campus Number, Building Number, and Room Number together comprise the unique identifier for the room (e.g., Campus 016, Building 006, Room 00211 identifies one specific room among all N.C. institutions in the survey). For a given single campus, Building Number with Room Number uniquely identifies the room. Record Type, as with Group Number, is included for data processing purposes only: the number "3" identifies the record as a room record. A list of all room data elements in machine format, with field lengths, positions (columns), and field characteristics is shown in Table 6.

The "Room Data Collection Form", shown in Figure 9, is used as a hard copy record for updating the room file. These forms should be used to notate annual room updates by institutions which do not maintain electronically updated files which are submitted on tape or diskette or by electronic mail. The extra Room Inventory hard copy printout in the fall mail packet may also be used to notate the updates by hand. The "MUC" (Master Update Column) at the end of the form is simply for notating an "A", "C", or "D" for add, change, or delete. For several added rooms, using this data collection form makes it easier to add a quantity of new data. This form also displays column positions for each field. The form provides room for only two prorations (Program-Category-Proration fields) per line. For three or four prorations, the next line on the form may be used to make the entries.
Room Data Element Definitions

GROUP NUMBER

The Group Number is a single-digit identifier used by the HEFC office for division of the 112 campuses into groupings for central data collection and processing tasks. The eight group divisions are outlined in Table 1 on page 10. Table 2 (page 11) lists the individual institutions within each group.

File Format. One numeric character.
CAMPUS NUMBER

This three-digit number serves as the unique identifier for each institution in the survey. As with the Group Number, it should appear on each record of each of the three major files: Building, Room, and Utilization. Table 2 also presents a listing of all assigned campus numbers.

File Format. Three numeric characters; leading zeros.

BUILDING NUMBER

This is the unique three-digit identifier for each building on a campus. An extra optional column for an alpha suffix is provided to indicate a relationship or dependency between two or more buildings. See the Building Data Element Definitions and Codes section of Chapter 3 for a more detailed discussion of this element. All room records in a room file for a building should show this entry as an identifier for the building which houses the individual rooms. This entry should match the corresponding Building Number entry on the Building Inventory file.

File Format. Three numeric characters; leading zeros. One optional alpha suffix character.

ROOM NUMBER

1. Definition. The Room Number is an identifier, unique within the building, assigned by an institution to each of the building's rooms.

2. Description. The Room Inventory allows for five alpha-numeric characters (right justified with leading zeros) plus an optional alpha character (e.g., 00118, 00122A). It is helpful to reserve the use of the sixth alpha character in room numbers for rooms which are not directly accessible from a hallway (e.g., internal rooms in a suite). Alpha characters may be used in the five-character field (e.g., 0A209), but because most computer software sorts variables by alpha characters before numeric, such room numbers may become intermixed with rooms on other floors in the order that they appear on the inventory printout. If an alpha-numeric designator is used, the alpha character(s) should always appear in the same position(s) (e.g., 0A123, 0A019). Nonassignable rooms or areas may be numbered; but, with the exception of public restrooms equipped for the mobility impaired and passenger elevators, they do not appear on the inventory. There should never be duplicate room numbers within a building.

A room number on the inventory should match the number which actually appears on or near the door of the room. The building's blueprints often use a different set of numbers to identify a building's internal divisions. These "blueprint numbers" frequently are not used as the numbers which eventually appear on or near the doorway. Door numbers visibly applied at room entrances also cause confusion, for both users of the building and those responsible for maintaining the Room Inventory, in identifying a specific room or area of space. A room should be assigned one unique number and it should appear at eye level on or near all door
entrances to the room. If door numbers are needed, they should be applied as a small label to the door's edge or jamb well above eye level.

Even greater confusion may be caused by a total absence of room numbers on or near room entrances. This situation occurs most often in very old buildings. If a building or area of a building has no visible room numbers, every effort should be made to apply numbers as soon as possible. A temporary solution is to use a plastic tape labeler to apply small numbers on the door edge or jamb until an official numbering system is developed and applied. Applying only room or occupant names (e.g., "X-RAY ROOM," "REGISTRATION," "JOHN J. JONES") does not assign each room a unique identifier and therefore does little to remove potential confusion. Uses and names change over time. However, the use of names in conjunction with numbers can be very helpful to a building's users as well as to assigned space inventory personnel.

