NATIONAL CENTER FOR EDUCATION STATISTICS
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NCES 2006-160

Postsecondary Education Facilities Inventory and Classification Manual (FICM): 2006 Edition

May 2006

National Working Group on
Postsecondary Facilities
Kreon L. Cyros
Chair

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Foreword

The National Center for Education Statistics (NCES) is pleased to publish an updated edition of the *Postsecondary Education Facilities Inventory and Classification Manual* (FICM). The FICM was first published in 1973 and was last revised in 1994. In the years between the publication of the 1994 FICM and the present time, postsecondary education has changed substantially in terms of the students it serves, the technologies that are available to it, and the innovations institutions have begun to embrace. All of these changes dictated the importance of examining the 1994 FICM to determine what modifications, updates, and additions might be needed to provide a better, more useful industry-wide standard for facilities management and administration.

To provide community input into the 2006 revisions of the FICM, NCES, with the assistance of Kreon Cyros of INSITE and Lander Medlin of the Association for Higher Education Facilities Officers, assembled a working group of facilities experts who represented various types of postsecondary institutions, postsecondary associations, state agencies, federal agencies, and private sector companies specializing in postsecondary institution facilities. This group guided the entire process of updating the FICM.

This edition of the FICM differs from the previous editions more in its intent and organization than in its content. It is designed to be useful to both specialized staff and generalists and to be applicable to institutions with sophisticated information needs as well as to those with more basic facilities information needs. It reflects the perspective that along with human resources and financial assets, space is one of the primary resources of an educational institution. In fact, for some institutions, the dollar value (initial cost, replacement cost, and market value) of the institution's buildings frequently exceeds the institution's annual operating budget and endowment.

The FICM is a tool that can help institutions initiate, conduct, report, and maintain an institutional space inventory that can provide answers to such basic questions as how much space is available, what kind of space is it, to whom is it assigned, and how efficiently is it being used and maintained. This information permits institutions to assess the adequacy of their current space and allows them to begin planning for future space needs.

NCES has a continuing commitment to the education community to provide technical assistance and support that will facilitate the collection, reporting, and use of high quality education data. This third edition of the FICM is just one example of that commitment. The two previous editions of the FICM became standards for collecting and reporting data on postsecondary institution facilities. We are confident that this edition will have the same value and utility as its predecessors.

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Acknowledgments

This project reflects the voluntary cooperation and genuine collaboration among many individuals and organizations.

First, every member of the National Working Group on Postsecondary Facilities for this edition of the FICM deserves an enormous thank-you. Their contributions and dedication made this project possible. At the outset, the group was given the choice of hiring a single consultant to do the revisions or undertaking the task themselves. The group chose the latter. Each member of the Working Group made unique and important original contributions to this edition of the manual and reviewed every revision that was suggested.

Special acknowledgment and thanks must also be given to Kreon L. Cyros, who chaired the Working Group. Mr. Cyros not only expertly presided over the several meetings of the Working Group, but he organized the work so that revisions could be undertaken efficiently and effectively. He cajoled the members to complete their "assignments" in a timely manner, and he ensured that any changes made to the manual were necessary and improved it. He also responded to each of the comments that resulted from the extensive field review of the draft manual and worked on the organization and final structure of the manual.

Lawrence W. Vanderburgh of the BOMI Institute became involved in the project because of his professional interest in facilities data and information. He assumed responsibility for assembling the materials provided by members of the Working Group, writing the introduction and other sections of the manual, and implementing the recommendations of the Working Group with regard to the final structure and layout.

Additionally, many practitioners throughout the country reviewed the draft of this edition of the manual as part of the field review process. All of their comments, suggestions, and ideas were considered and discussed. We would like to thank everyone who made the effort to gain access to and review the draft manual.

Finally, we would like to acknowledge the work of Baiming Liu of Westat and the other Westat staff who were involved in this project—Denise Glover, Carol Litman, and Sylvie Warren. Ms. Liu kept the whole project on as much of a schedule as possible, given the number of individuals involved. She served as the point person for the hundreds of e-mails that went back and forth among members of the Working Group and made sure that nothing was lost in transmission. Dr. Glover oversaw the project for Westat, Ms. Litman edited the final document, and Ms. Warren prepared the final document for publication.

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Introduction

Along with its human resources, financial assets, and intellectual cache, space is a primary resource of an educational institution. Indeed, the dollar value (initial cost, replacement cost, or market value) of a postsecondary education institution's buildings sometimes exceeds its annual operating budget and endowment. Without information on how much and what type of resources it has, an institution cannot assess whether sufficient resources are available to fulfill its mission. Answering some basic questions about space, including how much space is available, what kind of space it is, to whom is the space assigned, and how efficiently is the space is being used, requires gathering facilities' inventory data and developing and maintaining a facilities' inventory database.

This manual describes standard practices for initiating, conducting, reporting, and maintaining an institutional facilities inventory. Once completed, a facilities inventory will enable an institution to measure the ability of its space to meet its current programs, assess the current operation costs of its facilities (maintenance, utilities, cleaning, etc.), and then begin to plan for future space needs.

A facilities inventory database can serve an additional number of important specific functions:

- **Directory.** The database can serve as a directory that identifies and inventories the location of space by building, room, and space number, by which department occupies the space, and by the size and type of each space. From these data, patterns in the overall occupancy of space can be tracked.

- **Space Utilization.** The database can assist in the measurement and analysis of the use of space. This function allows an institution to minimize space operating costs by maximizing the use of existing space. For example, sophisticated research space is costly to construct and operate. Accordingly, use of such space for more mundane uses is not cost-effective. If laboratory space is being used for storage, and more instructional or research laboratories are needed, clearly it would be less costly to construct storage space and use the expensive laboratory space for its original purpose as long as other factors—such as proximity, access, and control of space—make it practical. Similarly, most other space could be evaluated for suitability of use and fit.

- **Future Planning.** The database provides the capability for planning for future needs. Planning occurs on many levels. For example, developing facilities to support a specific educational program often entails long lead times and far-reaching effects beyond the scope of that program. Without the right information, planning may be flawed and the program may not be launched or supported appropriately. On another level, data on

existing space use and cost can provide an accurate basis for long-term projections and capital funding requests.

- **Decisionmaking.** The database can provide vital support to decisionmaking. Effective action requires knowledge; knowledge requires information; and information requires data. Neither program nor facilities decisions are made in isolation. Facilities data are almost always used in conjunction with financial, academic, human resource, and program data. As a result, the linking of facilities data to other databases is increasing. Linkages might occur, for example, to operations and maintenance systems, a land/property inventory, an equipment inventory, financial systems, human resource systems, or a research accounting and indirect cost recovery system.

- **Reporting.** The database can help an institution meet its reporting requirements. Many institutions receive substantial reimbursement for support costs (including those of facilities) incurred in the performance of programs and projects sponsored by federal or state agencies. Many of these agencies have made the *Facilities Inventory and Classification Manual* (FICM) the standard reference for reporting costs allocated on the basis of area measurement. Particularly when public funding is involved, extensive reporting is required to ensure accountability for the use of funds. A common task in this regard is providing documentation to support the recovery of indirect costs that would enable an institution to negotiate overhead rates.

- **Institutional Comparisons.** A facilities inventory database based on the FICM can provide a set of standard terms and measurements that facilitate appropriate comparisons among postsecondary education institutions. Increased pressure on all resources, especially financial, has contributed to the need for extensive comparisons among similar institutions to identify best-in-class performers, best practices, and possible improvements and efficiencies.

National projections call for significant growth in postsecondary enrollment over the next 10 to 20 years. However, great variations in growth among states and even regions within a single state might be expected. Planning requirements also differ depending upon the perspective of the individual who is doing the planning and the organization or situation being studied. These differences are magnified when the focus is on a single institution or a building on a campus. This manual is designed to assist planners and analysts at both the state and institution levels.

The perspective of planners and analysts at the state level may be especially helpful in understanding the importance of information about postsecondary institutional facilities and the availability of comparable information. State agencies, with both governing and coordinating functions, have the responsibility to recommend the most efficient and effective use of scarce state and institutional resources, as well as to minimize the cost burden on students and their parents. These seemingly conflicting roles can only be balanced with adequate information and appropriate analytic tools.

Student enrollment and institutional mission changes as well as technological advances bring new challenges and requirements to the design and use of facilities. The availability of standardized and commonly accepted data elements describing space usage and characteristics is critical to governing boards (both public and private), state-level postsecondary education administrators, and campus administrators. Understanding facilities needs, both for new construction and for renovation, through comparative analysis of internal institutional data and external data from peer institutions across the country helps establish baseline requirements for future capital funding. With standardized data, it becomes possible for the state-level postsecondary education administrator to know how institutions compare on a host of indicators and to set priorities for limited resources. It is also helpful to understand fully how a local situation differs from statewide, regional, or national conditions.

Changes Since the Last Revision

Following is a summary of significant changes made for this 2006 edition of the FICM since the last revision in 1994.

Organization

- The entire document has been designed for greater use as a reference tool. Material concerning database design and organization, data collection, and reporting and analysis has been reorganized to make the manual easier for a first-time reader to understand.

- The question-and-answer chapter has been broken into separate sets of questions placed with the chapter to which the questions pertain. While that has led to some redundancy in the questions, it does enable a reader to see how a standard is applied in practice without additional searching.

- Some of the appendix material has been incorporated into the body of chapter text. For example, floor plans illustrating different area classifications are now included on the same pages as the textual definitions.

Area Measurement

- Area definitions have been clarified. The minimum floor to ceiling height required to include any covered floor area in an institution's space inventory was lowered from 6'6" to 3'0". This change was precipitated by the appearance of new building designs with vertically curved exterior walls and maximizing the use of sloped roof attic spaces as assignable areas through the use of 3'0" knee walls. Also, a detailed breakdown of the nonassignable major use category has been created. It contains three space use subcategories and their definitions: mechanical, building service, and circulation area.

- A crosswalk table showing the relationships between the National Association for College and University Business Officers (NACUBO) and U.S. Office of Management and Budget (OMB) Circular A-21 functional categories has been added in appendix B.

Data Elements

- Data elements have been grouped into *required* and *optional* categories; descriptions for the data elements have been updated.

- Some new categories, such as *room condition*, have been added. Existing categories, such as building condition, room suitability, ownership status, and architectural features, have been clarified and updated to reflect new market conditions, financing arrangements, and additional services now provided in many buildings.

- The term *space* has been used to define the smallest discrete spatial unit (data element). The use of this term allows breaking a room with multiple functions into individual areas that can be classified separately for more accurate tracking and reporting.

Room/Space Use Codes

- Room use codes are now described in chapter 4. The existing coding structure has been kept almost entirely intact. The only significant additions are for unit storage, hazardous materials storage, and hazardous waste storage.

- Definitions for classroom, laboratory, study areas, clinics, animal facilities, and health care facilities have been refined and cross-referenced more closely with area definitions, especially nonassignable space.

- References to computer hardware, software, and other technology in various room use codes have been updated to reflect current terminology.

Emerging Issues

- A chapter on emerging issues (chapter 6) has been added to address significant changes in practice facing institutional planners, such as expanded reporting requirements and increased emphasis on maintenance.

- Suggested categories for physical infrastructure assets have been added to provide guidance for tracking and managing physical assets, such as roads, storm and sanitary sewers, utility lines, and site features, which represent substantial capital investment but do not fall within a *building* and thus are not tracked in a space database.

Chapter 1. Getting Started

1.1 How This Manual Is Organized

This manual is organized to serve two different audiences:

- Newcomers who need a thorough introduction to the classification system, how it is built, how to use and apply it properly, and how to enhance an institution's management of its facilities by using this system.
- Experienced users who already know the facilities classification system and are interested in using this document primarily as a reference tool.

Newcomers should read this document thoroughly before embarking on any efforts to classify their space inventories. Experienced users are likely to be most interested in the section describing changes since the last edition; chapter 4, Space Use Codes, the core of the system; and chapter 6, Emerging Issues. For a quick start to this new edition, refer to the Changes Since the Last Revision section of the Introduction.

This document is organized as follows: chapter 1 covers getting started/orientation; chapter 2, basic database principles; chapter 3, area measurement; chapter 4, room and space use codes; chapter 5, data analysis and reporting; and chapter 6, emerging issues. Chapters 3, 4, and 5 contain a set of questions and answers that relate to the content of the particular chapter. It should be noted that some of the questions and answers appear in more than one chapter. This was done deliberately if a question pertained to the content of more than one chapter so that all relevant questions and answers would be available in the appropriate chapters.

The topic chapters are followed by several appendixes. The appendixes provide more detail than was warranted in the main body of the manual. In particular, appendix A provides guidance in using the FICM for data reporting and interinstitutional data exchange; appendix B provides additional detail on the NACUBO and OMB functional categories; appendix C provides additional detail on the Classification of Instructional Program codes for academic disciplines; appendix D provides a suggested method for classifying infrastructure; appendix E provides a detailed method for describing the maintenance level of facilities; appendix F provides an integrated number coding structure that encompasses assignable and nonassignable space and infrastructure classifications; and appendix G contains a glossary.

Many institutions already maintain sophisticated facilities inventories; others may not have collected facilities data or may find their inventories so out of date that they will wish to start over. Chapter 1 is provided primarily for those who are unfamiliar with facilities inventory methods or with the FICM system.

1.2 Designing the Database

According to the basic principles underlying the organization and use of the FICM classification system, some items of information are described as *required* (e.g., a unique space identifier, the square-foot area of the space, the organizational unit to which it is assigned, and the space use category), while others are *optional* (e.g., physical characteristics of the space, legal ownership, age, condition). In designing the facilities database, it is good practice to provide fields for both the required and the optional data elements, even though not all types of data may be collected at the outset. Even if some fields are ultimately not used, it is usually more cost-effective to program extra space than to add fields after the database is already in use.

Individual Spaces Are the Building Blocks of the Facilities Inventory. The most basic discrete spatial unit to be measured, inventoried, and tracked is an individual *space.* While the terms *room* and *space* are commonly used interchangeably, they are individually defined for purposes of this manual. A *space* is an area bounded by walls and/or an imaginary boundary line (a "phantom wall") that accommodates a single use. A *room* is defined as a contiguous area enclosed by walls on all sides; it may consist of one or more *spaces*. As discussed in chapter 3, where clear distinctions between the two terms are made, some rooms may be subdivided into several discrete *spaces* because they accommodate multiple uses.

For purposes of this manual, the term *space* will be used wherever both terms could be used interchangeably, primarily regarding the use codes defined in chapter 4.

Database Technology. Database software has become much more user-friendly, inexpensive, powerful, and customizable in recent years, making data storage, maintenance, analysis, and reporting of inventory data far more practical and cost-effective, even for the smallest institutions. Software to support inventories is available and can be modified for particular institutional uses. Decentralization of computing resources through departmental, campus, regional, and national networks has become a common and effective means of making inventory information widely available.

The facilities inventory information for virtually any institution can usually be stored in a desktop computer, using commercially available database software. Some software vendors have designed interfaces that enable exchange between computer-aided design (*CAD*) drawings and computer-aided facilities management (*CAFM*) system databases.

1.3 Data Collection

Walking the Campus. An essential step in an inventory is to field check the configuration and use of each space. This task should be performed by a qualified individual, usually someone with the institution's central administration, who thoroughly understands the FICM definitions and the importance of consistently applying them. As there may be discrepancies between the floor plans and the actual spaces, this step provides an opportunity to update the floor plan drawings. Furthermore, required and optional space data (e.g., the space use category, academic discipline category, number of stations, suitability for current use) should be ascertained or verified by inspection.

Updating facilities inventory data is also essential. This task is especially important when organizational moves or space renovations take place. While overall building dimensions may not change frequently, space use, assignments, and geometry are more likely to do so with greater frequency.

Working From Drawings. On most campuses, a department of facilities planning or management will have access to architectural drawings of most buildings, whether or not they have responsibility for maintaining those drawings. An initial set of building, floor, and space data can be compiled from these drawings as a basis for creating an initial space inventory or for maintaining an existing one. Four data elements are required for each space in a basic space inventory: unique identifiers for each building, floor, and space; organizational assignment(s); actual space use(s); and confirmed locations of walls to accurately determine the area and other basic building features such as door, window, and column locations within each space.

Many institutions also use electronic technology to collect their facilities data. Options include developing and using machine-readable data collection forms, entering the data directly using hand-held devices while conducting the physical inventory, and recreating scaled floor plans.

A growing number of institutions are setting up and maintaining building drawings in CAD systems and digitizing existing drawings to set up electronic space inventory files. In electronic form,

these drawings can be kept current with subsequent renovations. These electronic files can be linked with the inventory files so that both files can be updated simultaneously.

Accuracy of Drawings and Measurements. Scaling of drawings is not recommended as a method for determining the area of a space or a building. Drawings are frequently out of scale; if they are drawn to a small scale (e.g., 1/16" = 1'0" or smaller), significant errors can result from manual measurements taken directly from drawings. A word of caution: If there is no alternative but to determine space areas from drawings (i.e., it is impossible to measure the actual space), remember that photocopies of drawings may alter their scale. A sample of actual spaces should be physically measured to ensure the drawings are accurate to scale.

Computer-Generated Area Calculations. Computer-generated calculation of spaces or building areas from electronic "as-built" record plans of a building is the most accurate method for calculating area. This assumes, however, that the building was actually constructed as shown on the plan documents. Field verification of building and space dimensions is advisable, as very few organizations track all the minor alterations made to their buildings and many of these changes go unreported to the campus facilities department.

Physical Measurements. Even if field dimensions are taken to verify building and space dimensions or to establish the base drawing data, there may be a difference between the field measurements and the actual drawing; however, such differences are typically marginal within an overall building inventory.

Acceptable Margin of Error. When taking physical measurements to update or verify drawing data, a 2 percent margin of error is acceptable for the purposes of facilities data values.

Partial Inventories. An incomplete building and space inventory is better than no inventory, provided it is accurate. Institutions beginning the inventory process may be wise to plan initially on collecting less information and increasing the scope of the inventory in subsequent updates to facilitate successful implementation.