Number systems vary, but the most useful are those that immediately provide users logical, physically sequential information regarding where they are in the building; i.e., on what floor and at what location on the floor. The most frequently applied system which provides this information efficiency assigns numbers 001 to 099 to the lowest floor, 100 to 199 to the next floor, etc., with even numbers on one side of a hall and odd numbers on the other. Smaller rooms which serve and are off of a larger room usually take an alpha suffix (e.g., storage room 214A serves classroom 214). In office suites, the entrance room number is assigned to the receptionist or waiting area just beyond the entrance (e.g., 302), and the internal offices and other rooms are identified with the suffix (e.g., 302A, 302B, etc.). Rooms with an entrance directly from a public corridor or hallway generally do not take the alpha suffix.

3. File Format. Five alpha or numeric characters; leading zeros. One optional alpha suffix character.

ROOM NAME

1. Definition. The name applied to the room on the Room Inventory.
2. Description. The room file format allows for 16 characters for this data element. Two approaches may be used for applying a name to a room:

   a. Using the classification name of the applied Room Use Code. Unlike Program and Category classifications, HEFC software does not generate and print, for the room use classifications, the names for the specific categories. For example, whereas a Program Code 11 generates the printing of the program's name ("General Academic Instruction") on the inventory printout, a Room Use Code 310 does not generate printing of the 310 classification name ("Office"). In the absence of a name which more specifically identifies the room, the category name for the applied Room Use Code is the most useful name designation. These classifications, with names, codes, definitions, and descriptions, are presented in the next divider section of this chapter.
b. Selecting and entering a name which more specifically identifies the room or describes its function. Examples might include: "Registrar Office," "Student Counselor," "Study Room 2," "Nursing Lab," "Toxic Storage," "Department Secy," or "Conference Rm B." For a locally familiar room with an easily identifiable characteristic, the commonly used colloquial name may be used; e.g., "Blue Room" for a meeting room characterized by blue decor. Whereas the function or job of a room's occupant may be a helpful identifier in the name, the occupant's name should not be used. The Institutional Data field, described later in this section, may be used to record occupant names and other notes of room identification.

While a Room Use Code and its classification name may suggest the name for a room, the Room Name should not be used to determine the Room Use Code. Reliance on local room names can cause problems in applying correct room use categories. Depending on the room it serves, a "Balance Room," for example, can take any of three laboratory services codes; likewise, "Storage" areas can fall into almost any service code category for the same reason and are only occasionally limited to the 730-Central Storage category.

A room's actual use must meet the stated room use definition before an accurate room use coding can be made. A room named "Old Physics Lab" should be coded as a laboratory only if it is used as a laboratory; if it is used, however, as an office storage area, then the room should be coded 315 (Office Service). Many rooms have names which contain the word "laboratory" and which are actually study rooms or classrooms. Determination of the actual use of a room, without reliance on the Room Name, is necessary for accurate room use coding.

3. File Format. Sixteen alpha or numeric characters, including blanks.

ROOM USE CODE

1. Definition. A code which classifies a room by its primary use or activity at the time of the inventory.

2. Description. The Room Use Codes are taken from the Room Use Category Structure (RUCS) presented in the 1992 national Postsecondary Education Facilities Inventory and Classification Manual. The 1992 manual updated the previous 1973 structure which appeared in the last edition (1979) of the N.C. manual. Minor modifications were made to a few codes, code names, and definitions. The most substantive revisions were in the form of more complete elaborations within the Descriptions and Limitations sections for each code category.

An extensive section on the Room Use Category Structure, with a detailed introduction, is provided later in this chapter. The section is labeled and separated from other chapter material and the other major classifications systems' sections (Program and Category) by
dividers. Room Use Codes are not prorated.

3. **File Format.** Three numeric characters; leading zeros. One alpha suffix character ("X") used for residential facilities which are specially designed and equipped for the mobility impaired: codes 910X, 919X, 920X, and 950X.

**STATIONS**

1. **Definition.** A number which indicates the design capacity of a room, for selected room use categories, in terms of workstations, seats, or beds.

2. **Description.** The concept of *original design capacity* supersedes any temporary adjustments of actual stations in a room, such as moving additional chairs or desks into a classroom to accommodate large classes. This count should not change unless the room undergoes a change in size, use, or design; or if the *types* of stations assigned to the room are permanently changed.

The number of individuals an institution can accommodate in its facilities is an important criterion in assessing the adequacy of those facilities. These counts are therefore critical to any analysis or evaluation of utilization of various types of space. The annual HEFC survey includes a data collection/analysis study of the *utilization of instructional space* (classrooms, class laboratories, and all other "teaching areas" where scheduled classes or labs meet). Chapter 5 outlines the data elements and reporting procedures for this annual study.

*Rooms with the following room uses should always show a Stations count on the Room Inventory:*

<table>
<thead>
<tr>
<th>Room Use Category</th>
<th>Code</th>
<th>Room Use Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td>110</td>
<td>Sleep/Study w/o Toilet/Bath</td>
<td></td>
</tr>
<tr>
<td>Class Laboratory</td>
<td>210</td>
<td>designed for Mobility Impaired</td>
<td>910X</td>
</tr>
<tr>
<td>Open Laboratory</td>
<td>220</td>
<td>Sleep/Study with Toilet/Bath 920</td>
<td></td>
</tr>
<tr>
<td>Research/Nonclass Laboratory</td>
<td>250</td>
<td>Sleep/Study with Toilet/Bath</td>
<td></td>
</tr>
<tr>
<td>Study Room</td>
<td>410</td>
<td>designed for Mobility Impaired</td>
<td>920X</td>
</tr>
<tr>
<td>Stack</td>
<td>420</td>
<td>Apartment</td>
<td>950</td>
</tr>
<tr>
<td>Open-Stack Study Room</td>
<td>430</td>
<td>Apartment designed for Mobility</td>
<td></td>
</tr>
<tr>
<td>Patient Bedroom</td>
<td>810</td>
<td>Impaired</td>
<td></td>
</tr>
<tr>
<td>Sleep/Study w/o Toilet Bath</td>
<td>910</td>
<td>House</td>
<td>970</td>
</tr>
</tbody>
</table>

The Room Inventory
Stations counts may be entered for many other types of rooms (conference rooms, meeting rooms, auditoriums, dining facilities, multi-station offices, etc.) but they are not required. A room with a 420 Room Use Code (Stack) may have a zero count in the Stations field; all other room uses indicated above should have a non-zero count. Where a Stations count is not entered, the field should be left blank. No Stations count entry should be made for service rooms; i.e., those with a Room Use Code ending in "5."

For residential facilities, the Stations field for dormitory rooms is the bed count for which the room was designed, regardless of temporary "crowding" with additional beds. An apartment or house usually takes a Stations count of one if the unit accommodates one family. An apartment housing unmarried students should reflect the bed count.

3. **File Format.** Four numeric characters; leading zeros.

### ASSIGNABLE AREA

1. **Definition.** For the Room Inventory field, Assignable Area is the area of a room measured to the nearest square foot. The definition and a detailed description with drawing examples for Assignable Area is provided near the end of the Building Inventory chapter (Chapter 3).

2. **Basis of Measurement.** The dimensions of a room or partitioned area may be determined by actual measurement using a measuring tape or electronic measuring device; or by scaling from an accurate blueprint. If measurements are taken by HEFC staff, calculations are to the nearest inch if taken from blueprints, or to the nearest tenth of a foot if measured physically. Offsets should be added, and insets deleted, from the main area of a room as appropriate. Wall thicknesses are excluded; i.e., measurements should be taken from inside-to-inside wall surfaces. Built-in cabinets are included in a room's assignable square footage. Closets which are off of a room and which have a separate door or doorway entrance should be inventoried and measured separately. Deductions should not be made for structural supports within the room; e.g., internal building columns or projections. Nonassignable Area which deducts from floor space (e.g., a freight elevator opening) should be excluded. Unusable areas with less than a six-foot, six-inch clear ceiling height are not Assignable Area and should not be included in the Room Inventory.