There are several logical approaches:

1. Collect only the required data—space identifiers (building/floor/space number), space use categories, organizational assignments, and area in the first inventory—leaving other (optional) elements for a later survey.

2. Collect data by class of facility, perhaps starting with academic and research buildings, then administrative ones, then auxiliary and residential facilities.

3. Plan an ongoing program that will inventory or update a portion of all facilities each year, especially the academic and research facilities, in which changes can have significant impacts on educational and research programs.

Combining the Inventory With a Facilities Condition Audit. For some institutions, it may be cost-effective and advisable to combine the initial facilities inventory, and certainly any subsequent updates, with an audit of the condition of the facilities. The standard procedures for a facilities condition audit[1] closely follow those suggested in this manual and are intended to collect related information. Many of the building condition codes and space suitability codes suggested in this manual relate closely to facilities condition audit information.

1.4 Practical Tips

1. Compile the building information first, even though some variables or elements (such as assignable area) will not be available until the space inventory is completed.

2. Inventory all spaces in a particular building at one time. Interrupting the inventory process, even for short breaks, increases the chances of omitting spaces.

3. Try to schedule the space inventory shortly after the beginning of the term or some other time when space uses have stabilized.

4. In counting the number of stations in a space, remember that the intent is to count the appropriate number of occupants who can be accommodated in the space.

- The number of stations in a laboratory is often determined by the fixed equipment in the space, such as sinks and counter space, or fume hoods. Where a station is designed to accommodate two or three students rather than just one, count the number of students who could be served.

- For classrooms with movable seating, the number of stations is determined by the design intent, not by the number of chairs that happen to be in the space at the moment the inventory is taken. For instance, a space may be designed to hold 15 student stations but currently has only 12 chairs; the number of stations would be 15. Conversely, if current

[1] See, for instance, H.H. Kaiser, *Facilities Audit Workbook* (Alexandria, VA: Association of Higher Education Facilities Officers (APPA), 1987).

safety codes limit occupancy to 15 and there are 20 chairs, the station count should be 15.

5. In conducting and maintaining the facilities inventory, remember that the intent is to provide the best information possible with a reasonable expenditure of effort. A modest level of error is tolerable (indeed, inevitable) as uses and assignments change over time. A regular process for updating the inventory can keep its information current enough to be continuously useful.

6. Wherever possible, use the building and space identifiers to link the facilities file to other data files, such as those for fixed and movable assets, classroom scheduling, financial accounting, insurance tracking, and maintenance scheduling. (For more information, please refer to section 2.4, Links to Other Systems.)

1.5 The Facilities Database and Institutional Management

Once a database has been designed and the building and space information has been collected, a variety of reports can be provided for institutional use and, where appropriate, for inter-institutional, systemwide, or national surveys. The database also can support a variety of ad hoc inquiries to support space management and facilities management activities. For many purposes, graphical presentations can convey the intended message more effectively than tabular arrays of data. (A detailed discussion of data analysis and reporting is provided in chapter 5.)

Chapter 2. Basic Database Principles and Applications

This chapter provides an overview of the central concepts and components of an inventory and facilities classification system for postsecondary education facilities. It is intended as an aid to understand how the key components fit together. Additional explanatory detail, technical definitions, and procedures are provided in subsequent chapters and the appendixes.

The central concepts and components outlined in this chapter include

- basic database principles underlying the intended uses of this manual;
- external and internal database applications (reporting and analysis); and
- what to include in a building inventory.

This manual is designed primarily for institutional use. A comprehensive, reliable, and up-to-date facilities inventory is an important tool for the planning and management at a postsecondary institution. Accordingly, the database model described below is designed primarily for use at the institution or campus level.

2.1 Basic Database Principles

Facilities Inventory Systems Contain Data About Buildings and About Spaces Within Buildings. A facilities inventory may incorporate data about many types of structures and physical assets, the most important of which are buildings and spaces. Building information includes such items as gross area, assignable area, and replacement cost. Space information includes such items as space area, space use, and number of stations. Required and optional data elements for both buildings and spaces are defined below and in chapter 5.

Each Building and Space Needs a Unique Identifier. The initial step in a facilities inventory is to assign each building and space a unique code to identify a "record" or set of data fields within the inventory. These identifiers are then used to link spaces to buildings and to link the facilities inventory records to other institutional information such as plant asset records, the registrar's course schedule, and equipment inventories.

Each Building and Space Record Has Several Fields of Data. Each building or space requires a separate data "field" for each type or element of information. For a given space, its unique space identification (building, floor, and space number), space use category, organizational assignment, and area are required types of data. (See chapter 5 for a full discussion of required and optional data.) Some examples of optional inventory items that may be important to an institution's space management and utilization study needs are the number of occupants a space can accommodate, architectural features, suitability for specific uses, and the identification of the "disparate use" of a space (e.g., a space designed as a laboratory but used as an office must be recorded as an office). Each of these pieces of information is recorded in a separate field within the space record. Merging of different kinds of information into a single field should be avoided in all cases. For example, marrying the space use "office" with the rank of the occupant, "professor," to create a space use of "professor's office" makes analyzing office space of people other than professors difficult. Keeping "office" and "professor" separate enables greater analytic flexibility.

This Manual Provides Basic Coding Structures to Which Institutions Can Add. The required data described in this manual constitute the lowest common denominator, i.e., a set of definitions and codes that is as simple as possible while still covering the range of building and space information essential to any facilities inventory database.

2.2 Database Applications

Facilities Inventory Data Should Be Capable of Uniform Aggregation. Facilities information is important for interinstitutional comparison, for planning and management of the institution or institutional systems, and perhaps for development of national policy. The information gathered in the inventory should be structured to make valid comparisons and summaries possible. (Please refer to chapter 5 for a full discussion of aggregating and reporting facilities inventory data.)

External Applications. From the basic coding structure described above, most inter-institutional comparisons, system reports, and national surveys can be satisfactorily developed by adding additional fields (see section 5.3, Optional Data Elements). Institutions should build from this conceptual framework to enhance the inventory's usefulness for individual campus management. Appendix A provides guidance in using the FICM for data reporting and interinstitutional data exchange.

Use of Standard Functional Categories. In addition to space use categories and organizational unit assignment, facilities inventory systems commonly contain a set of categories or codes

to allocate space across functional categories (e.g., instruction, research, public service, academic support). The functional categories are used primarily to link space allocations to financial data for indirect cost accounting and to institutional missions (e.g., the proportion of space used for public service) or to analyze and compare space allocations across institutions according to commonly used functional categories.

The functional categories recommended for this purpose are adapted from standard financial reporting categories. Appendix B provides the definitions for these categories as adapted from standard financial reporting guidelines of the National Association of College and University Business Officers (NACUBO) and Office of Management and Budget (OMB) Circular A-21. Coding for function requires identification of the prorated functional use of each space.

Internal Applications. The following are illustrative of internal database applications.

- Institutions may wish to add additional detail to the space use coding structures for internal purposes. For example, a college or university might add subcodes to the space use code 255 of Research/Nonclass Laboratory Service to keep track of cold rooms, hot rooms, dark rooms, laboratory stock rooms, and similar spaces.

- Some institutions may wish to differentiate between classrooms assigned to individual departments and those centrally controlled by the registrar or dean's office by sorting classrooms by their organizational assignment.

- Institutions may wish to identify study rooms or labs with specialized equipment for moderated instruction or study by linking data from a movable or fixed equipment data file to the appropriate spaces in the inventory file.

Some Kinds of Spaces Can Have Many Stations. The concept of "stations" is important for classrooms, laboratories, and other similar space, since it can help determine the number of occupants the space is designed to accommodate. This information is vital for comparing designed capacity to actual use, and in assigning or scheduling the space.

Distinctive Architectural and Other Characteristics Can Be Noted. Optional data elements with specific codes may be used to identify unique architectural characteristics, special utility services, replacement cost, age, condition, suitability, or building ownership. This information is used for a variety of purposes, including scheduling and maintenance planning, financial analysis, and campus planning. These characteristics are also important for understanding cost differences in initial construction, renovations, repairs, and operations.

While this coding can sometimes be determined from up-to-date drawings or the general knowledge of the facilities planning or management staff, these characteristics may be difficult to identify from original designs or original as-built drawings and may require actual inspection of some facilities.

Some Data Elements Are Important for Campus Use But Are of Limited Use in Multi-Institutional Summaries. The list of data elements includes some items that are important for campus use but lose their meaning in interinstitutional, state, or national summaries. For instance, identifiers such as names for particular buildings and spaces are essential for campus use but not in a state summary. Similarly, organizational unit identifiers (e.g., departments) are important on a particular campus but become less meaningful when summarized across institutions because of differences in organizational structures.

2.3 What to Include in a Building Inventory

Definition of Building. A *building* is defined as a roofed structure for permanent or temporary shelter of persons, animals, plants, materials, or equipment. The building inventory may encompass many different types of structures, including marine and space structures (whether staffed or not); research vessels; aquarium structures; and trailers that are not on wheels and are used for offices, residences, or storage (see technical definitions in chapter 3).

Buildings to Be Included. The inventory should include buildings that are under the jurisdiction or control of the institution's governing board, regardless of their location. Where the institution occupies space in buildings not owned by the institution or that is shared with other tenants, include in the inventory only that portion of the building leased or controlled by the institution and its pro rata share of gross area, assignable area, and nonassignable area (see definitions in chapter 3).

Institutions will normally exclude various minor structures from their inventory based on various criteria. As a guideline, separate, minor structures should be included in the inventory if all of the following criteria are met:

- They are attached to a foundation.
- They are roofed.
- They are serviced by a utility, exclusive of lighting.

- They require significant maintenance and repair activities as determined by the institution.

Following these guidelines, an example of a minor structure to be included in a building inventory is a traffic control or information booth that is roofed, attached to a concrete pad, with lights and at least one other utility service such as a telephone, and on a regular maintenance schedule. An example of a separate structure not meeting the above criteria is a bus shelter, which is roofed and attached to the concrete sidewalk, but which has only lights as a utility service.

Institutions may choose to include parking structures and field buildings that do not meet all of the above criteria in their inventories because of requirements to manage and maintain such facilities. The inclusion of such facilities permits the space to be assigned to specific functions, disciplines, and organizational units. Additional clarification and examples are provided in chapter 3.

Buildings to Be Excluded. The following types of buildings may be excluded from the inventory if they do not house functions considered part of the institution's academic mission:

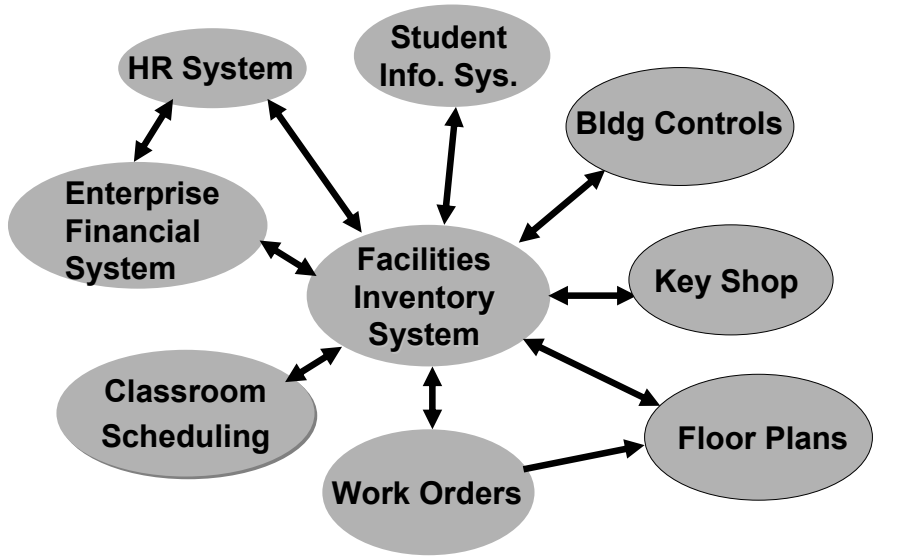
- Investment properties that are buildings used only for revenue generation and not for institutional purposes;
- Hospitals not owned by the institution, except for any space in the hospital used, leased, or controlled by the institution;
- Public schools not owned by the institution but used for practice teaching; and
- Federal contract research centers identified by the Office of Management and Budget.

Other Plant Assets. For management purposes, institutions are encouraged to inventory all other physical infrastructure elements (physical plant assets). Examples of such infrastructure elements (assets) not encompassed in the definition of a building include uncovered swimming pools, athletic tracks, bleachers, and additional playing fields that otherwise do not qualify as gross areas. Institutions are also encouraged to itemize the infrastructure components. Examples include utility distribution systems (heating, cooling, power, water, and waste disposal) and support facilities that provide access or safety-related services (roads, campus lighting, etc.). Additionally, institutions may wish to maintain inventory data on land holdings, capital equipment, and movable equipment. A suggested approach for tracking infrastructure assets is presented in chapter 6.

2.4 Links to Other Systems

Neither program nor facilities decisions are made in isolation. Facilities data are almost always used in conjunction with financial, academic, human resource, and program data. As a result, linking facilities data to other databases is increasingly prevalent. The diagram below illustrates some of the more common systems to which facilities databases commonly link.

Figure 2-1. Example of facilities inventory data links with other systems



Courtesy of INSITE

Chapter 3. Building Area Measurement

This chapter provides the technical definitions, measurement procedures, and coding structures for building area data elements. The interrelationships between the components of building area are illustrated by the conceptual framework in figure 3-1. Definitions of what constitutes a *building* are found in chapter 2. The technical definitions and codes for the space use categories are found in chapter 4. An understanding of the FICM system begins with an overview of measurement terms.

3.1 Overview of Building Measurement Terms

In a building inventory, it is important to be able to determine the amount of space that can be assigned to people or programs. However, buildings necessarily contain other types of space as well. Technical definitions and examples of types of space are provided in chapter 4.

The amount of space that can be used for people or programs is known as the *Net Assignable Area*.[2] The area of an Assignable space is the area measured within its interior walls. The Net Assignable Area of a building (or all buildings in an inventory) is the sum of the space allocated to the 10 major assignable space use categories: classrooms, laboratories, offices, study areas, special use space, general use areas, support rooms, health care, residential, and unclassified space. These categories are further described below.

Net Assignable Area = Sum of the 10 Major Space Use Categories of Assignable Space

The amount of space within a building that is essential to the operation of the building but not assigned directly to people or programs is known as the *Nonassignable Area*. The area of a Nonassignable space is the area measured within its interior walls. The Nonassignable Area of a building (or all buildings in an inventory) is the sum of the space allocated to the three major nonassignable space use categories: *building service area*, *circulation area*, and *mechanical area*. These categories are further described below.

Nonassignable Area = Sum of the Three Major Space Use Categories of Nonassignable Space

[2] This is also conventionally referred to as Net Assignable Square Feet (NASF).

Figure 3-1. Conceptual framework for analyzing building space

Gross Area (chapter 3)

Net Usable Area (chapter 3)

Net Assignable Area (chapter 3)

Nonassignable Area consists of:

1. Building Service Area
2. Circulation Area
3.Mechanical Area

Structural Area is:

Gross Area Less Net Usable Area

Classified By: 1. Space Use Category (chapter 4)

Classroom	Laboratory	Office	Study	Special Use	General Use	Support	Health Care	Residential	Unclassified

2. Academic Discipline, Institutional Unit Assignment, or Program

Categories Determined by Institution
(For external data sharing and reporting, a crosswalk to the NCES Classification of Instructional Programs is recommended—chapter 5 and appendix C.)

3. Standard Functional Categories (chapter 5 and appendix B)

Instruction	Research	Public Service	Academic Support	Student Services	Institutional Support	Physical Plant O&M	Auxiliary Enterprises	Independent Operations	Hospitals

O&M = operations and maintenance.

The aggregate interior area of a building, known as the *Net Usable Area,*[3] is the sum of Assignable Area and Nonassignable Area.

Net Usable Area = Assignable Area + Nonassignable Area

It is also important to know that the *Gross Area*[4] of a building is the floor area of a structure within the **outside** faces of the exterior walls. This value is either physically measured or scaled from as-built drawings. Figures illustrating all of these areas are provided later in the chapter.

The difference between the exterior or Gross Area and the interior or Net Usable Area is the *Structural Area*, the floor area upon which the exterior and interior walls sit and the unusable areas in attics and excavated basements. Structural Area is calculated as the difference between the Gross Area of a building and the Net Usable Area of that building.

Structural Area = Gross Area − Net Usable Area

3.2 Definitions of Building Areas

The definitions[5] and procedures provided in this chapter are intended to clarify and provide guidelines for the most commonly used types of data about buildings that would be collected and compiled. These guidelines are based on the definitions and standards established during the 1960s for the Federal Construction Council and published by the National Academy of Sciences. The Federal Construction Council standards were intended for use by federal agencies, but they have been widely adopted and used by postsecondary institutions.

The definitions and guidelines in this chapter attempt to clarify and update some of the earlier standards by providing additional guidance on how to interpret and apply measurement procedures. The guidelines also are intended to establish a common standard for the minimum amount of data to be included in a building inventory to provide a database that is usable for both intrainstitutional and interinstitutional purposes. Institutions are not precluded by these guidelines from collecting additional building data or from including other types of structures in their facilities inventory.

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[3] This is also conventionally referred to as Net Usable Square Feet (NUSF).

[4] This is also conventionally referred to as Gross Square Feet (GSF).

[5] The source is the National Academy of Sciences, Building Research Advisory Board, *Classification of Building Areas,* Federal Construction Council Technical Report No. 50 (Publication 1235) (Washington, DC: National Academy of Sciences).

3.2.1 Gross Area (Gross Square Feet—GSF) (see figure 3-2)

A. **Definition.** The sum of all areas on all floors of a building included within the outside faces of its exterior walls, including all vertical penetration areas, for circulation and shaft areas that connect one floor to another.