A room's Assignable Area = length x width ± offsets or insets:
Based on this room diagram, Assignable Area = (34'6" x 18'6") - (6'0" x 3'6") = 617 square feet.

Assignable Area is also referred to as Assignable Square Feet (ASF), Net Assignable Square Feet (NASF), or simply as net area.

3. File Format. Six numeric characters; leading zeros.

PROGRAM

1. Definition. A two-digit code which identifies the particular classification of institutional mission or objective to which a room's space is assigned.

2. Description. These approximately fifty codes, presented with names and definitions later in this chapter, are taken from the 1978 Program Classification Structure: Second Edition, Technical Report 106 (see Bibliography). A later 1988 version of this structure, produced by the National Association of College and University Business Officers (NACUBO), was not adopted for this manual because of its expansion of the codes to three digits. Appendix 3 provides a crosswalk between the 1978 and 1988 Program Classification Structure editions. This crosswalk, if needed for national survey reporting, can be completed by HEFC staff using a computer program.

Institutional "missions or objectives" in this classification structure fall under the broad categories of Instruction, Research, Public Service, Academic Support, Student Service, Institutional Administration, Physical Plant Operations, Independent Operations, and Unassigned space. Each of these summary programs has several sub-program classifications. The term "program" in this classification taxonomy does not refer to specific academic programs or disciplines (see Category data element in the next section).

On the Room Inventory printout, the Program name is automatically computer-generated and printed based on the entered code. Every room must have a Program Code assigned to its space. In most cases, this will be the primary program assignment. In a few instances, proration may be necessary to identify multiple assigned program objectives. The 1992 NCES manual refers to program classification as "function."

3. Proration. Proration, or apportionment of assignment to multiple classifications, is used in
the HEFC format for different Program or Program-Category combinations only. The Room Use Code is not prorated in this format. The proration itself is expressed in the form of a percentage of use of a room for a specific Program objective (see Proration data element below).

_The room record format allows for up to four prorations of Program or Program-Category apportionments._ The desirable minimum for a proration is 25%; the proration (percentage) numbers should always add up to 100. A detailed discussion of proration, with examples, is provided in the description of the Proration data element (pp. 62-64).

4. **Program Codes Requiring a Category Code.** The following Program Codes require an accompanying Category Code:

11 - General Academic Instruction  
12 - Vocational/Technical Instruction  
21 - Institutes and Research Centers  
22 - Individual or Project Research  
41 - Library Services

The following Program-Category combinations should be used for national reporting requirements:

<table>
<thead>
<tr>
<th>Program</th>
<th>Category(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 - Library Services</td>
<td>0000 - General Use (for campus central libraries only); 0101, 0201, etc., to indicate the general academic subject matter for special or departmental libraries which are funded separately from the department.</td>
</tr>
<tr>
<td></td>
<td>7310 - Food Services</td>
</tr>
<tr>
<td></td>
<td>7320 - Health Services</td>
</tr>
<tr>
<td></td>
<td>7330 - Housing Services</td>
</tr>
<tr>
<td>55 - Student Auxiliary Services</td>
<td>7330 - Housing Services</td>
</tr>
</tbody>
</table>

65 - Faculty and Staff Auxiliary Services  7330 - Housing Services

Rooms with other Program Codes do not require a Category Code, although it may be useful
to apply Category Codes to other Programs such as 13, 14, 15, 16, 17, 18, 31, 32, 45, or 46. An institution may assign a Category Code to any room, where applicable, if it is considered important to analysis of the assignable space.

A classroom (Room Use Code 110) always receives a Category Code 0000.

5. **File Format.** Two numeric characters; leading zero for Programs 01, 02, 03.

**CATEGORY**

1. **Definition.** A four-digit code which identifies a particular academic discipline or support category classification to which a room's space may be assigned.

2. **Description.** The Category Code classifications used by HEFC for the Room Inventory are an updated adaptation of a taxonomy originally developed by NCES in 1970 for use in the annual Higher Education General Information Survey (HEGIS). NCES subsequently discontinued use of the HEGIS taxonomy in favor of the Classification of Instructional Programs (CIP), originally developed in 1980. The CIP structure is not suitable to classifying and coding facilities space and no adequate replacement structure has since been developed at the national level. For this reason, academic affairs authorities at UNC General Administration and HEFC staff have updated the HEGIS taxonomy based on academic programs created or terminated at the sixteen UNC constituent institutions and North Carolina's community colleges. The taxonomy has been further developed to provide a set of Support Category classifications and codes. Either annually or biannually, an updated listing of the codes and classifications are mailed to campus Project Officers by HEFC for use in the Room Inventory. This listing of HEGIS Category Codes and names is divided off as the last section of this chapter.

There are two major types of Category Codes in this system:

1. **Academic discipline codes** (HEGIS Category Codes 0101-5599). These codes specify individual academic disciplines or subject areas. Where this level of detail is not feasible, they may be applied as degree program codes. These codes may be further subdivided into two groups as they apply to degree level:

   (a) **Conventional academic disciplines** which appear in programs at the Baccalaureate level and higher, or within an Associate degree program intended to lead to the Baccalaureate degree (codes 0101-4999). Institutions offering four-year Baccalaureate or two-year Associate degree programs in

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one of these disciplines should use Program Code 11 (General Academic Instruction-Degree Related) to code any space related to direct instruction in these fields. Program Code 11 in conjunction with any of Category Codes 0101-4599 is mostly confined to degree-related programs in all institutions except the community and technical colleges. Within the community colleges, only "college transfer" subjects potentially leading to a four-year degree should show Program Code 11. Category Codes 5001-5599 (technical and occupational specialties leading to a terminal degree, i.e., not "college transfer" and not leading to a Baccalaureate) should never be used in conjunction with Program Code 11. On only rare occasions, e.g., a conventional English or mathematics course within a community college secretarial program, should Category Codes 0101-4999 appear with the standard community college instructional degree program code (12-Vocational/Technical Instruction-Degree Related).

(b) **Technical and occupational specialties** related to curricula which prepare students for immediate entry into the work force (codes 5001-5599). Again, these programs are terminal in that they do not lead to a Baccalaureate (or Associate as a precursor to a Baccalaureate) degree; i.e., they are not "college transfer". These Category Codes should always show Program Code 12 (Vocational/Technical Instruction-Degree Related) for an occupational degree program. They should never appear with Program Code 11, which again is confined to a path to a four-year (or higher) degree.

2. **Support Category Codes** (supplemental support function codes 6610-8430). These codes were developed in 1973 by the HEFC office as optional Category Codes to more specifically identify institutional support functions and program objectives. They are not part of the original HEGIS taxonomy and are presented in this manual at the end of the Category Code listing.

The following section on the Proration data element includes a detailed explanation of proration as it relates to both Program and Category codes. The preceding section on the Program Code data element discusses instances where Category Codes are required, optional, or not appropriate as they relate to Program classification.

As with the Program Code, a computer software look-up table uses the numeric code to automatically print the name of the category on the Room Inventory printout (e.g., Category Code "1908" results in the printing of the code and "Physical Chemistry" on the inventory printout). The HEFC office does not aggregate or analyze space at the Category level in its standard annual reports.

3. **File Format** Four numeric characters; leading zeros.
PRORATION

1. **Definition.** A two-digit figure which is used to apportion percentages of a room's area to multiple Program classifications or Program-Category classification combinations.

2. **Description.** Most room records do not indicate a proration of the Program/Category classifications; i.e., 100% of the room's area is assigned to one Program or Program-Category combination. In these majority situations, Proration data is therefore not entered on the room record. Only when a determination of a primary classification cannot be made should proration apportionment be used.

The room record format allows for up to four prorations. Where multiple (two, three, or four) assignment apportionments are notated, the Proration data element is the third in the Program-Category-Proration series of entries. The Proration entries should always add to 100.