B. **Basis for Measurement.** Gross Area is computed by physically measuring or scaling measurements from the outside faces of exterior walls, disregarding cornices, pilasters, buttresses, etc., that extend beyond the wall faces. Exclude areas having less than a 3-foot clear ceiling height unless the criteria of a separate structure are met. (See section 2.3, What to Include in a Building Inventory.)

Measured in terms of Gross Square Feet (GSF),

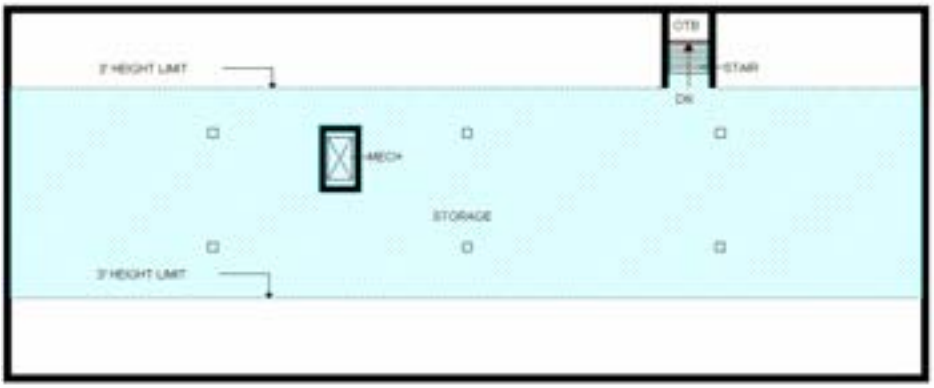
GSF = Net Usable Area + Structural Space

C. **Description.** In addition to all the internal floored spaces obviously covered above, Gross Area should include the following: excavated basement areas; interstitial space (i.e., mechanical floor or walkways), mezzanines, penthouses, and attics; garages; covered porches, whether walled or not; inner or outer balconies to the extent of a drip line from a roof or balcony immediately above, whether walled or not, if they are utilized for operational functions; and corridors or walkways, whether walled or not, provided they are either within the outside face lines of the building to the extent of the roof drip line or, if covered, to the extent of their cover's drip line. The footprints of stairways, elevator shafts, and vertical duct shafts are to be counted as gross area on each floor through which they pass.

D. **Limitations.** Exclude open areas such as parking lots, playing fields, pools, courts, light wells, and portions of upper floors eliminated by spaces or lobbies that rise above single-floor ceiling height. Exclude unexcavated basement areas.

E. **Exception.** Include top, unroofed floor of parking structures where parking is available. (See the section on Parking Structures after figure 3-8.)

Figure 3-2. Gross Area of a building by floor



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SECOND FLOOR

GROUND FLOOR

COURTESY OF INSITE

3.2.2 Net Assignable Area (Net Assignable Square Feet—NASF) (see figure 3-3)

A. **Definition.** The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant or specific use.

B. **Basis for Measurement.** Net Assignable Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than a 3-foot clear ceiling height unless the criteria of a separate structure are met. (See section 2.3, What to Include in a Building Inventory.)

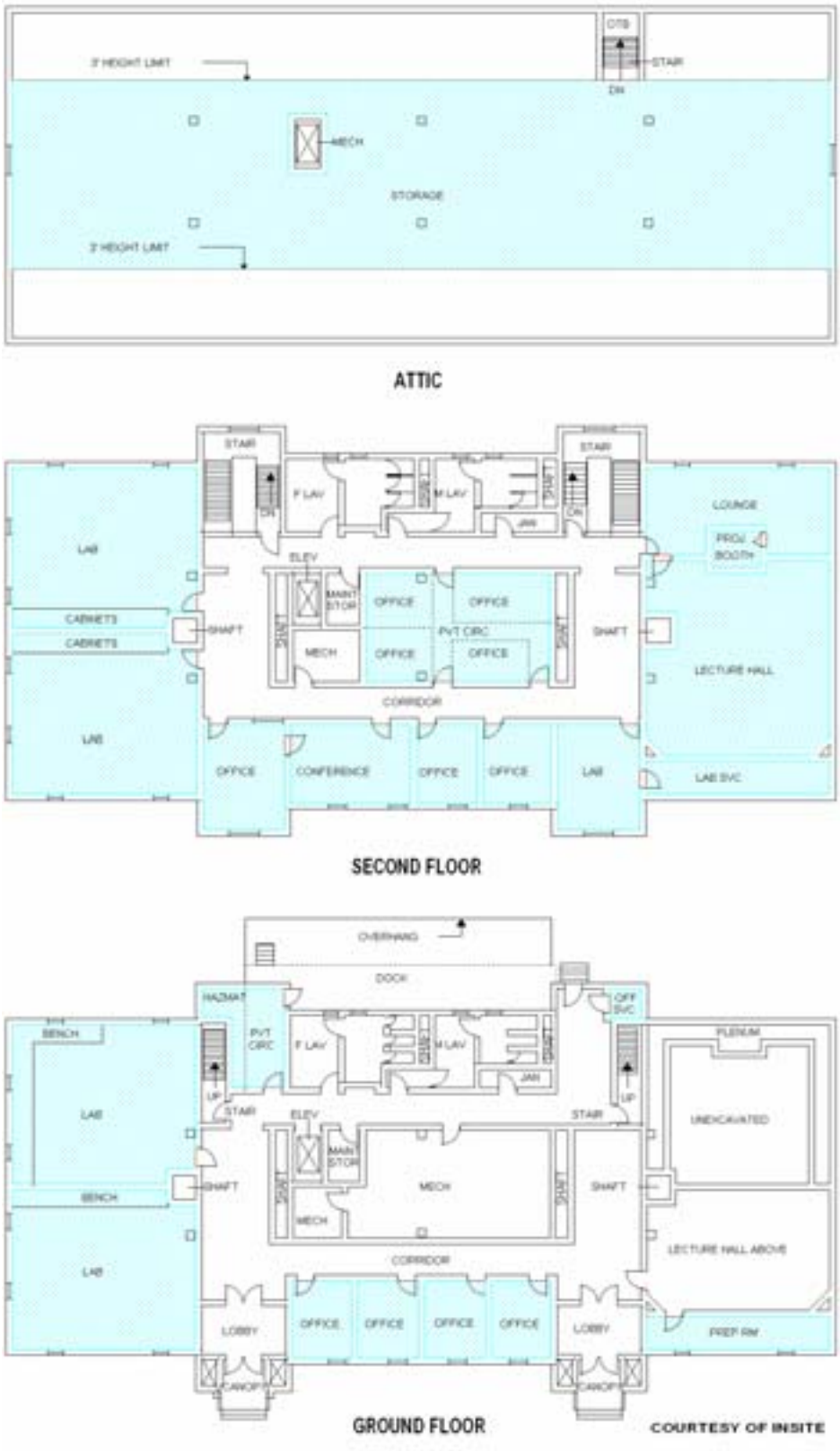
Measured in terms of Net Assignable Square Feet (NASF),

NASF = Sum of Areas Designated by the 10 Assignable Major Space Use Categories

C. **Description.** Included should be space subdivisions of the 10 major space use categories for assignable space—classrooms, labs, offices, study facilities, special use, general use, support, health care, residential, and unclassified—that are used to accomplish the institution's mission.

D. **Limitations.** Deductions should not be made for necessary building columns and projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. Areas defined as building service, circulation, mechanical, and structural should not be included.

Figure 3-3. Net Assignable Area of a building by floor



3.2.3 Nonassignable Area

A. **Definition.** The sum of all areas on all floors of a building not available for assignment to an occupant or for specific use, but necessary for the general operation of a building.

B. **Basis for Measurement.** Nonassignable Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than 3-foot clear ceiling height unless the criteria of a separate structure are met.

Measured in terms of Nonassignable Area,

Nonassignable Area = Sum of the Areas Designated as the Three Non-assignable Space Use Categories

C. **Description.** Included should be space subdivisions of the three nonassignable space use categories—building service, circulation, and mechanical—that are used to support the building's general operation.

D. **Limitations.** Deductions should not be made for necessary building columns and projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. Areas defined as assignable should not be included.

3.2.4 Building Service Area (see figure 3-4)

A. **Definition.** The sum of all areas on all floors of a building used for custodial supplies, janitorial sink rooms, janitorial closets, and public rest rooms. (Note: Building Service Area includes all areas previously classified as Custodial Area in the pre-1992 FICM, and public rest rooms previously classified as Mechanical Area in the pre-1992 FICM).

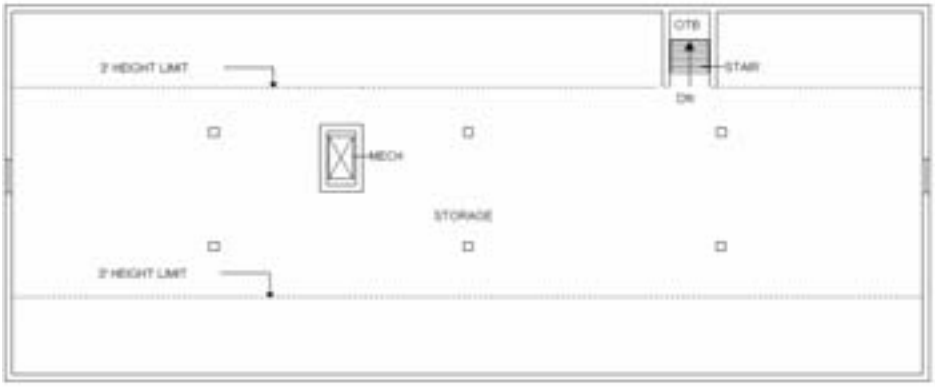
B. **Basis for Measurement.** Building Service Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form boundaries of the designated areas. Exclude areas having less than a 3-foot clear ceiling height unless the criteria of a separate structure are met.

C. **Description.** Included should be janitor closets or similarly small custodial spaces, maintenance material storage areas, trash rooms exclusively devoted to the storage of nonhazardous waste created by the building occupants as a whole, and public rest rooms.

D. **Limitations.** Deductions should not be made for necessary building columns and minor projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. Assignable areas classified as Shop (720), Central Storage (730), Central

Supplies (870), or special purpose storage or maintenance rooms such as linen closets and housekeeping rooms in residence halls should not be included. Do not include private rest rooms that should be classified as Office Service (315).

Figure 3-4. Building Service Area of a building by floor



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SECOND FLOOR

GROUND FLOOR

COURTESY OF INSITE

3.2.5 **Circulation Area** (see figure 3-5)

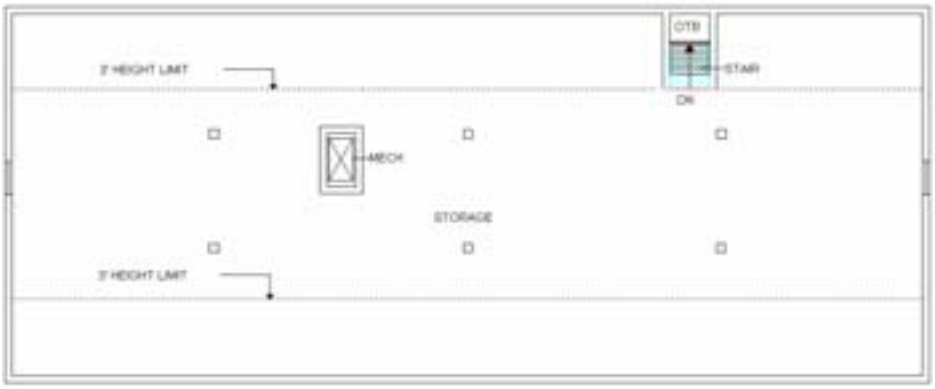
A. **Definition.** The sum of all areas on all floors of a building required for physical access to some subdivision of space, whether physically bounded by partitions or not.

B. **Basis for Measurement.** Circulation Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than a 3-foot clear ceiling height unless the criteria of a separate structure are met.

C. **Description.** Included should be fire towers, elevator lobbies, tunnels, bridges, and each floor's footprint of elevator shafts, escalators, and stairways. Also included are public corridors or walkways, whether walled or not, provided they are either within the outside face lines of the buildings to the extent of the roof drip line or, if covered, to the extent of their cover's drip line. Receiving areas, such as loading docks, should be treated as circulation space. Any part of a loading dock that is not covered is to be excluded from both Circulation Area and Gross Area.

D. **Limitations.** Deductions should not be made for necessary building columns and minor projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. When determining corridor areas, only spaces required for public access should be included. Restricted access private circulation aisles used only for circulation within an organizational unit's suite of rooms, auditoria, or other working areas should not be included. A loading dock, or portions thereof, that is also used for central storage should be regarded as assignable area and coded as Central Storage (730).

Figure 3-5. Circulation Area of a building by floor



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GROUND FLOOR

COURTESY OF INSITE

3.2.6 **Mechanical Area** (see figure 3-6)

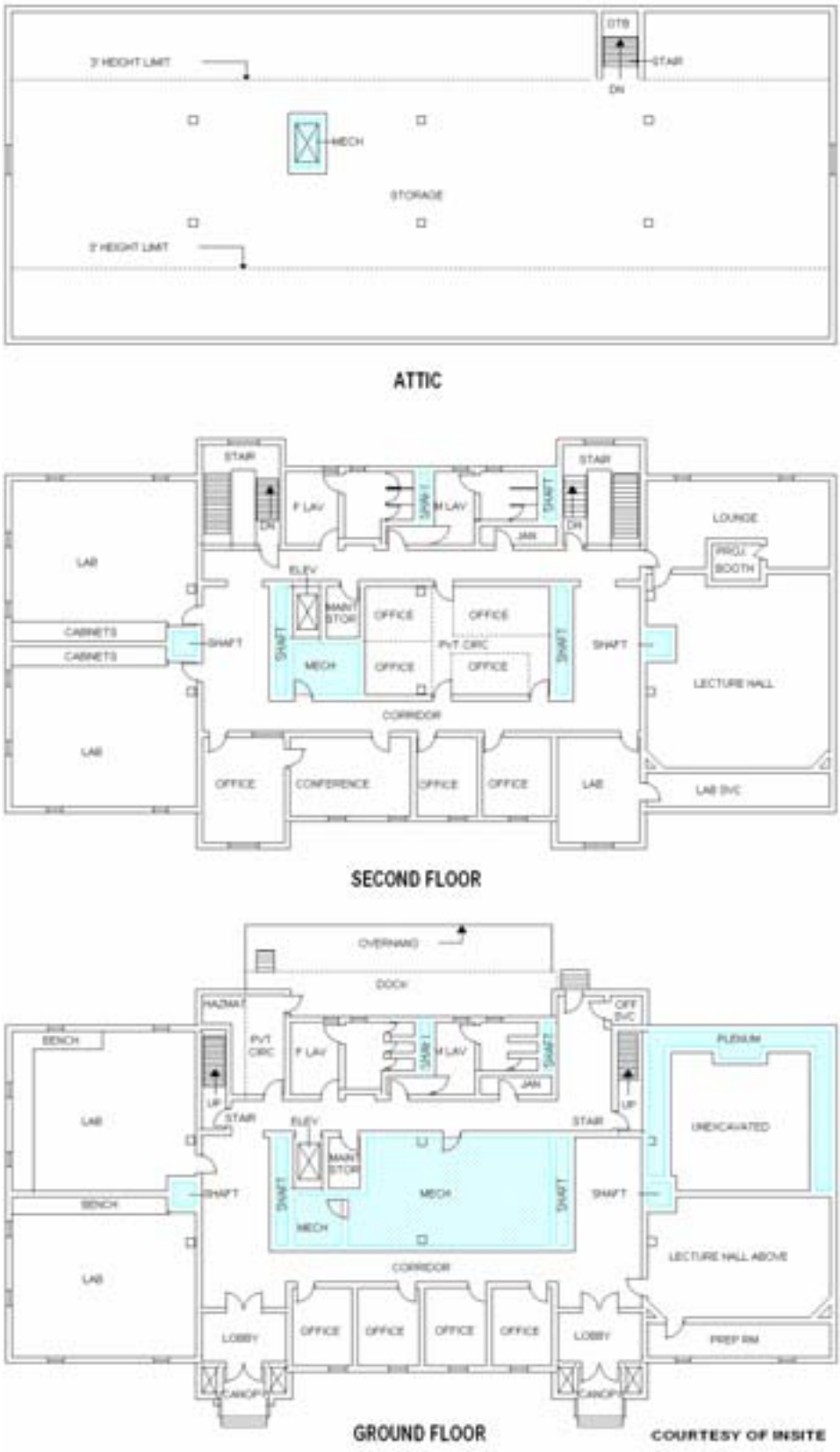
A. **Definition.** The sum of all areas on all floors of a building designed to house mechanical equipment, utility services, and shaft areas.

B. **Basis for Measurement.** Mechanical Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas. Exclude areas having less than a 3-foot ceiling height unless the criteria of a separate structure are met.

C. **Description.** Included should be mechanical areas such as central utility plants, boiler rooms, mechanical and electrical equipment rooms, fuel rooms, meter and telecommunications closets, and each floor's footprint of air ducts, pipe shafts, mechanical service shafts, service chutes, and stacks.

D. **Limitations.** Deductions should not be made for necessary building columns and projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. Areas designated as public toilets are not included in this category but are included under Building Service Area.

Figure 3-6. Mechanical Area of a building by floor



3.2.7 Net Usable Area (Net Usable Square Feet—NUSF)

A. **Definition.** The sum of all areas on all floors of a building either assigned to, or available for assignment to, an occupant or specific use, or necessary for the general operation of a building.

B. **Basis for Measurement.** Net Usable Area is computed by summing the Net Assignable Area and the Nonassignable Area.

Measured in terms of Net Usable Square Feet (NUSF),

NUSF = Assignable Area + Nonassignable Area

C. **Description.** Included should be space subdivisions of the 10 assignable major space use categories and the 3 nonassignable space categories.