Figure 10 below uses the format of a partial "Room Data Collection Form" to show four examples of Program or Program-Category prorations; and a fifth example indicating no proration.

**FIGURE 10: Proration of Program or Program-Category**

- In the first example (Room 00101), a Research Laboratory (250) is prorated with 30% apportionment to Instruction (Program 11) in Botany (Category 0402); and 70% to Research (Program 22) in Botany (Category 0402). Programs 11 and 22 always require a Category Code.

- In Room 00102, a combination Office/Research Lab (310) shows an apportionment of 50% to Academic Administration (Program 46), 25% to Research (Program 22) in
Botany (Category 0402), and 25% to Instruction (Program 11) in Botany (Category 0402). Program Code 46 does not require a Category Code. The Room Use Code, which cannot be prorated, is assigned according to determined primary use (in this case, 310). The third and fourth prorations, if needed for a particular room, should be entered on the next line of the form. They also appear in a second line of data for the room record on the Room Inventory printout ("Room Characteristic Report"). In a machine file, they are assigned specific column positions, as are the first two prorations, in the room record format (see Table 6 near the beginning of this chapter).

- Room 00103 shows two prorations: 50% to Executive Management (Program 61); and 50% to Social and Cultural Development (Program 52). Neither of these Program Codes takes a Category Code.

- Room 00104 indicates a proration where the Program Code (11-Instruction) is identical in both apportionments, but the Category Code is different. In this example, which might be indicative of a faculty office, the person in the office teaches Botany (Category 0402) 60% of the time and General Biology (Category 0401) 40% of the time. This is an example of proration of a Program-Category combination.

- Room 00105 indicates no proration; i.e., 100% of the space is assigned to Instruction (Program 11) in General Biology (Category 0401). Most if not all room records in the Room Inventory are in this non-proration format.

3. File Format. Two numeric characters; leading zero as needed.

INSTITUTIONAL DATA

1. Definition. A twenty-character field provided near the end of the room record to be used for entering information which more specifically identifies or describes a room.

2. Description. There are no limitations or guidance for this entry, which is entirely optional. It is most often used to provide information about a room which is not revealed in the other data elements. Useful entries may include:

   - specific department or other organizational unit (e.g., "School of Dentistry")
   - local name of a specific campus program (e.g., "ABLE" or "Head Start")
   - formal title of occupant (e.g., "Dir. Financial Aid")
   - name of occupant (e.g., "Dr. Ralph Edwards")
   - specific department to which a classroom may be assigned (e.g., "English")
   - location information (e.g., "Next to stairwell")
   - room relationship information (e.g., "Serves Classroom 114")
   - an alternative room number as it appears on the utilization file (e.g., "Room C22 on ute")
   - a clarification of a specific coding (e.g., "Remedial tutoring")
   - the physical square footage of a reported nonassignable area, such as a public restroom
designed and equipped for the mobility impaired (e.g., "132 Sq. Ft.")

If a residential building is under renovation (Room Use Code 060, Program 02), and it will return to residential use after the project, "RES" should be entered in the first three columns of this field to denote its continuing status as a residential building during the renovation period.

HEFC staff may also enter notations in this field in order to better track the space or explain its coding.

3. File Format. Twenty alpha or numeric characters, including blanks.

ROOM ACCESSIBILITY

1. Definition. A one-character indicator ("1" or blank) which denotes whether or not the room is accessible to the mobility impaired.

2. Description. Accessible means that the room can be approached, entered, and used, from a position outside of the building, by a mobility impaired person (e.g., in a wheelchair, or using a walker) without assistance. The character "1" denotes accessibility; a blank field indicates that the room is not accessible.