D. **Limitations.** Deductions should not be made for necessary building columns and projections. These small areas are excluded as they represent an insignificant percentage of the total area of an average-sized space. Capturing their area would be unduly burdensome relative to the very small contribution they would make toward precision. Areas defined as structural should not be included.

3.2.8 Structural Area (see figure 3-7)

A. **Definition.** The sum of all areas on all floors of a building that cannot be occupied or put to use because of structural building features.

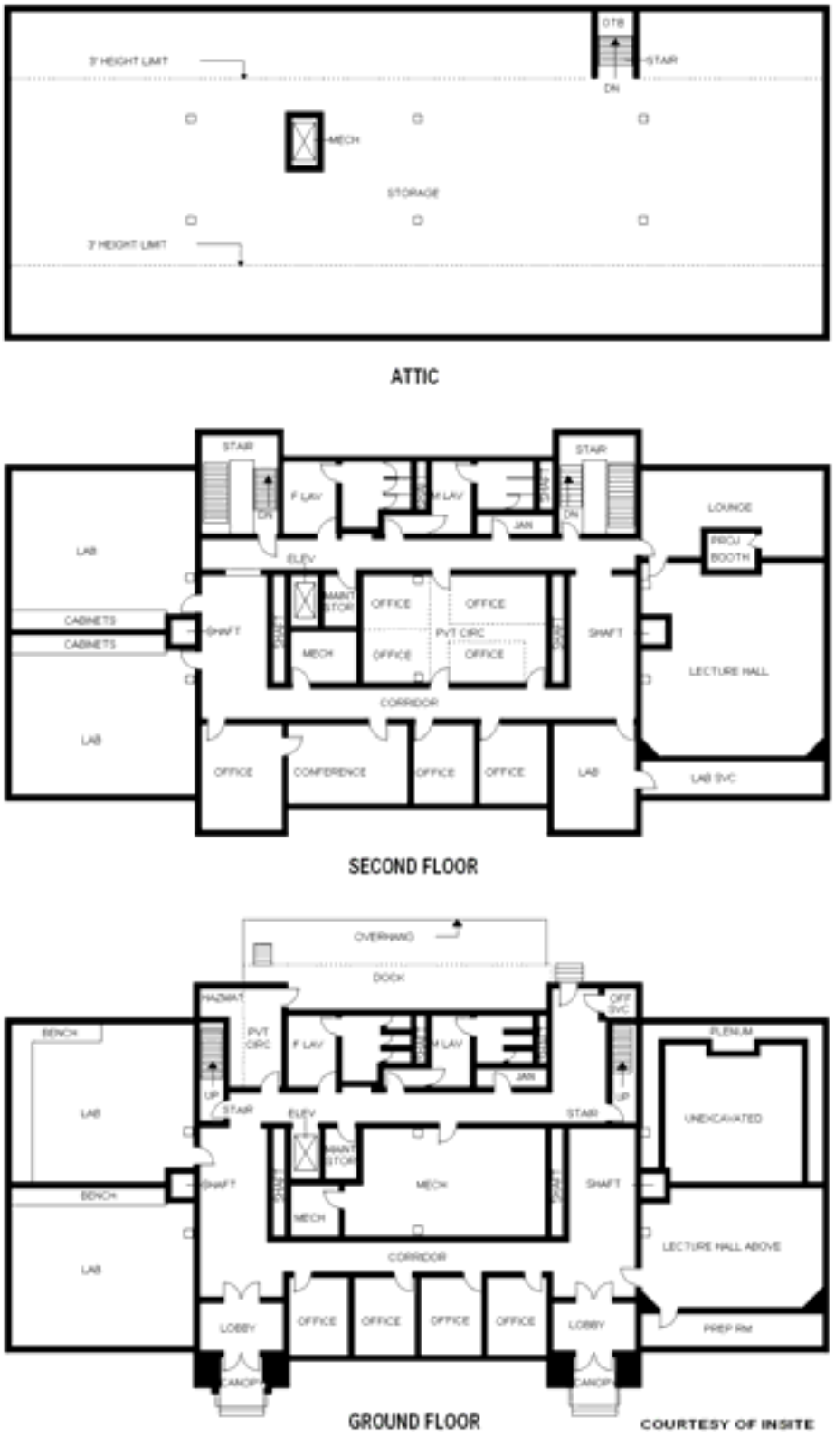
B. **Basis for Measurement.** Precise computation by direct measurement is not possible under this definition. It is determined by calculating the difference between the measured gross area and the measured net usable area.

Measured in terms of area,

Structural Area = Gross Area − Net Usable Area

C. **Description.** Examples of building features normally classified as structural areas include exterior walls, fire walls, permanent partitions, unusable areas in attics or basements, or comparable portions of a building with ceiling height restrictions.

Figure 3-7. Structural Area of a building by floor

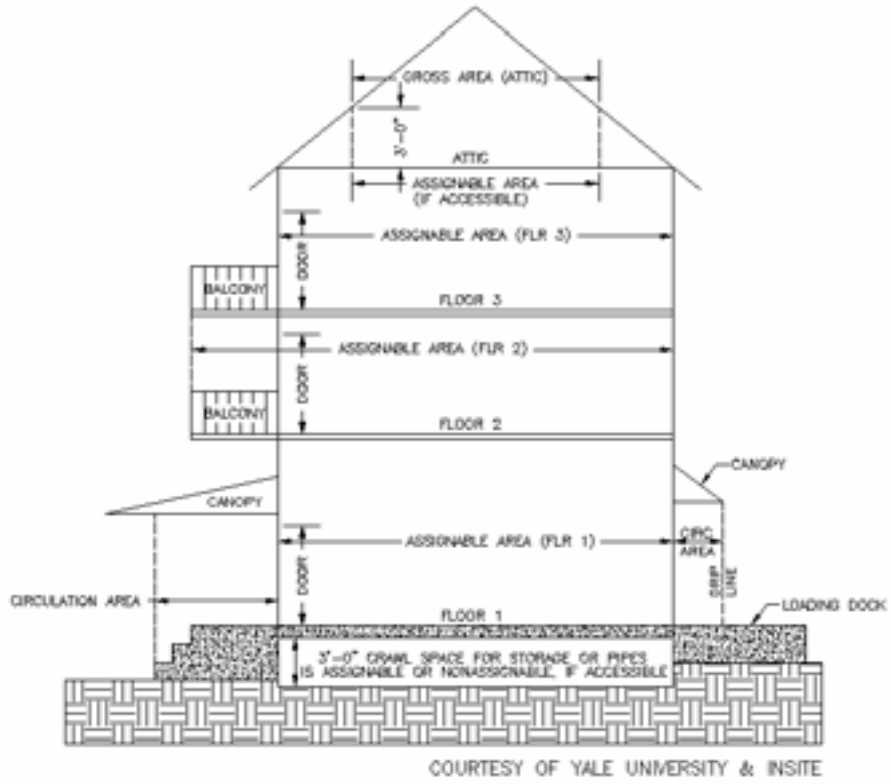


NOTE: Structural areas are indicated in solid black.

3.2.9 Illustrative Cross-Section of a Building

- The diagrammatic cross-section of a building (figure 3-8) has been included to better illustrate the area measurement descriptions for less common situations such as exterior balconies, overhung egress areas and loading docks, and the new 3-foot ceiling height rule for including floor areas.

Figure 3-8. Illustrative cross-section of a building



3.2.10 Parking Structures

Due to the absence of specific guidance in previous editions of this manual, parking structures or decks are classified differently by institutions across the country. Because these structures may represent a large portion of campus facilities space, the specific method for classifying these areas can have significant impacts on campus-level statistics. For internal accounting of the maintenance and operational activities such structures require, campus parking surveys, and interinstitutional comparisons, it is recommended that data on parking structures be maintained and reported as are the data for any other campus building. Two different methods of classifying parking structures are suggested.

1. **Classification With Assignable and Gross Square Footage (preferred method).** This method determines statistics for the structure that are commensurate with all other major inventoried campus buildings (i.e., assignable space, gross square footage, estimated replacement cost, etc.). In this approach, parking space square footage, including upper level unroofed parking areas, is assigned the Vehicle Storage (740) use code. Standard nonassignable areas (Building Service, Circulation, and Mechanical) are appropriately classified. Other standard assignable areas (offices, etc.) are classified with the appropriate space use codes. Ramps and other driving areas are classified as nonassignable Circulation Area.

2. **Classification With Gross Square Footage Only (default method).** Many institutions maintain only the Gross Area and other building-level data for parking structures and do not classify parking areas as assignable space. Standard assignable areas within the parking structure, such as offices, may be appropriately classified. Only the gross area recorded within the building file becomes a significant square footage statistic. Institutions may also maintain parking structure data separately from the formal building and space inventory files.

3.3 Proration and Phantom Walls

When a room serves several purposes or users, the institution may choose to prorate and allocate the square footage between two or more space uses, functions, or organizational units. For institutions with major sponsored research activities, proration of multiple functions is often necessary to identify accurately how each space is used. Other cases may require the recognition of two or more distinctly different architectural uses within a space (e.g., a departmental conference room housing a substantial reference library) or the sharing of an office by two or more departments. Proration can be done either on the basis of the relative time expended on each activity or on the basis of the proportion of the room area dedicated to each activity.

There are two basic approaches to proration. One method is to prorate from floor plans by the insertion of "phantom walls," indicated by dashed lines or other artificial boundaries on floor plans to separate adjacent uses or assignments. The use of phantom walls requires that each *space* (i.e., each part) of the room be given a unique space identifier, which can be accomplished by adding an additional digit or character to the existing room identifier. For example, Room 210, which is used as a storage room by both Biology and Chemistry, could be identified as Space 210A and Space 210B, and the pro rata organizational assignment and share of space can be identified with each. The other method is to apply percentage figures to each assignment, use, or function being prorated. Whatever method is used, the resulting information should be capable of being summarized into standard space use codes and related categories for external reports, utilization studies, and institutional planning.

3.4 Area Measurement Questions and Answers

1. **Question: How should I report an area that is covered, but not enclosed, on all four sides?**

   Answer: Areas that are permanently covered but not enclosed should be inventoried as assignable or nonassignable space depending upon the space use. Bounding the area with "phantom walls" along the drip line of the "cover" defines the area to be measured and added to the building's gross area as well as to the assignable or nonassignable area, depending upon the use of the space. A space use, whether floored or not, that exists beyond the drip line of the covered area is not reported. Alternately, the area beneath a permanent cover that extends beyond a floored area is also not reported.

2. **Question: There is a permanent eating area, equipped with tables and chairs, which is located in a covered, unenclosed area of our Student Union Building. Is this space assignable even though the facility only has one wall? Should I count this space as part of the gross area?**

   Answer: By creating "phantom walls," you would classify this assignable area as Food Facility (630). This area should also be reported as part of the building's gross area.

3. **Question: Should I inventory underground pedestrian tunnels and above-ground pedestrian bridges that connect buildings?**

   Answer: They should be included as both gross area in your inventory and as nonassignable circulation area.

4. **Question: On our campus, we have "buildings" that are really contiguous structures built at different times to meet new needs. For example, a library wing was added to a classroom structure, and later a structure housing laboratories was added. However, they all share walls and are physically connected. Should these be inventoried as a single structure or several different buildings?**

   Answer: It is preferable to treat each addition/wing as a separate structure, depending upon factors such as the source of the funds; the separation of each structure's mechanical, electrical, or plumbing systems; the age differences of the two joined facilities, etc. If treated as separate structures, commonly shared walls would be prorated one-half with each of the respective facilities.

5. **Question: We have several houses that were converted into administrative offices. The uppermost usable floor has a vaulted ceiling. The floor to ceiling distance is 4'0" around the perimeter of the exterior rooms. Should the area be calculated from the edge of the kneewall? The ceiling height in the attic is 5'0" and contains HVAC equipment. Should this space be considered a Building Service area?**

   Answer: The area on the uppermost usable floor with a vaulted ceiling should be included in that floor's gross area. Since assignable area includes any interior space having 3′0″ or more of ceiling height, in your case, the assignable area would be measured from the smallest floor to ceiling distance—the 4'0" kneewall of the space. Attic space used

for administrative offices should be categorized as Office (310). Attic space containing HVAC equipment should be designated as nonassignable Utility/Mechanical Space (Y04).

Chapter 4. Space Use Codes

4.1 Space Use Category Structure

This chapter provides the technical definitions and codes for the Space Use category structure (called the Room Use Category Structure in previous editions) recommended by this manual as a major component of a building and space inventory system. The 10 major space use categories of assignable space and the 3 major space use categories of nonassignable space defined in this chapter (and the coding structure for these categories) are intended to provide necessary flexibility in coding space use at the institutional level and to provide appropriate comparability in reporting space uses across institutions.

For purposes of this manual, the term *space* will be used wherever the terms *space* and *room* could be used interchangeably. For example, wherever use codes are mentioned, they are called "space use codes"; when a use could be housed in either a *room* or a *space*, the term *space* is used. However, the term *room* is retained in most examples of use classifications provided in the definitions, for example, (e.g., dark room, laundry room, operating room). *Room* is also used for functions that would be housed only in enclosed rooms, as defined in this manual.

The basic categories and principles of this Space Use category structure are consistent with those earlier editions of the *Facilities Inventory and Classification Manual*. Specifically:

- The categories encompass all types and uses of assignable and nonassignable area found in campus buildings. Although some uses of space may be of less interest than others, the omission of any space may lead to the inadvertent exclusion of important data. (The subcategory Other (590) under the major assignable use Special Use Facilities should be used only as a category of last resort.)
- The coding system is intended to provide meaningful and comparable summary data. That is, the definitions of space uses are sufficiently specific to give reasonable assurance that all institutions will map or crosswalk comparable spaces to the same category.
- The coding scheme is intended to be sufficiently flexible to allow for expanded (through subcategories) coding systems that track more specific areas of assignable and nonassignable space; these schemes may be developed and applied by various institutions according to choice. The coding system also is intended to be sufficiently definitive to support logical collapsing, translation, or crosswalking from these optional space use classifications.

- The structure is intended to provide a significant degree of standardization and compatibility for comparisons across institutions and states. It also provides the data to develop the key building ratios to understand the efficiencies of one building design compared to another. Such ratios as Net Assignable Square Feet (NASF) to Gross Square Feet (GSF) and NASF to Net Usable Square Feet (NUSF) are examples of commonly used comparisons.

- The entire focus of definitions is on the actual space use (primary or predominant) at the time of inventory (which may be different from the intended use at the time it was built). Space intent, original design, type, name, organizational unit assignment, or contained equipment does not, therefore, affect the coding classification at the time of the inventory unless it is compatible with actual use. These elements, however, may be included in other portions of a space inventory.

- The coding structure is not intended to replace the traditional program or budget structure. Space use codes are combined with operating budget links to provide an accurate profile of space by other institutional information, such as major program or function. Refer to NACUBO for the appropriate structure or utilize the campus operating budget codes. Crossover tables should be maintained to allow for consistent reporting with the IPEDS Finance Survey categories. For example, an office is an office, but in combination with budget information, a research office can be separately identified from an auxiliary enterprise office or an instructional faculty office.

For more information on NACUBO functional categories, see section 5.5.8, NACUBO and OMB Circular A-21 function codes, and appendix B.

In following these principles, this 2006 edition of the Space Use classification structure represents an update or modernization of the April 1994 Revised and Reprinted structure. Definitions have been made clearer, descriptions expanded, and limitations made more specific to delineate more clearly the differences among room uses. Because the original definitions were very logically conceived, "new" uses still fit within the existing structure. As a result, few significant changes, additions, or deletions were necessary to keep the categories current. Every effort has been made to obviate the need for reclassifying spaces from the codes used in previous manuals including maintaining the three-digit alpha-numeric codes for nonassignable space that were used in the 1994 edition.

Several of the basic concepts inherent in this classification structure require more detailed explanation, as provided below.

4.2 Space Use Categories

All assignable space should be classified into 1 of the 10 major assignable use categories, and all nonassignable space should be classified into 1 of the 3 major nonassignable use categories listed

in table 4-1. Each of these 13 major categories encompasses several subcategories of more specialized uses (e.g., different types of laboratories or circulation areas). Coding of spaces is normally done at the level of subcategories and, as necessary, aggregated to the more general categories. The numerical codes along with the detailed uses are provided later in this chapter.

Table 4-1. Space use categories

Classrooms (100 series)	General purpose classrooms, lecture halls, recitation rooms, seminar rooms, and other spaces used primarily for scheduled nonlaboratory instruction.
Laboratory Facilities (200 series)	Rooms or spaces 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 (300 series)	Offices and conference rooms specifically assigned to each of the various academic, administrative, and service functions.
Study Facilities (400 series)	Study rooms, stacks, open-stack reading rooms, and library processing spaces.
Special Use Facilities (500 series)	Military training rooms, athletic and physical education spaces, media production rooms, clinics, demonstration areas, field buildings, animal quarters, greenhouses, and other room categories that are sufficiently specialized in their primary activity or function to merit a unique room code.
General Use Facilities (600 series)	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 (700 series)	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 (800 series)	Facilities used to provide patient care (human and animal).
Residential Facilities (900 series)	Housing facilities for students, faculty, staff, and visitors to the campus.
Unclassified Facilities (000 series)	Inactive or unfinished areas, or areas in the process of conversion.
Circulation Area (WWW series)	Nonassignable spaces required for physical access to floors or subdivisions of space within the building, whether directly bounded by partitions or not.
Building Service Area (XXX series)	Nonassignable spaces used to support its cleaning and public hygiene functions.
Mechanical Area (YYY series)	Nonassignable spaces of a building designed to house mechanical equipment and utility services, and shaft areas.

4.2.1 Primary Use

Space use codes are assigned based on **primary** use. Most rooms and spaces in an institution fall readily into one space use code. In some cases, however, individual rooms or groups of rooms have multiple uses (e.g., office and art studio). If a space inventory system uses only a single code to indicate the use, the coding should be based on the primary use of the space. Thus, a space that is a laboratory by appearance or design but is currently being used primarily as a classroom is coded as a classroom rather than as a laboratory. As another example, a space that is used as both an Office (310) and a Research/Nonclass Laboratory (250) equipped and used principally for research, but which also includes some space used occasionally as an office, should be coded as a laboratory facility.

It is recommended that primary use be evaluated in terms of **time**, the human activity element that focuses on **use** rather than space. In the event that time of use is not readily available, the amount of space allocated to each activity or function should be the determining factor. Where multiple room use codes are accommodated in a system, prorations may be used. Where multiple space use codes can be accommodated in the database, a system to prorate space may be used (see below). Primary use or proration also applies to the assignment of spaces to organizational units, functional categories, or academic discipline, as discussed below.

4.2.2 Proration and Phantom Walls

Where a room serves several purposes or users, the institution may choose to prorate and allocate the square footage between two or more space uses, functions, organizational units, etc. For institutions with major sponsored research activities, proration of multiple use rooms may be necessary to identify accurately how each room is used. Proration can be done either on the basis of relative time expended on each activity or on the basis of the proportion of the area in the room dedicated to each activity.

There are two basic approaches to proration. One is to prorate by the insertion of "phantom walls" on floor plans, indicated by dashed lines as artificial boundaries to separate adjacent uses or assignments. The use of phantom walls requires that each *space* (i.e., each part of the room) be given a unique space identifier, which can be accomplished by adding an additional digit or character to the existing space identifier, and individual space use categories and organizational assignments. For example, Room 210, which is used as a Unit Storage (780) room by both Biology and Chemistry, could be identified as Space 210A, Unit Storage, Biology, and Space 210B, Unit Storage, Chemistry. This

approach will prorate Room 210's area correctly for each department, yet the space will be increased by one as we now have Spaces 210A and 210B replacing the former Room 210. Another method is to apply percentage figures to each use, function, etc., being prorated. This approach, requiring a more sophisticated database design, provides both an accurate proration of area and an accurate count of spaces. Whatever method is used, the resulting information should be capable of being summarized into standard space use codes and related categories for external reports, utilization studies, and institutional planning.

4.2.3 Service Codes

Service codes are used for associated support spaces. Many major use categories have minor supporting uses associated with them. For example, an office may have a supply room or a laboratory may have a stock room. These supporting rooms are coded as service spaces, and their space use will follow the coding of the major spaces to which they provide service.

Support or service codes are used to reduce the hundreds of support use categories to a small set of service codes. The use of a code ending in "5" to represent support space for a primary activity area, with a corresponding code ending in "0" (e.g., 315 serves 310), enhances both the analytic usefulness and flexibility of the space use coding structure.

Distinguishing primary activity areas from service areas may occasionally become difficult. Because it is impossible to describe comprehensively each code in the description section with examples of primary and service areas, a few gray areas for decisionmaking will inevitably emerge with unlisted or "new" room names, designs, and uses. Two paths to decision are suggested:

- A close reading of the definition, description, and limitations for both the primary (e.g., 710) and service (e.g., 715) codes. A thorough study of any examples listed could be especially helpful by revealing room relationships and function or use similarities.

- Determining whether the existence of a particular space, with its specific functions and uses, is dependent upon, or justified by, another (usually nearby) space and its specific use. If this is not the case (the space is nondependent), the primary activity code is logically appropriate (e.g., a space containing a mainframe computer or computer servers would be coded 710). If a significant degree of dependency exists (i.e., the space is largely justified only by the existence of another space), the service code is appropriate (e.g., a printout or tape storage room should be coded 715). In all such cases, a focus on space relationships can help clarify space use definitions, descriptions, and codes.

Changes in the cost and portability of technology have blurred the distinction between program and service space. In many laboratory environments and multimedia classrooms, support instrumentation and equipment are now located inside the lab or lecture room. Primary use should be the determinant in classifying such spaces rather than the existence of specialized equipment. This is also true of offices and administrative service units.

4.2.4 Room Name

Room name, whether colloquial or part of a formally applied syntax, can be useful to institutional users of the facilities space inventory. Reliance on local room names, however, can cause problems in applying correct space use categories. Depending on the space it serves, a "balance room," for example, can take any of three laboratory service codes; likewise, "storage" areas can fall into almost any service code category (including unit storage) for the same reason and are only occasionally limited to the Central Storage (730) category.

The space's actual use must match the stated definition for an accurate coding to be made. A space that is called the "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 file area, then the space use should be coded Office Service (315). Determination of the actual and current **use** of a space is necessary for accurate coding.

Local or colloquial room names do, nonetheless, provide useful information for identifying many spaces and their locations, especially for the casual user of a space inventory listing or summary report. Institutions are encouraged to maintain the formal space use code names in this manual as a separate data element or, using supporting software in automated systems, generate the formal names based on the numerical codes (e.g., code 210 automatically generates the use code name Class Laboratory).

4.2.5 Determining Actual Use Prior to Coding

An accurate determination of the actual use of a space and its contained equipment should be made prior to coding. A space's actual use must meet the stated definition before an accurate coding can be made. For example, a "learning laboratory" may be either an Open Laboratory (220) or a Study Room (410), depending on whether the space contains discipline-restrictive equipment or configuration, as stated in the introduction to the Laboratory Facilities (200) series. If the learning laboratory contains

computer stations, for example, the machines must be restricted by installed software or accessory devices to a particular discipline or discipline group before the space can qualify as a laboratory. If the machines are configured for general use by students in a variety of course subjects, the computers become synonymous with books as basic study tools and the Study Room (410) code is more appropriate.

4.2.6 Local Options for Additional Codes

The room use codes do not attempt to meet the varied local institutional needs for tracking or defining space by physical design or characteristics, contained special equipment, specific person or organizational unit assignment, control authority, or discipline orientation. For example, no distinctions are made between the following:

- Centrally controlled versus departmentally controlled classrooms. (This could be handled via a report on classrooms sorted by their organizational assignment.)
- Offices for research staff versus offices for instructors. (This could be handled via a report on offices sorted by the rank of the person(s) assigned to the offices.)
- Study rooms with special study equipment or tools versus study rooms containing only tables and chairs. (This could be handled via a report on study rooms sorted by the type of equipment assigned to those rooms.)
- Locker rooms serving a gym versus locker rooms serving a shop. (This could be handled by creating an expanded subcategory Locker Room under Athletic or Physical Education Service (525) and under Shop Service (725).)
- Private Rest Rooms serving an office or Storage Rooms serving the same office. (Private Rest Rooms could be coded either under Office Service (315) or tracked separately by creating an expanded subcategory Private Rest Room under Office Service (315). Storage Rooms could be coded also under Office Service (315) or tracked separately by creating another subcategory Private Storage under Office Service (315).)
- Specialized rooms associated with clinics, for example, waiting areas, laboratories, observation booth/rooms, surgery (nonhospital), special equipment (e.g., x-ray). (These could be handled as expanded subcategories of support space for the appropriate primary activity area.)

In general, institutions should consider making such distinctions by "extending" the support space coding structure with interval or suffixed codes (e.g., modify Study Room (410) by adding a code 413 or 410M to track study rooms equipped with computers that are used as study tools). These additional codes can be easily aggregated into the 410 code as needed. For institutions without an equipment inventory, a globally assigned suffix (e.g., "M") may even be used to flag every room containing one or

more microcomputers. As noted in the fourth and fifth examples above, locker rooms and private rest rooms, which are service areas with special physical characteristics, may just as easily be earmarked by selected, additional codes according to particular needs. (See section 5.3, Optional Data Elements.)

The space use coding structure is intended to identify only the specific architectural use of an individual space at the time of the inventory (e.g., Office, Laboratory, Classroom, etc., as described in this chapter.) Space use coding is not to be used to track other conditions or circumstances about a space. Such other data should be recorded as *optional* data about a space. (See section 5.3, Optional Data Elements.) Calling upon separately stored *required* and *optional* space data in any report assures the accessibility of any combination of data needed for reporting and analyses.

For those institutions that have developed space use codes that tie to or include meanings within any of these separate classification systems, it is recommended that they develop and maintain a method of mapping or crosswalking to the core space use codes presented in table 4-2. This recommendation, in the interest of standardization for interinstitutional comparisons and surveys, applies also to those institutions that have implemented coding extensions or completely alternate coding systems for classification by space use.

4.2.7 Some Space Use Characteristics Not to Be Used as Space Use Categories

Some space use characteristics that should **not** be used as space use categories are as follows:

- The designed architectural use of a space (e.g., a space designed as a laboratory but used as an office must be given the space use code of Office (310)).
- The identification of a campus organizational unit or division that either controls or is assigned a space (e.g., a "Physics" Laboratory, or a "Registrar" Classroom). Organizational identification concerning space assignment is recorded in another of the four *required* data elements about space.
- The rank of the space's occupants (e.g., a "Professor's" office or a "Secretary's" Office). Again, occupant information may be recorded as *optional* data in a separate data structure.
- The function, academic discipline, special physical characteristics, degrees of space suitability, and other such data that do not specifically address the space use codes in this chapter.

4.3 Space Use Codes

Space use codes represent the recommended central or core concepts for classifying the assignable space, **by use**, within campus facilities (see section 5.2, Required Data Elements). A detailed outline of room use codes is available in table 4-2.

Table 4-2. Outline of space use codes

ASSIGNABLE AREA

100 Classroom Facilities
- 110 Classroom
- 115 Classroom Service

200 Laboratory Facilities
- 210 Class Laboratory
- 215 Class Laboratory Service
- 220 Open Laboratory
- 225 Open Laboratory Service
- 250 Research/Nonclass Laboratory
- 255 Research/Nonclass Laboratory Service

300 Office Facilities
- 310 Office
- 315 Office Service
- 350 Conference Room
- 355 Conference Room Service

400 Study Facilities
- 410 Study Room
- 420 Stack
- 430 Open-Stack Study Room
- 440 Processing Room
- 455 Study Service

500 Special Use Facilities
- 510 Armory
- 515 Armory Service
- 520 Athletic or Physical Education
- 523 Athletic Facilities Spectator Seating
- 525 Athletic or Physical Education Service
- 530 Media Production
- 535 Media Production Service
- 540 Clinic
- 545 Clinic Service
- 550 Demonstration
- 555 Demonstration Service
- 560 Field Building
- 570 Animal Facilities
- 575 Animal Facilities Service
- 580 Greenhouse
- 585 Greenhouse Service
- 590 Other (All Purpose)

600 General Use Facilities
- 610 Assembly
- 615 Assembly Service
- 620 Exhibition
- 625 Exhibition Service
- 630 Food Facility
- 635 Food Facility Service
- 640 Day Care
- 645 Day Care Service
- 650 Lounge
- 655 Lounge Service
- 660 Merchandising
- 665 Merchandising Service
- 670 Recreation
- 675 Recreation Service
- 680 Meeting Room
- 685 Meeting Room Service

Table 4-2. Outline of space use codes—Continued

700 Support Facilities
- 710 Central Computer or Telecommunications
- 715 Central Computer or Telecommunications Service
- 720 Shop
- 725 Shop Service
- 730 Central Storage
- 735 Central Storage Service
- 740 Vehicle Storage
- 745 Vehicle Storage Service
- 750 Central Service
- 755 Central Service Support
- 760 Hazardous Materials Storage
- 770 Hazardous Waste Storage
- 775 Hazardous Waste Service
- 780 Unit Storage

800 Health Care Facilities
- 810 Patient Bedroom
- 815 Patient Bedroom Service
- 820 Patient Bath
- 830 Nurse Station
- 835 Nurse Station Service
- 840 Surgery
- 845 Surgery Service
- 850 Treatment/Examination Clinic
- 855 Treatment/Examination Clinic Service
- 860 Diagnostic Service Laboratory
- 865 Diagnostic Service Laboratory Support
- 870 Central Supplies
- 880 Public Waiting
- 890 Staff On-Call Facility
- 895 Staff On-Call Facility Service

900 Residential Facilities
- 910 Sleep/Study Without Toilet or Bath
- 919 Toilet or Bath
- 920 Sleep/Study With Toilet or Bath
- 935 Sleep/Study Service
- 950 Apartment
- 955 Apartment Service
- 970 House

000 Unclassified FacilitieS
- 050 Inactive Area
- 060 Alteration or Conversion Area
- 070 Unfinished Area

NONASSIGNABLE AREA

WWW Circulation Area
- W01 Bridge/Tunnel
- W02 Elevator
- W03 Escalator
- W04 Loading Dock
- W05 Lobby
- W06 Public Corridor
- W07 Stairway

XXX Building Service Area
- X01 Custodial Supply Closet
- X02 Janitor Room
- X03 Public Rest Room
- X04 Trash Room

YYY Mechanical Area
- Y01 Central Utility Plant
- Y02 Fuel Room
- Y03 Shaft
- Y04 Utility/Mechanical Space

4.3.1 Space Use Codes: Definitions, Descriptions, and Limitations

ASSIGNABLE AREA

100 Classroom Facilities

General

This category aggregates classroom facilities as an institution-wide resource, even though these areas may fall under different levels of organizational control. The term "classroom" includes not only general purpose classrooms, but also lecture halls, recitation rooms, seminar rooms, and other spaces used primarily for scheduled nonlaboratory instruction. Total classroom facilities include any support rooms that serve the classroom activity (e.g., Codes 110 and 115 as defined below). A classroom may contain various types of instructional aids or equipment (e.g., multimedia or telecommunications equipment) as long as they do not tie the room to instruction in a specific subject or discipline. For treatment of such space, see Laboratory Facilities (Code 200 series).

Institutions may use extension codes to distinguish control over classroom areas, discipline use, type of instruction, contained equipment, or other classroom variables (e.g., Codes 120 and 125, Departmental Classroom and Departmental Classroom Service). These extension codes should be capable of aggregation to total Classroom Facilities (100) as needed.

110 Classroom

- *Definition:* A room or space used primarily for instruction classes and that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space.

- *Description:* Includes rooms or spaces generally used for scheduled instruction that require no special, restrictive equipment or configuration. These spaces may be called lecture rooms, lecture-demonstration rooms, seminar rooms, and general purpose classrooms. A classroom may be equipped with tablet armchairs (fixed to the floor, joined in groups, or flexible in arrangement), tables and chairs (as in a seminar room), or similar types of seating. These spaces may contain multimedia or telecommunications equipment. A classroom may be furnished with special equipment (e.g., globes, pianos, maps, computers, network connections) appropriate to a specific area of study, **if** this equipment does not render the space unsuitable for use by classes in other areas of study.

- *Limitations:* This category does not include Conference Rooms (350), Meeting Rooms (680), Auditoria (610), or Class Laboratories (210). Conference spaces and meeting spaces are distinguished from seminar spaces according to primary use; spaces with chairs and tables that are used primarily for meetings (as opposed to classes) are conference spaces or meeting rooms (see Codes 350 and 680 for distinction). Auditoria are distinguished from lecture rooms based on primary use. A large room with seating oriented toward some focal point, and which is used for dramatic or musical productions, is an Assembly (610) facility (e.g., an auditorium normally used for purposes other than scheduled classes). A class laboratory is distinguished from a classroom based on equipment in the space **and** by its restrictive use. If a space is restricted to a single or closely related group of disciplines by special equipment or its configuration, it may be logically considered as a laboratory (see Code 200 series). The evolution of computers

and instrumentation altered the restrictive nature of some equipment to a specific discipline or application.

115 Classroom Service

- *Definition:* A space that directly serves one or more classrooms as an extension of the activities in that space.

- *Description:* Includes projection rooms, telecommunications control booths, preparation rooms, coat rooms, closets, storage areas, etc., **if** they serve classrooms.

- *Limitations:* Does not include projection rooms, coat rooms, preparation rooms, closets, or storage areas if such spaces serve laboratories, conference rooms, meeting rooms, assembly facilities, etc. A projection booth in an auditorium (not used primarily for scheduled classes) is classified as Assembly Service (615).

200 Laboratory Facilities

General

A laboratory is a facility characterized by special purpose equipment or a specific space configuration that limits instructional or research activities to a particular discipline or a closely related group of disciplines. These activities may be individual or group in nature, with or without supervision. Laboratories may be found in all fields of study including letters, humanities, natural sciences, social sciences, vocational and technical disciplines, etc.

The nature of laboratory experiences has changed in many disciplines with the introduction of computer simulation in combination with, or as replacement of, the old "wet lab" experience in both natural and social sciences. Curricular intent should be considered as well as the physical structure of the space.

Laboratory facilities can be subdivided into three categories: class, open, and research/nonclass laboratory. A class laboratory is used for **scheduled** instruction. An open laboratory supports instruction but is not formally scheduled. A research/nonclass laboratory is used for research, experimentation, observation, research training, or structured creative activity that supports extension of a field of knowledge. Institutions may wish to further distinguish various types of class, open, and research/nonclass laboratories through the use of extension or special codes.

Note: Within comprehensive research universities, it is difficult to draw precise lines between instruction and research activities. At institutions with medical and health science programs, it is even more complicated because of the difficulty in distinguishing between patient care and instruction or research activities. The problem of joint activities makes the classification of space more difficult.

The complexity of "research" and how it may affect space use classification decisions needs discussion at the institutional level. In general, there are four categories of research/nonclass activities: externally budgeted or funded projects or centers; separately organized centers or projects that are funded from institutional resources; departmental research activities that are neither separately budgeted or organized; and creative and intellectual activities of faculty in some disciplines that are the equivalent of departmental research (e.g., visual and performing arts are common examples).

When this complexity exists, institutions may elect to use standard space use codes for laboratories, office space, etc., and rely upon the actual activities of the faculty and staff housed within the space to determine the distinction between instruction and research. The space inventory data elements include a designation of function as a separate code for each space. If combined with financial and activity information, the combination of function and space use code can accurately represent allocations of space for research more effectively and accurately than reliance upon only the space use code.

210 Class Laboratory

- *Definition:* A space used primarily for formally or regularly scheduled instruction (including associated mandatory, but non-credit-earning laboratories) that require special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline. A space is considered to be scheduled if the activities generate weekly student contact hours

(WSCHs), the activities fulfill course requirements, and/or there is a formal convener present.