If the site and building are not accessible, i.e., there are barriers to approach or entry such as lack of curb breaks in the area, steps to the building's entrance, or an entrance door which cannot be operated by the mobility impaired, then no rooms in the building should be coded as accessible. If the ground floor of a building is accessible, but no elevator is provided for accessing upper or lower levels, only rooms on the ground floor may be classified as accessible. Generally, rooms which have less than fifteen square feet of assignable area, such as small closets or private toilets, are coded as inaccessible. For a split-level hallway, with one or more steps dividing the two levels, only rooms which are part of the individual floor area which can be accessed by the mobility impaired should be coded as accessible.5

As noted in Chapter 3 on building data elements, Accessibility is collected only as a room data element. The assignable areas of all rooms with the "1" accessibility flag are summed to a figure which indicates total accessible area in the building. This figure, and the total building assignable area, appear on the "Building Characteristic Report" (inventory) printout for each building as "Accessible Area" and "Assignable Area." They are therefore not data

elements which are \textit{collected} for the building file: they are sum total figures \textit{generated} from the room file which appear on the Building Inventory printouts.

The difference between \textit{designed and equipped for} and \textit{accessible to} mobility impaired persons should be noted. The former, for this room file, applies to special public restrooms and residential facilities (see codes 011, 012, 013, 910X, 919X, 920X, and 950X in the Room Use Code section) which may appear on the inventory. A room or area may be specially designed and equipped without actually being accessible.

3. **File Format.** One numeric character ("1") or blank.

**LAST YEAR OF RECORD UPDATE**

As with the building file, this two-digit figure (last two digits of the calendar year) is automatically applied and updated by HEFC software when a change to a record, or addition of a new record, is made to the room file. This figure is therefore not reported by the campus. The update appears on the Room Inventory printout ("Room Characteristic Report") at the end of each room record. The date number indicates the last survey year (designated by the fall initiation of the survey cycle) in which an update to a given room record was made. It is useful for indicating which buildings and rooms may need more current inventory attention. If few or no changes to room records for a building are indicated over a period of the preceding eight to ten years, the building is a good candidate for reinventory.

**File Format.** Two numeric characters; leading zeros.

**RECORD TYPE**

As on the building file, this is a single-digit record type identifier which is also automatically generated by HEFC software. For a room record this number is "3." For room data submissions by tape, diskette, or electronic mail, this number should always appear in the final position (column 100). The number appears on the "Room Data Collection Form" (Figure 9) under the heading "Card". It is used in computer programs to distinguish room records from building records (Record Type "2") and utilization records (Record Type "5").

**File Format.** One numeric character ("3").

**Aids to Coding Rooms**

Room coding is usually the most difficult aspect of maintaining a facilities inventory. This is due to the extensive coding structures (Room Use Code, Program, Category) which are used for classifying rooms. Three guidance aids for campus Project Officers and other campus project personnel are available:

1. **This manual.** Anyone responsible for maintaining either the Building or Room Inventory
should initially read this manual to develop a general familiarity with facilities inventory concepts, procedures, and formats. Thereafter the manual becomes primarily a reference tool. The detailed outlines of the three mentioned coding systems, which appear in labeled and divided sections at the end of this chapter, should become the most referenced material.

2. **The existing campus Room Inventory.** Each institution's Room Inventory printout ("Room Characteristic Report") from the previous cycle is an invaluable tool for classifying and coding rooms. By checking the coding of another room with an identical use, a Room Use Code for the room in question may be determined. Program Codes for other rooms with the same institutional missions or objectives similarly reveal the appropriate Program Code to apply. Category coding is similar, with the additional feature that rooms with the same Category Code are usually physically clustered together on a campus. For both the Program and Category Codes notated on the existing inventory, the respective names for the code classifications also appear on the printout.

3. **HEFC staff in Chapel Hill.** The Introduction chapter to this manual outlines the various forms of assistance which Commission staff members are prepared to provide to campus personnel. One of the most frequently received requests is for assistance in the coding of rooms. This may be in the form of telephone inquiry or submitted written descriptions of room uses, users, and primary functions for rooms which become difficult to code. For submitted hard-copy room updates and additions, this additional basic information, notated on the form, usually enables HEFC staff to code a particular room accurately.