- *Description:* A class laboratory is designed for or furnished with equipment to serve the needs of a particular discipline for group instruction in formally or regularly scheduled classes. This special equipment normally limits or precludes the space's use by other disciplines. Included in this category are spaces generally called teaching laboratories, instructional shops, computer laboratories, drafting rooms, band rooms, choral rooms, (group) music practice rooms, language laboratories, (group) studios, theater stage areas used primarily for instruction, instructional health laboratories, and similar specially designed or equipped rooms, if they are used primarily for group instruction in formally or regularly scheduled classes. Computer rooms used primarily to instruct students in the use of computers are classified as class laboratories if that instruction is conducted primarily in formally or regularly scheduled classes.

- *Limitations:* Does not include Classrooms (110). Does not include informally scheduled or unscheduled laboratories (see Open Laboratory-220). This category does not include spaces generally defined as Research/Nonclass Laboratories (250). It does not include gymnasia, pools, drill halls, laboratory schools, demonstration houses, and similar facilities that are included under Special Use Facilities (Code 500 series). Computer rooms in libraries or used primarily for study should be classified as Study Rooms (410).

215 Class Laboratory Service

- *Definition:* A space that directly serves one or more class laboratories as an extension of the activities in those spaces.

- *Description:* Includes any space that directly serves a class laboratory. Included are projection rooms, telecommunications control booths, coat rooms, preparation rooms, closets, material storage (including **temporary** hazardous materials storage), balance rooms, cold rooms, stock rooms, dark rooms, equipment issue rooms, etc., if they serve class laboratories.

- *Limitation*s: Does not include service spaces that support a Classroom (see 115), Open Laboratory (see 225), or a Research/Nonclass Laboratory (see 255). Animal Facilities (570), Greenhouse (580), and Central Service (750) facilities are categorized separately.

220 Open Laboratory

- *Definition:* A laboratory used primarily for individual or group instruction that is informally scheduled, unscheduled, or open.

- *Description:* An open laboratory is designed for or furnished with equipment that serves the needs of a particular discipline or discipline group for individual or group instruction where 1) use of the space is not formally or regularly scheduled, or 2) access is limited to specific groups of students. Included in this category are spaces generally called music practice rooms, language laboratories used for individualized instruction, studios for individualized instruction, special laboratories or learning laboratories (e.g., speech, hearing, law, psychology, and health-related professions) if discipline restricted,

individual laboratories, and computer laboratories involving specialized restrictive software or where access is limited to specific categories of students. For example, a computer laboratory with only engineering or CAD software or a computer-based writing laboratory available only to English Composition students would be classified as an open laboratory because of the restricted usage of the space for a particular discipline or discipline group. Spaces containing computer equipment that is not restricted to a specific discipline or discipline group are classified as Study Rooms (410) unless the primary intent is to function as a site for structured learning or group activities rather than individual knowledge acquisition.

- *Limitations:* Laboratories with formally or regularly scheduled classes are classified as a Class Laboratory (210). This category also does not include spaces defined as Research/Nonclass Laboratory (250). A space that contains equipment (e.g., microcomputers), which does not restrict use to a specific discipline or discipline group and which is typically used at a student's convenience, should be classified as a Study Room (410).

225 Open Laboratory Service

- *Definition:* A space that directly serves one or more open laboratories as an extension of the activities in those spaces.

- *Description:* Includes only those spaces that directly serve an open laboratory. Included are projection rooms, telecommunications control booths, coat rooms, preparation rooms, closets, material storage (including **temporary** hazardous materials storage), balance rooms, cold rooms, stock rooms, dark rooms, equipment issue rooms, and similar facilities, if they serve open laboratories.

- *Limitations*: Does not include service spaces that support a Classroom (see 115), Class Laboratory (see 215), or Research/Nonclass Laboratory (see 255). Animal Facilities (570), Greenhouse (580), and Central Service (750) facilities are categorized separately.

250 Research/Nonclass Laboratory

- *Definition:* A space used for laboratory experimentation, research, or training in research methods; professional research and observation; or structured creative activity within a specific program or for sponsored research (whether sponsored with federal, state, private, or institutional funds).

- *Description:* A research/nonclass laboratory is designed or equipped for faculty, staff, and students for the conduct of research and controlled or structured creative activities. These activities are generally confined to faculty, staff, and assigned graduate students and are applicable to any academic discipline. Activities may include experimentation, application, observation, composition, or research training in a structured environment directed by one or more faculty or principal investigators. These activities do not include practice or independent study projects and activities that, although delivering "new knowledge" to a student, are not intended for a broader academic (or sponsoring) community (e.g., a presentation or publication). This category includes laboratories that are used for experiments, testing, or "dry runs" in support of instructional, research, or

public service activities. Nonclass public service laboratories that promote new knowledge in academic fields (e.g., animal diagnostic laboratories, cooperative extension laboratories) are included in this category.

- *Limitations:* Student **practice** activity rooms should be classified under Open Laboratory (220). A combination office/music or art studio or combination office/research laboratory should be coded according to its primary use if only a single space use code can be applied. Determination also should be made whether the "studio" or "research lab" component involves developing new knowledge (or extending the application or distribution of existing knowledge) for a broader academic or sponsoring community (and not merely for the practitioner), or the activity is merely practice or learning within the applied instructional process. Primary use should be the determining criterion in either case. Does not include testing or monitoring facilities (e.g., seed sampling, water or environmental testing rooms) that are part of an institution's Central Service (750) system. Also does not include the often unstructured, spontaneous or improvisational creative activities of learning and practice within the performing arts that take place in (scheduled) Class Laboratories (210) or, if not specifically scheduled, (practice) Open Laboratories (220). Such performing arts (and other science and nonscience) activities, which are controlled or structured to the extent that they are intended to produce a specific research or experimental outcome (e.g., a new or advanced technique), are included in the Research/Nonclass Laboratory (250) category.

255 Research/Nonclass Laboratory Service

- *Definition:* A space that directly serves one or more research/nonclass laboratories as an extension of the activities in those spaces.

- *Description:* Includes only those spaces that directly serve a research/nonclass laboratory. Included are projection rooms, telecommunications control booths, coat rooms, preparation rooms, closets, material storage, balance rooms, cold rooms, stock rooms, dark rooms, equipment issue rooms, temporary hazardous materials storage areas, and similar facilities, if they serve research/nonclass laboratories.

- *Limitations:* Does not include service spaces that support a Classrooms (see 115), Class Laboratory (see 215), or Open Laboratory (see 225). Animal Facilities (570), Greenhouse (580), and Central Service (750) facilities are categorized separately.

300 Office Facilities

General

Office facilities are individual, multiperson, or workstation spaces specifically assigned to academic, administrative, and service functions of a college or university. While some institutions may wish to classify all office space as Office (310), others may wish to differentiate academic, administrative, staff, secretarial, clerical, or student assistant offices, etc., by applying additional codes.

310 Office

- *Definition:* A space housing faculty, staff, or students working at one or more desks, tables, or workstations.

- *Description:* An office is typically assigned to one or more persons as a station or work area. It may be equipped with desks, chairs, tables, bookcases, filing cabinets, computer workstations, microcomputers, or other office equipment. Included are faculty, administrative, clerical, graduate and teaching assistant, and student offices.

- *Limitations:* Any other spaces, such as glass shops, printing shops, study rooms, classrooms, research/nonclass laboratories, etc., that incidentally contain desk space for a technician or staff member are classified according to the primary use of the space, rather than as an office. Office areas do not need to have clearly visible physical boundaries; examples include open reception areas and library staff areas that would not otherwise be classified as Processing Rooms (440). In such cases, logical physical boundaries (phantom walls) may be assigned to calculate square footage. An office is differentiated from Office Service (315) by the latter's use as a casual or intermittent workstation or service room. For example, a space with a computer intermittently used by one or more people having a separately assigned office should be coded as Office Service (315). A combination office, studio, or research/nonclass laboratory should be coded according to its primary use if multiple space use codes with prorations are not used. A receptionist room that includes a waiting area should be coded as Office (310).

315 Office Service

- *Definition:* A space that directly serves an office or group of offices as an extension of the activities in those spaces.

- *Description:* Includes file rooms, break rooms, kitchenettes serving office areas, copy and fax rooms, vaults, closets, private rest rooms not available to the public, records rooms, office supply rooms, first aid rooms serving office areas, student counseling rooms and testing (assessment, nonhealth, non-discipline-related) rooms, and open and private (restricted/nonpublic) circulation areas.

- *Limitations:* Waiting, interview, and testing spaces are included as Office Service if they serve a specific office or office area and not a classroom laboratory or clinic. A student counseling (nonhealth) testing room should be coded as Office Service (315). A

receptionist room that includes a waiting area should be coded as Office (310). Lounges that serve specific office areas and that are not generally available to the public should be coded as Office Service (315). Centralized mail rooms, shipping or receiving areas, and duplicating or printing shops that serve more than one building (or department or school, etc.) or that are campus-wide in scope should be classified Central Service (750). Does not include Unit Storage (780).

350 Conference Room

- *Definition:* A space serving an office complex and used primarily for staff meetings and departmental activities.

- *Description:* A conference space is typically equipped with tables and chairs. Normally it is used by a specific organizational unit or office area, whereas Meeting Rooms (680) are used for general purposes such as community or campus group meetings not associated with a particular department. If a space is used for both conference and meeting space functions, then the space should be classified according to its principal use. A conference space is distinguished from facilities such as seminar rooms, lecture rooms, and Classrooms (110) because it is used primarily for activities other than scheduled classes. A conference space is intended primarily for formal gatherings, whereas a lounge is intended for relaxation and casual interaction. This category includes teleconference spaces.

- *Limitations:* Does not include classrooms, seminar rooms, lecture rooms (see Classrooms-110), auditoria (see Assembly-610), departmental lounges (see Office Service-315), open lounges (see Lounge-650), and Meeting Rooms (680).

355 Conference Room Service

- *Definition:* A space that directly serves one or more conference spaces as an extension of the activities in those spaces.

- *Description:* Includes kitchenettes, storage spaces, telecommunications control booths, projection rooms, sound equipment rooms, etc., if they serve conference spaces.

- *Limitations:* Excluded are service spaces that support meeting spaces (see Meeting Room Service-685) or offices (see Office Service-315).

400 Study Facilities

General

Study space is classified into five categories: study room, stack, open-stack study room, processing room, and study service. Offices used for library activities are coded as office facilities. A study space may contain equipment or materials that aid the study or learning process (e.g., computers, multimedia carrels, CD and DVD players, typewriters, records and tapes) and that do not restrict the space to a particular academic discipline or discipline group. Whereas a Study Room (410) may appear in almost any type of building on campus (e.g., academic, residential, student service), Stacks (420), Open-Stack Study Rooms (430), and Processing Rooms (440) are typically located in central, branch, and departmental libraries. Identification of library space should be made through the use of functional categories, and departmental space through the combined use of academic discipline and functional categories.

410 Study Space

- *Definition:* A room or area used by individuals to study at their convenience, the space not being restricted to a particular subject or discipline by contained equipment.

- *Description:* Includes study or reading rooms located in libraries, residential facilities, academic or student service facilities, study carrel and booth areas, and similar spaces that are intended for general study purposes. Study stations may be grouped, as in a library reading room, or individualized, as in a carrel. Study stations may include computers, typewriters, microform readers, CD and DVD players, or other multimedia equipment. The category Study Space includes spaces commonly termed "learning labs" or "computer labs" if they are not restricted to specific disciplines by contained equipment or software. Study spaces are primarily used by students or staff for learning at their convenience, although access may be restricted by a controlling unit (e.g., departmental study room).

- *Limitations:* Does not include Open Laboratories (220) that are restricted to a particular discipline or discipline group. This category also does not include Lounges (650) that are intended for relaxation and casual interaction.

420 Stack

- *Definition:* A space used to house arranged collections of educational materials for use as a study resource.

- *Description:* Stacks typically appear in central, branch, or departmental libraries and are characterized by accessible, arranged, and managed collections. Collections can include books, periodicals, journals, monographs, micromaterials, electronic storage media (e.g., tapes, disks, slides, etc.), musical scores, maps, and other educational materials.

- *Limitations:* Does not include general storage areas for such materials that serve a particular room or area; such spaces would take the appropriate service code. Examples of these service spaces include tape storage rooms for language laboratories (see Open

Laboratory Service-225), book storage rooms for classrooms (see Classroom Service-115), and music for general listening enjoyment (see Recreation Service-675). Also does not include collections of educational materials, regardless of form or type (i.e., from books to soils collections), that are for Exhibition (620) use rather than for study or reference.

430 Open-Stack Study Room

- *Definition:* A combination study space and stack, generally without physical boundaries between the stack and study areas.

- *Description:* Seating areas include those types of station and seating arrangements described under Study Room (410). The stack areas of these spaces may include any of the educational material collections described under Stack (420).

- *Limitations:* Does not include Study Rooms (410) that have no stack areas. Those stack areas that have only a few incidental chairs or other seating, without a formally arranged study seating area, should be coded Stack (420). Institutions may wish to separate and code the seating or study areas (see Study Room-410) and Stack areas (see Stack-420) into separate space records. As with Stack (420) and Processing Rooms (440), Open-Stack Study Rooms (430) appear primarily in central, branch, and departmental libraries.

440 Processing Room

- *Definition:* A room or area devoted to processes and operations in support of library functions.

- *Description:* A processing room is intended for specific library operations that support the overall library mission. Included are card and microfiche areas, reference desk and circulation desk areas, bookbinding rooms, multimedia materials processing areas, interlibrary loan processing areas, and other areas with a specific process or operation in support of library functions.

- *Limitations:* Areas that serve both as office stations and processing rooms should be coded according to primary use. Small incidental processing areas in larger stack or study areas should be included within the larger primary activity category (see Codes 410, 420, and 430). Does not include typical support spaces that serve study and other primary activity areas, such as storage rooms, copy rooms, closets, and other service-type spaces (see Code 455). Acquisitions work areas with a primary office use should be classified as Office (310).

455 Study Service

- *Definition:* A space that directly serves study spaces, stacks, open-stack study spaces, or processing rooms as a direct extension of the activities in those spaces.

- *Description:* Includes storage spaces, copy rooms, closets, locker rooms, coat rooms, and other typical service areas that support a primary study facilities room (see Codes

410, 420, 430, and 440). With the increasing implementation of wireless technology, service areas are migrating into the primary study space and stacks. Campuses need to adopt a consistent approach to using either predominate use or "phantom walls" to allow for the separation of service space. An example would be space occupied by routers, servers, or battery-charging equipment on the open floor of a library or student center.

- *Limitations:* Does not include Processing Rooms (440) that house specific library support processes and operations (e.g., bookbinding rooms, multimedia processing rooms).

500 Special Use Facilities

General

This category includes several space use categories that are sufficiently specialized in their primary activity or function to merit a unique space code. Areas and rooms for military training, athletic activity, media production, clinical activities (outside of separately organized health care facilities), demonstration, agricultural field activities, and animal and plant shelters are included here. Although many of these special use facilities provide service to other areas, their special use or configuration dictates that these areas not be coded as service spaces.

510 Armory (Military Support)

- *Definition:* A room or area used by Reserve Officer Training Corps (ROTC) and ancillary units for military training and/or instructional activities.
- *Description:* Spaces that are obviously designed or equipped for use in a military training or instructional program, such as indoor drill areas, indoor rifle ranges, and specially designed or equipped military science rooms, are included in this category. Ancillary units may include special rifle and drill teams.
- *Limitations:* Conventional space use types such as Classrooms (110), Class Laboratories (210), Offices (310), and Study Rooms (410) are designated as such, even though they are located in an armory building. Military supply and weapons rooms are coded Armory Service (515).

515 Armory Service

- *Definition:* A space that directly serves an armory facility as an extension of the activities in that facility.
- *Description:* This category includes supply rooms, weapons rooms, and military equipment storage rooms.
- *Limitations:* Spaces directly serving conventional primary activity areas are classified with the appropriate corresponding service code, e.g., Classroom Service (115), Class Laboratory Service (215), Office Service (315), and Study Service (455).

520 Athletic or Physical Education

- *Definition:* A room or area used by students, staff, or the public for athletic or physical education activities.
- *Description:* Includes gymnasia, basketball courts, handball courts, squash courts, wrestling rooms, weight or exercise rooms, racquetball courts, indoor swimming pools,

indoor putting areas, indoor ice rinks, indoor tracks, indoor stadium fields, and field houses. This category includes spaces used for dancing and bowling.

- *Limitations:* This space use code does not distinguish instructional from intercollegiate, intramural, or recreational use of these areas.

- Classroom Facilities (Code 100 series), Laboratory Facilities (Code 200 series), Office Facilities (Code 300 series), and other primary space use categories are coded as such, even though these areas may be located in an athletic or physical education building. Permanent covered spectator seating areas associated with athletic facilities are coded Athletic Facilities Spectator Seating (523). Outdoor athletic areas, such as outdoor tennis and basketball courts, archery ranges, golf courses, and other outdoor fields, do not meet the definition of buildings and, therefore, are not assignable areas. Recreational or amusement areas such as billiards rooms, game or arcade rooms, table tennis rooms, chess and card playing rooms, and hobby and music listening areas are classified Recreation (670).

523 Athletic Facilities Spectator Seating

- *Definition:* The covered seating area used by students, staff, or the public to watch athletic events.

- *Description:* Includes covered permanent or fixed seating areas in gymnasia, field houses, ice arenas, covered stadia, natatoria, and cycling arenas.

- *Limitations:* Does not include temporary or movable seating areas (e.g., movable bleachers). Uncovered permanent seating is not assignable space although space below it may contain assignable areas (e.g., locker rooms, offices, etc.).

525 Athletic or Physical Education Service

- *Definition:* A space that directly serves an athletic or physical education facility as an extension of the activities in that facility.

- *Description:* Includes locker rooms; shower rooms; nonoffice coaches' rooms; ticket booths; and spaces for dressing, equipment, supply, storage, first aid, skate-sharpening, towels, etc.

- *Limitations:* Does not include public rest rooms, which should be classified as nonassignable building service space. Spaces that directly serve offices, classrooms, laboratories, etc., are classified with the appropriate corresponding service code. Cashiers' desks serving recreation facilities (see Recreation-670) are classified Recreation Service (675). Central ticket outlets serving multiple facilities or services are classified as Merchandising (660).

530 Media Production

- *Definition:* A space used for the production or distribution of multimedia materials or signals.

- *Description:* Includes spaces generally called TV studios, radio studios, sound studios, photo studios, video or audio cassette and software production or distribution rooms, and media centers. These spaces have a clearly defined production or distribution function that serves a broader area (e.g., department, entire campus) than would a typical service room. Include electronic visualization studios or facilities in this category if the primary use is the production of media rather than a student-focused learning experience.

- *Limitations:* Does not include spaces that merely store media materials and equipment. Such spaces would be coded as Media Production Service (535) spaces if serving the primary production or distribution room, or the appropriate service category for space(s) they serve. Radio or TV broadcasting areas, simulation laboratories, and other media spaces used for teaching broadcasting to students should be coded as laboratories (see Class Laboratory-210, or Open Laboratory-220). This classification also does not include centralized computer-based data processing and telecommunications equipment facilities (see Central Computer or Telecommunications-710).

535 Media Production Service

- *Definition:* A space that directly serves a media production or distribution space as an extension of the activities in that facility.

- *Description:* The primary criterion here is that the space should serve a media production or distribution space and not another primary activity space. Examples include film, tape, or cassette libraries or storage areas; media equipment storage rooms; recording rooms; engineering maintenance rooms; dark rooms; preparation rooms; studio control booths; and other support areas that specifically serve a media production or distribution room (see Media Production-530).

- *Limitations:* Those spaces containing media materials, equipment, or operations that serve other than a Media Production (530) primary activity space should be assigned the appropriate corresponding service code.

540 Clinic

- *Definition:* A space used for providing diagnosis, consultation, treatment, or other services to patients or clients or subjects with a primary purpose of instruction, research, or public service.

- *Description:* Included are examination rooms, testing rooms, consultation rooms, and holding areas. Such spaces and their related uses are typically associated with educational programs such as psychology, law, speech, and hearing.

- *Limitations:* Does not include spaces used for remedial instruction that should be classified as classrooms or laboratories (see Codes 100 and 200 series), testing or counseling rooms in nonhealth or non-discipline-related programs (see Office Service-315), or Health Care Facilities (see Code 800 series).

545 Clinic Service

- *Definition:* A space that directly serves a clinic as an extension of the activities in that space.

- *Description:* Included are waiting rooms, observation rooms, control rooms, records rooms, diagnostic laboratories, and similar supporting spaces.

- *Limitations:* Does not include spaces that serve health care facilities (see Code 800 series). Also does not include first aid treatment rooms that serve other primary activity areas, e.g., Athletic or Physical Education Service (525), Day Care Service (645).

550 Demonstration

- *Definition:* A room or group of spaces used to practice, within an instructional program, the principles of certain disciplines such as teaching, child care or development, and family and consumer science.

- *Description:* The key criterion here is practice activity within an instructional program that closely simulates a real-world or occupational setting. Includes demonstration day care and development centers, laboratory schools, and family and consumer science houses when these facilities are used for practice as a part of postsecondary training or instruction.

- *Limitations:* Does not include day care and development centers that are not used as part of an instructional program (see Day Care-640). This category also does not include laboratories (see Code 200 series) that are used for direct delivery of instruction as opposed to practice. Demonstration schools, laboratory schools, day care centers, and family and consumer science houses in which students serve as the subjects for a research study are classified as Research/Nonclass Laboratories (250).

555 Demonstration Service

- *Definition:* A space that directly serves a demonstration facility as an extension of the activities in that facility.

- *Description:* Includes facilities generally called storerooms, pantries, etc., in a family and consumer science facility; and kitchens, lockers, shower rooms, etc., in a laboratory school. Similar support spaces that directly serve primary care and training areas in a demonstration day care center (see Demonstration-550) are included in this category.

- *Limitations:* Generally, the primary activity areas—such as kitchen, dining room, living room (in a family and consumer science house), or classrooms, laboratories, gymnasia

that serve nursery, elementary, or secondary school students (in a laboratory school)—should be designated as Demonstration (550). Primary care and training areas in a (practice) day care center are also Demonstration (550) spaces. Kitchen and food preparation spaces in a demonstration day care facility are classified as service areas. Eating or break rooms for staff in demonstration day care centers are classified as service areas other than Demonstration Service (555); eating or training spaces for children are classified as primary activity areas, Demonstration (550).

560 Field Building

- *Definition:* A barn or similar agricultural structure used for animal shelters or for the handling, storage, or protection of farm products, supplies, vehicles, or implements.

- *Description:* Includes barns, animal and poultry shelters, sheds, silos, feed units, and hay storage. Structures are typically of light-frame construction with unfinished interiors and are frequently located outside the central campus area. Also includes storage space for farm vehicles and implements. Service areas that support field buildings are classified within this category.

- *Limitations:* Animal facilities directly supporting research or instructional laboratories should be coded Animal Facilities (570). Location of a building, on or off the main campus, is not sufficient justification for classification as a field building. Finished spaces with other uses (e.g., laboratories, classrooms, etc.) should be coded as appropriate. Does not include buildings that house nonagricultural or non-farm-related vehicles (see Vehicle Storage-740).

570 Animal Facilities

- *Definition:* A space that houses laboratory animals used for research and/or instructional purposes.

- *Description:* Includes animal rooms; cage rooms; stalls; wards; and procedure, operating, recovery, isolation, quarantine, and similar spaces for instruction and research.

- *Limitations:* Animal Facilities are typically subject to the rules and regulations of agencies regarding the care and use of laboratory animals (e.g., requirements of the American Association for Accreditation of Laboratory Animal Care (AAALAC)). Does not include agricultural field buildings sheltering animals that do not directly support instruction or research (see Field Building-560). Does not include areas that directly serve facilities used for the treatment of animals (see Treatment/Examination Clinic–850).

575 Animal Facilities Service

- *Definition:* A space that directly serves an animal quarters facility as an extension of the activities in that facility.

- *Description:* Includes feed storage rooms, feed mixing rooms, cage washing rooms, cage storage rooms, casting rooms, instrument rooms, and internal (nonpublic) circulation space.

- *Limitations:* Does not include areas that directly serve facilities used for the treatment of animals (see Treatment/Examination Clinic-850).

580 Greenhouse

- *Definition:* A building or space, usually composed chiefly of glass, plastic, or other light-transmitting material, that is used for the cultivation or protection of plants or seedlings for research, instruction, or campus physical maintenance or improvement purposes.

- *Description:* The primary criterion here is the combination of structural design as a greenhouse and the use for cultivation or protection. An example would be a greenhouse that serves as a laboratory or service area for a botany or other (e.g., horticulture) educational program. This category includes any facility serving the greenhouse function (e.g., warehouse facilities equipped with special lighting controls for the cultivation or protection of plants).

- *Limitations:* Greenhouses that are not used for plant cultivation or protection should be classified according to specific use (e.g., a greenhouse used for central storage should be coded Central Storage-730).

585 Greenhouse Service

- *Definition:* A space that directly serves a greenhouse facility as an extension of the activities in that facility.

- *Description:* Includes equipment or materials storage areas and rooms generally called headhouses.

- *Limitations:* Excludes storage areas that do not directly serve greenhouses.

590 Other (All Purpose)

- *Definition:* A category of last resort.

- *Description:* Included as a category of last resort to be used only for those spaces or facilities that cannot be described, even approximately, with other codes and definitions.

- *Limitations:* Should have very limited use, if used at all.

600 General Use Facilities

General

General use facilities are characterized by a broader availability to faculty, students, staff, or the public than are Special Use Facilities (500 series), which are typically limited to a small group or special population. General use facilities comprise a campus general service or functional support system (e.g., assembly, exhibition, dining, relaxation, merchandising, recreation, general meetings, day care) for the institutional and participant community populations.

610 Assembly

- *Definition:* A space designed and equipped for the assembly of many persons for such events as dramatic, musical, devotional, livestock judging, or commencement activities.

- *Description:* Includes theaters, auditoria, concert halls, arenas, chapels, and livestock judging pavilions that are used primarily for general presentations (speakers), performances (dramatic, musical, dance), and devotional services. Seating areas, orchestra pits, chancels, aisles, and stages (if not used primarily for instruction) are included in and usually aggregated into the assembly space. This category also includes chapels located in health care, residential, or other facilities. Institutions may wish to separate the seating area from the stage and other specially configured areas through the use of additional codes.

- *Limitations:* Stage areas used **primarily** for instruction or practice (dance, music, drama) are typically coded separately as laboratory space (see Codes 210, 220). Assembly facilities that are used primarily as instructional lecture halls are classified as Classroom (110) space.

615 Assembly Service

- *Definition:* A room or area that directly serves an assembly facility as an extension of the activities in that facility.

- *Description:* Includes check rooms, coat rooms, ticket booths, dressing rooms, projection booths, property storage, make-up rooms, costume and scenery shops and storage, green rooms, multimedia and telecommunications control rooms, etc.

- *Limitations:* Entrance lobbies and other circulation areas outside of the primary assembly room are classified as nonassignable Lobby (W05). A concession stand in an assembly facility is classified as Merchandising (660). Lounge areas that are remote from the assembly area within an assembly facility are classified by the appropriate service code or the Lounge (650) code.

620 Exhibition

- *Definition:* A room or area used for exhibition of materials, works of art, artifacts, etc., and intended for general use by faculty, students, staff, and the public.

- *Description:* Includes both departmental and institution-wide museums, galleries, and similar exhibition areas that are used to display materials and items for viewing by the institutional population **and** the public. Planetariums used primarily for exhibition are also included in this category. Planetariums used primarily for research should be classified in the Laboratory Facilities (Code 200) series.

- *Limitations:* Displays that are intended only for instructional purposes and not for general exhibitions (e.g., departmental instructional displays of anthropological, botanical, or geological specimens) should be classified as laboratory or laboratory service (see Laboratory Facilities-200 series). Does not include bulletin boards and similar temporary or incidental displays in hallways, student centers, etc. Also does not include collections of educational materials, regardless of form or type (e.g., books, tapes, soils collections), that are **study resources** (see Stack-420) as opposed to **exhibition** use.

625 Exhibition Service

- *Definition:* A space that directly serves an exhibition facility as an extension of the activities in that facility.

- *Description:* Includes preparation workrooms, storage rooms, vaults, etc., that serve general exhibition areas (see Exhibition-620).

- *Limitations:* Research areas in museums are classified as Research/Nonclass Laboratory (250) or Research/Nonclass Laboratory Service (255). Service areas for displays that are part of an instructional program are classified as Classroom Service (115) or Laboratory Facilities service areas (see Code 200 series).

630 Food Facility

- *Definition:* A space used for eating.

- *Description:* Includes dining halls, cafeterias, snack bars, restaurants, and similar eating areas, including such areas in residence halls, faculty clubs, etc. This category includes facilities open to students, faculty, staff, or the public at large. The primary distinction of a Food Facility (630) area is the availability of some form of accommodation (seating, counters, tables) for eating or drinking. This is, therefore, an area intended for the actual consumption of food and drink. Vending areas with seating, counters, or tables and sit-down lunch or vending spaces that serve a shop facility are included in this category.

- *Limitations:* Vending areas **not** provided with seating, counters, or tables are classified as Merchandising (660) or with the appropriate service code if the vending directly

supports or is adjacent to a specific space for consuming the products (e.g., a Code 635 vending space serving a Code 630 dining hall).

- *Limitations:* Lounges (650) with vending machines that are incidental to the primary use of the space (i.e., relaxation) are coded as part of the lounge, if within the space, or as Lounge Service (655) if separate from and directly supporting the main lounge facility (see Lounge-650). Break rooms serving specific office areas are classified as Office Service (315). Eating areas for children in demonstration or day care facilities are classified as primary activity categories within these respective areas (see Demonstration-550 and Day Care-640); staff-only eating or break rooms in these facilities are classified as service areas (see Demonstration Service-555 and Day Care Service-645).

635 Food Facility Service

- *Definition:* A space that directly serves a food facility as an extension of the activities in that facility.

- *Description:* Includes kitchens and other preparation areas, cold storage and freezer refrigeration rooms, dishwashing rooms, food serving areas, cleaning areas, etc. Includes first aid and vending areas directly serving food facilities, or adjacent to an eating area.

- *Limitations:* Does not include any type of food preparation space that does not serve a food facility or eating area (see Food Facility-630). Kitchenettes in residence facilities that do not serve a dining area are classified as Sleep/Study Service (935). Service areas for vending spaces are classified as Merchandising Service (665). Kitchens and food preparation areas in demonstration or day care facilities are classified as service areas for those facilities (see Demonstration Service-555 and Day Care Service-645).

640 Day Care

- *Definition:* A space used to provide day or night, child or elderly adult care as a nonmedical service to members of the institutional community.

- *Description:* Includes all primary activity spaces that provide oversight, supervision, developmental training, and general personal care for assigned children or adults (e.g., play areas, nonstaff eating areas, and child training spaces). This type of facility serves as a central service center for faculty, staff, and students, with members of the community being served as needed. This is not a medical care facility (i.e., medical attention is strictly limited to maintaining prescribed medication schedules and providing first aid).

- *Limitations:* Does not include those support spaces (e.g., storage rooms, closets, and pantries) typically used as service spaces (see Day Care Service-645). This category also does not include demonstration houses, laboratory schools, or other facilities with a primary function of providing practice for postsecondary students as part of the instructional process (see Demonstration-550). Also excluded from this category are those service areas classified as Central Service (750), and Laboratory Facilities (Code

200 series) that directly support instruction (e.g., vocational training programs for parent education and early childhood education).

645 Day Care Service

- *Definition:* A space that directly serves a primary activity space in a day care facility as an extension of the activities in that space.

- *Description:* Includes storage rooms, closets, kitchens or food preparation areas, pantries, private or staff-only eating areas and rest rooms, and other typical service spaces that support a primary activity area.

- *Limitations:* Does not include those spaces (e.g., child training spaces, playrooms—see Day Care-640) where primary day care activities are conducted. Rest rooms designed for child training should be coded Day Care (640). Eating or training areas for children are classified as primary Day Care (640) activity space. Staff office areas should be coded as Office (310).

650 Lounge

- *Definition:* A space used for rest and relaxation that is not restricted to a specific group of people, unit, or area.

- *Description:* A lounge facility is typically equipped with upholstered furniture, draperies, and carpeting, and may include vending machines. This general use lounge differs from an office area or break room lounge (see Office Service-315) by virtue of its public availability. If a space is equipped with more than one or two seats for a seating area and intended for use by people visiting or passing through a building or area, it is coded as a Lounge (650). Such a space may have vending machines even though the primary use of the space is rest, relaxation, or informal socializing, not eating.

- *Limitations:* A lounge facility is distinguished from a Conference Room (350) and a Meeting Room (680), both of which are intended for formal meetings, by its more informal function of rest, relaxation, or casual interaction **and** its public availability. A lounge area associated with a public rest room is included with the rest room as nonassignable (building service area) space. A space devoted to vending machines without accommodation (seating, counters, or tables) for local food or drink consumption is classified as Merchandising (660). A lounge that directly serves a specific or restricted area is classified by the appropriate corresponding service code (e.g., a lounge serving an assembly facility is classified Assembly Service-615). A lounge differs from a nonassignable lobby in placement, use, and intent. A Lobby (W05) is generally located at a major entrance with openings to either hallways on more than one side or in front of elevator banks; and although it may have seating furniture, it is designed more for passing through (or having standing conversations) than for sitting and relaxing. Separate waiting rooms in other than health care facilities are classified with the appropriate service code according to the room or area they serve. A receptionist room that includes a waiting area should be classified as Office (310). Public waiting areas in health care facilities are coded as Public Waiting (880).

655 Lounge Service

- *Definition:* A space that directly serves a general use lounge facility.
- *Description:* Includes kitchenettes, storage areas, and vending spaces that directly serve a general use Lounge (650).
- *Limitations:* This category does not include kitchenettes, storage rooms, and small vending areas that directly serve other space use types (e.g., a small vending area serving a dining hall eating area should be classified as Food Facility Service-635).

660 Merchandising

- *Definition:* A space used to sell products or services.
- *Description:* Includes product and service sales areas such as bookstores, student supply stores, barber or beauty shops, post offices, campus food stores, walk-away vending machine spaces, and central ticket outlets servicing multiple facilities or activities.
- *Limitations:* Does not include dining rooms, restaurants, snack bars, and similar Food Facilities (630). A vending machine space that directly serves a dining, lounge, or other primary activity area is classified with the appropriate service code; a vending machine area within a general use lounge is included in the Lounge (650) space. Vending areas that include accommodations (seating, counters, or tables) for consuming the products are classified as Food Facility (630). Meeting and conference rooms in hotels or motels are classified as Meeting Rooms (680). Sleeping rooms in hotels or motels are classified in the appropriate category of Residential Facilities (Code 900 series). Cashiers' desks that serve a specific recreational facility or area are classified as service space for that area (see Codes 670 and 675). Day care centers used for practice within an instructional program are classified as Demonstration (550). Day care centers that are not part of such a program are classified under Day Care (640).

665 Merchandising Service

- *Definition:* A space that directly serves a merchandising facility as an extension of the activities in that facility.
- *Description:* Includes storage rooms and closets, sorting rooms, private rest rooms, and other support spaces if they directly serve a Merchandising (660) facility.
- *Limitations:* Storage rooms, sorting rooms, and private rest rooms that do not serve a merchandising area should be classified using the appropriate service code for the corresponding space use type.

670 Recreation

- *Definition:* A space used by students, staff, or the public for recreational purposes.