**HEFC File Edits and Problem Resolutions**

All submitted changes, additions, and deletions to both building and room files are examined closely at the Commission office. Regardless of whether a campus's room file updates are submitted in electronic or hard-copy form, a few minor follow-up questions are usually telephoned by HEFC staff to the Project Officer to clarify confusions or discrepancies. Also, updates to building file records are examined for their compatibility with updates to the building's Room Inventory--and vice versa (e.g., an added record for a new building on the building file should accompany added new room records for that building on the Room Inventory). In addition to these manual edits, machine edits are run on all building and room files when all of the campuses in a Group have reported. A final round of clean-up questions may follow this process.

Many larger institutions maintain the extensive Room Inventory file electronically "on-line"; i.e., on personal computers and mainframes. Under this arrangement, campus personnel key changes/additions/deletions to the file on a regular basis and submit a "new" complete room file each fall to the HEFC office on diskette, through a file server, or by electronic mail. In order to identify the changes made to the file over the preceding year, the HEFC office runs a computer "COMPARE" program which bounces the new against the previous year's file and prints out the changes. Figure 11 shows two pages of an output printout generated by running this program. This printout becomes the hard copy record of updates submitted for the room file. Two copies of the printout are run, one for the campus and the other for HEFC, and any clean-up questions are notated
identically on both copies. The campus copy is then mailed to the institution Project Officer as a communication of the follow-up clarification questions. The final section of the "COMPARE" program output examines the changes made to the room file in terms of their consequent impacts on the building file. Figure 12 is an example page of this section, which examines the effects of square footage changes in rooms as they relate to building statistics.

Edits of the submitted utilization (class schedule) file may also prompt questions about the Room Inventory. Most of these questions result from (1) classes showing up in rooms which are not on the inventory; (2) classes being held in rooms which are inappropriately coded (e.g., classes held in an office storage room--Room Use Code 315); and (3) overutilization of the space; i.e., the number of students in the class exceeds the room's Stations count as recorded on the room file by more than 20%. Chapter 5 outlines the data elements, collection procedures, and reports generated for the utilization study component of the survey.

**Room Reports**

Three types of reports are generated by HEFC from a campus's room data:

1. The "Room Characteristic Report" is the standard printout of the Room Inventory (Figure 13). All of the room file data elements described in this chapter (with the exception of Group Number and Record Type) appear on the report. Totals for Assignable Area and Accessible Area, based on aggregation of room square footages, is printed at the end of the Room Inventory for each building. The total Gross Area of the building, which is taken from the building file, is also given.

2. A set of four square footage distribution reports accompanies the "Room Characteristic Report" (Figures 14-17):
   a. "Campus Room Data--Distribution of Assignable Area by Summary Programs and Rooms Codes" tables campus square footages by individual and summary (100-series) Room Use Codes and summary Programs (10-series). Campus totals are given for both sets of classifications.
   b. "Campus Room Data--Distribution of Assignable Area by Subprograms and Room Codes" presents the same information using individual Program Codes instead of summary series.
   c. "Campus Room Data--Distribution of Accessible Area by Summary Programs and Room Codes" presents the same information in (a) above for accessible area.
   d. "Campus Room Data--Distribution of Accessible Area by Subprograms and Room Codes" presents the same information as (b) above, also for accessible area.
(3) A third standard room report, "Campus Room Data-Room and Station Counts" (Figure 18), presents the following figures for classrooms, class laboratories, and selected residential facilities: number of rooms, total assignable square footage, total number of stations, and assignable square feet per station. This report also provides number of room figures for the special unclassified and nonassignable areas which are included on the inventory to indicate building features associated with mobility impaired persons: elevators and men's/women's/unisex public restrooms designed and equipped for the mobility impaired.

In addition to these three standard reports, HEFC annually generates and mails to each campus Project Officer two auxiliary printouts which are designed as aids to updating the Room Inventory for the next survey cycle:

(1) A printout listing all classrooms and class laboratories with indications as to whether they were used or unused (for scheduled classes or labs) the previous fall term.

(2) A printout of all rooms coded 050 (Inactive Area), 060 (Alteration or Conversion Area, or 070 (Unfinished Area). This listing serves as a reminder that for the next inventory update these rooms should be checked for a change in status and updated accordingly.

HEFC provides assistance to institutions for generating other special-format or ad hoc reports based on campus room data.