- *Description:* Includes exercise and general fitness rooms, billiards rooms, game and arcade rooms, table tennis rooms, chess rooms, card playing rooms, hobby rooms, TV rooms, reading (nonstudy) rooms, and music listening rooms that are used for recreation and amusement and not for instructional purposes. Recreation rooms and areas are used for relaxation, amusement-type activities, whereas athletic facilities are typically used for the more vigorous pursuits within physical education, intercollegiate athletics, and intramural programs that typically require specialized configuration.

- *Limitations:* Does not include gymnasia, basketball courts, weight rooms, racquetball courts, handball courts, squash courts, wrestling rooms, indoor swimming pools, indoor ice rinks, indoor tracks, indoor stadium fields, indoor golf and other areas primarily used for physical education, and intramural or intercollegiate athletic activities (see Code 520). Outdoor athletic and physical education fields, courts, and other nonenclosed areas are also excluded because they are not building space. This category also does not include bowling alleys, dance rooms, or any other activity areas that are primarily used for instruction. Reading or media use rooms that are designed and intended as study spaces are also excluded from this category (see Code 410).

675 Recreation Service

- *Definition:* A space that directly serves a recreation facility as an extension of the activities in that facility.

- *Description:* Includes storage rooms, closets, equipment issue rooms, cashiers' desks, first aid, and other support areas that directly serve a Recreation (670) facility.

- *Limitations:* Does not include kitchens, snack bars, or other Food Facilities (630) and Food Facility Service (635) areas. Locker rooms, shower rooms, ticket booths, dressing rooms, equipment rooms, and other areas directly serving Athletic or Physical Education (520) facilities are classified as Athletic or Physical Education Service (525) rooms. Central ticket outlets serving multiple facilities or services are classified as Merchandising (660).

680 Meeting Room

- *Definition:* A room that is used by the institution or the public for a variety of nonclass meetings.

- *Description:* The key concept here is public availability. Conference Rooms (350) are often confused with meeting spaces because they are both primarily used for nonclass meetings. However, conference spaces are restricted service components of an office complex or used by office occupants of a specific area and are generally limited to staff meetings or other departmental nonclass activities. Although it may be assigned to a specific organizational unit, a meeting space is more available and open to study groups, boards, governing groups, community groups, various student groups, nonemployees of the institution, and various combinations of institutional and community members. Meeting spaces in institutional hotels or motels and other for-fee meeting spaces are included in this category.

- Meeting spaces may be configured like classrooms (i.e., with participant focus to the front of the room), or may be equipped with a variety of furniture types (e.g., tables and chairs, lounge-type furniture, tablet armchairs, or a large table) in various combinations and arrangements.

- *Limitations:* Spaces serving an office complex and used primarily for staff meetings are classified as Conference Room (350). Seminar and lecture rooms used primarily for scheduled classes are classified as Classroom (110). Spaces designed and equipped for the assembly of many persons for such events as dramatic, musical or devotional activities, etc., should be classified as Assembly (610).

685 Meeting Room Service

- *Definition:* A space that serves a meeting space as an extension of the activities in that space.

- *Description:* Includes kitchenettes, multimedia storage and control rooms, furniture storage rooms, and other support spaces that directly serve a meeting space.

- *Limitations:* Does not include kitchenettes, storage rooms, and other support areas that serve a Conference Room (350) or an Assembly (610) facility.

700 Support Facilities

General

Support facilities, which provide centralized space for various auxiliary support systems and services of a campus, help keep all institutional programs and activities operational. While not as directly accessible to institutional and community members as General Use Facilities (Code 600 series), these areas provide a continuous, indirect support system to faculty, staff, students, and the public. Support facilities are centralized in that they typically serve an area ranging from an entire building or organizational unit to the entire campus. Included are centralized areas for computer-based data processing and telecommunications, shop services, general storage and supply, vehicle storage, central services (e.g., printing and duplicating, mail, shipping and receiving, environmental testing or monitoring, laundry, or food stores), and hazardous materials areas.

710 Central Computer or Telecommunications

- *Definition:* A space used as a data or telecommunications center with applications that are broad enough to serve the overall administrative or academic primary equipment needs of a central group of users, department, college, school, or entire institution.

- *Description:* A Central Computer or Telecommunications room or a Secured Compartmented Information Facility (SCIF) may be one of a group of spaces that constitute a center for delivering data processing or telecommunications services to various levels of user groups. Although the ongoing **primary activity** of this category is tied more closely to equipment than human activity, these areas require technical support staff, and physical access may be restricted to these personnel. These central equipment spaces appear most frequently at the campus-wide and large organizational unit levels and are generally subject to environmental and security controls and procedures limiting users to remote access. Includes central rooms housing a computer or computers (e.g., large mainframe, server farms, etc.), peripheral input (e.g., data entry terminals, tape or disk drives, data reading equipment, monitors, etc.), and output devices (e.g., printers, output tape or disk drives, etc.). This category also includes spaces in a central computer complex that are primarily or exclusively dedicated to data or program code entry or job submissions through one or more terminals.

  Computer-based telecommunications equipment rooms, ranging from micro-driven LAN (local area) to the larger PBX (private branch) network centers and hubs, including central spaces housing satellite signal reception or transmission equipment, should be assigned the 710 code. This equipment may be dedicated to data, audio or telephone, video, or any combination of these electronic transmissions.

- *Limitations:* Does not include Office (310) space assigned to programmers, analysts, engineers, data entry personnel, and other technical staff, even though these spaces usually contain an access terminal. Also does not include instructional laboratories and study spaces equipped with personal computers or terminals (see Class Laboratory-210, Open Laboratory-220, Study Room-410), or Offices (310) with data processing equipment used as office tools. Personal computer or terminal work spaces and printer rooms that serve an office area should be coded Office Service (315). Small closet areas

housing telecommunications equipment and wiring that are not used by technical or support staff on a regular basis (i.e., repair or modification only) should be classified as *nonassignable* mechanical space (see Utility/Mechanical Space-Y04).

715 Central Computer or Telecommunications Service

- *Definition:* A space that directly serves a central computer or telecommunications facility as an extension of the activities in that facility.

- *Description:* Includes paper and forms storage, off-line tape and disk storage, separate control or console rooms or booths, tool and parts rooms, bursting and decollating rooms, areas used to store only inactive support equipment (e.g., multiplexers, modems, spoolers, etc.), and separate areas used for delivering tapes or picking up printouts. Also includes the repair and assembly rooms that directly serve the central computer or telecommunications facility.

- *Limitations:* Does not include Office (310) areas for personnel (technicians, engineers, analysts, programmers) assigned to the central computer facility, primary equipment (computer, I/O device) rooms (see Central Computer or Telecommunications-710), and office areas containing data processing or networking office service equipment or materials (see Office-310, Office Service-315). Also does not include spaces directly supporting study spaces (see Study Service-455) or laboratories (see Code 200 series) that contain special computer equipment used for study, instruction, or research. A nonoffice workroom containing a remote printer or data/job entry terminal that is part of an office area, and not the central computer facility, should be coded Office Service (315). A printer room serving a general purpose terminal room in a dormitory should be classified as Study Service (455).

720 Shop

- *Definition:* A space used for the manufacture, repair, or maintenance of products or equipment.

- *Description:* Includes carpenter, plumbing, HVAC, electrical, and painting shops, and similar physical plant maintenance facilities. This category also includes centralized shops for construction or repair of research or instructional equipment, and repair and maintenance of multimedia equipment and devices. Special purpose shops (e.g., glass blowing, machining) supporting multiple spaces for scientific instruction and research are included in this category.

- *Limitations:* Does not include instructional **shops** (i.e., industrial arts or vocational-technical shops used for instruction), which should be classified as Laboratory Facilities (200 series). Facilities used for producing and distributing multimedia materials and signals are classified as Media Production (530). Architectural and engineering drafting rooms serving the facilities management operation are classified as Office (310). Blueprint storage rooms are classified as Office Service (315). Small, incidental equipment repair, assembly, or cleaning rooms that directly serve an adjacent or nearby primary activity room should be classified according to the appropriate corresponding service code. This category also does not include areas used for the repair and

maintenance of institution-owned vehicles (see Vehicle Storage Service-745) or spaces directly serving media production or distribution areas (see Media Production Service-535). Also excludes costume and scene **shops** serving theater areas (see Assembly Service-615). Greenhouses used for campus physical maintenance or improvements should be coded 580.

725 Shop Service

- *Definition:* A space that directly serves a shop facility as an extension of the activities in that facility.

- *Description:* Includes tool storage rooms, materials storage rooms, and similar equipment or material supply or storage rooms. Locker, shower, first aid, and similar nonpublic areas that serve the shop facility should be included.

- *Limitations:* Does not include service areas for Class Laboratories (210) or Research/Nonclass Laboratories (250). Also does not include vehicular repair facilities (i.e., garages) classified as Vehicle Storage Service (745). Blueprint storage rooms should be classified as Office Service (315). Spaces directly serving media production or distribution facilities are coded Media Production Service (535). Sit-down lunch or vending spaces that serve a shop facility are classified Food Facility (630).

730 Central Storage

- *Definition:* A space or building that is used to store equipment or materials and that serves multiple space use categories, organizational units, or buildings.

- *Description:* The concept of **central** or **general** is key to applying this code correctly. The vast majority of storage spaces on a campus are service rooms that directly support a primary activity room or room group; for example, a paper storage room (see Office Service-315) can serve several Offices (310) in an area. Service storage rooms are somewhat closer to the areas they serve and are used more than occasionally. Central storage areas include areas commonly called warehouses, surplus storage, central campus supply or storage, and inactive storage. A storage space used to store bulk janitorial supplies would be included in this category. It also includes storage rooms in a building or building area that serve multiple space use categories and that are used for general or surplus (e.g., furniture, equipment) collection or storage. The 730 code can usually be used for all assignable storage areas that do not qualify as service spaces.

- *Limitations:* Does not include a storage space directly serving a primary space use category or group of such spaces (i.e., a space that is clearly a service space). Also, this category does not include the nonassignable Custodial Supply Closet (X01) used to store small quantities of janitorial supplies, or any other category codes within the nonassignable Circulation Areas (WWW), Building Service Areas (XXX), or Mechanical Areas (YYY). Offices within warehouses or other central storage buildings are coded as Office (310). Centralized food stores and laundries are classified Central Service (750). Compact storage facilities for library materials are excluded from this category unless they are incorporated into a larger central storage facility serving multiple units and functions.

735 Central Storage Service

- *Definition:* A space that directly serves a central storage facility as an extension of the activities in that facility.

- *Description:* Central storage service spaces are typically limited to support rooms associated with the transporting of materials in and out of large central storage facilities and warehouses. Storage spaces for hand trucks and other moving equipment, shelving storage, and other spaces supporting the central storage function are included.

- *Limitations:* Only those spaces directly supporting the (usually) larger Central Storage (730) area should be classified with this code.

740 Vehicle Storage

- *Definition:* A space or structure that is used to house or store vehicles.

- *Description:* Includes structures, buildings, and spaces generally called parking decks, garages, boathouses, and airplane hangars. The definition of "vehicle" is broadly interpreted here to include forklifts, moving equipment, lawn equipment, and other powered transport devices or equipment, as well as automobiles and trucks. Also included is the covered circulation area required for the "vehicles" to enter, maneuver while within, and exit the parking structures.

- *Limitations:* This category does not include unroofed surface parking lots. It also does not include structures that house or store farm vehicles and implements (see Code 560). (See Parking Structure, section 3.2.10, for suggested classification of parking structures.)

745 Vehicle Storage Service

- *Definition:* A space that directly serves a vehicle storage facility as an extension of the activities in that facility.

- *Description:* Includes any areas or rooms directly serving a vehicle storage facility, such as storage rooms and areas used for maintenance and repair of automotive equipment, boats, airplanes, and other vehicles as defined in Vehicle Storage (740).

- *Limitations:* Does not include shops as defined in Shop (720) (e.g., carpenter, plumbing, electrical, painting, etc.). Offices within a Vehicle Storage facility should be classified as Office (310).

750 Central Service

- *Definition*: A room or area that is used for the processing, preparation, testing, or delivery of a complex-central or campus-wide support service.

- *Description:* The central service delivery may be provided by special equipment, human activity, the special availability of space, or any combination of these elements. Includes

centralized food stores and laundries that typically serve the occupants or activities of more than one building. Also includes central facilities for printing and duplicating services, central mail facilities, central shipping and receiving areas, and central environmental testing or monitoring facilities, if they serve the occupants and activities of more than one building. Institutions may wish to differentiate individual central services through the use of additional codes in this series. Most of these centralized areas have a campus-wide service scope.

- *Limitations:* Does not include those spaces providing the above listed functions if they support other primary activity spaces in the same building. For example, a food storage area in a cafeteria should be coded as Food Facility Service (635); a laundry room in a residence hall should be coded as Sleep/Study Service (935); a copy room or mail room in an office area is coded Office Service (315). Media production or distribution facilities are coded separately as Media Production (530); and computer-based data processing and telecommunications equipment centers are coded separately as Central Computer or Telecommunications (710). Facilities used for the manufacture, repair, or maintenance of products or equipment should be coded Shop (720). Central Storage (730) and Vehicle Storage (740) facilities also have separate codes.

755 Central Service Support

- *Definition:* A space that directly serves a central service facility as an extension of the activities in that facility.

- *Description:* Central Service Support spaces are typically limited to extension storage rooms for supplies, parts, and moving or nonactive equipment, and adjacent, directly supporting repair and maintenance areas.

- *Limitations:* Offices within a central service area or complex should be coded Office (310). Centralized physical plant repair and maintenance facilities that do not directly support a Central Service (750) facility should be coded Shop (720).

760 Hazardous Materials Storage

- *Definition:* A **centralized** facility used for the storage of materials planned for future use or distribution that are considered hazardous by the physical, chemical, biological, or radioactive nature of the materials.

- *Description:* Hazardous materials include those materials that are flammable, chemically aggressive (e.g., acids or bases), chemically unstable, biologically toxic, or radioactive. These materials are "new" in nature, in that they had been acquired for specific planned use and are not remnants or "leftovers" from other work activities. This category of space is separate from hazardous waste storage (770).

- *Limitations:* Does not include centralized storage of hazardous waste materials (see Hazardous Waste Storage-770); small satellite storage areas located around the institution; satellite accumulation areas located near or adjacent to instructional, research, or process facilities; or a dedicated Unit Storage (see Codes 215, 225, 255, 770, 775, 780).

770 Hazardous Waste Storage

- *Definition:* A centralized storage facility used for the treatment and/or disposal of hazardous or toxic waste materials as defined, classified, and controlled under government environmental regulations.

- *Description:* This includes facilities specifically devoted to the storage, treatment, and/or disposal of toxic or hazardous waste. Hazardous or toxic waste materials are those materials remaining in excess from any particular process or procedure and so represent waste, the disposal of which is regulated by government environmental regulations.

- *Limitations:* Does not include centralized storage of hazardous materials (see Hazardous Materials Storage-760); small area satellite storage areas located around the institution; satellite accumulation areas located near or adjacent to instructional, research, or process facilities; or dedicated Unit Storage (see Codes 215, 225, 255, 760, 775, 780).

775 Hazardous Waste Service

- *Definition:* Small storage areas distributed throughout the institution used for **temporary** storage of hazardous or toxic waste materials as defined, classified, and controlled under government environmental regulations.

- *Description:* Hazardous waste materials services provides for distributed collection areas located in (close) proximity to hazardous waste generators for the temporary storage of hazardous waste materials until relocated to the central hazardous waste storage location, or until collected for final disposal. This includes satellite accumulation areas located near or adjacent to instructional, research, or process facilities.

- *Limitations:* Does not include centralized storage of hazardous materials (see Hazardous Materials Storage-760); centralized storage of hazardous waste materials (see Hazardous Waste Storage-770); or dedicated Unit Storage (780) (see Codes 215, 225, 255, 760, 770, 780).

780 Unit Storage

- *Definition:* A dedicated storage area or location under the direct control and management of a specific institutional division, department, office, business unit, or similar organizational unit.

- *Description:* A dedicated storage unit or location typically remote from the controlling unit's work space and under its direct control and management for the purpose of storing materials and equipment related to and in support of the unit's particular program and activities. This category of space is different from hazardous materials storage (760) or hazardous waste storage (770).

- *Limitations:* Does not include centralized storage of hazardous materials (see Hazardous Materials Storage-760); centralized storage of hazardous waste materials (see Hazardous Waste Storage-770); small area satellite storage areas located around the institution; or satellite accumulation areas located near or adjacent to instructional, research, or process facilities (see Codes 215, 225, 255, 760, 770, 775).

800 Health Care Facilities

General

This series provides space use classifications for patient care areas that are located in separately organized and budgeted health care facilities: student infirmaries and centers, teaching hospitals, stand-alone clinics run by these hospitals, and veterinary and medical schools. Space codes and definitions apply to both human and animal health care areas; excluded are clinic facilities located outside of separately organized and budgeted health care facilities (see Clinic-540). Although the codes in this series are confined to the settings listed, these facilities may also house areas that are classified using applicable codes from other classification series (e.g., classroom, laboratory, office, special use, general use, supporting facilities, etc.).

810 Patient Bedroom

- *Definition:* A room equipped with one or more beds and used for patient care.

- *Description:* This category includes general nursing care, acute care, semiconvalescent and rehabilitative adult or pediatric bedrooms, intensive care units, progressive coronary care units, emergency bed care units, observation units, infant care nurseries, incubator units, wards, etc. Connected clothes closets may be aggregated with Patient Bedroom (810) space or classified separately as Patient Bedroom Service (815).

  Stalls or cage rooms for animal patients are also included, although specific bedding areas may not be provided. Veterinary facility areas commonly called veterinary quarters, small or large animal ward, equine stall, bovine stall, etc., are included in this category.

- *Limitations:* Student residence quarters should be classified with the Residential Facilities (Code 900 series) codes. Staff on-call spaces for resting and sleeping are coded as Staff On-Call Facility (890).

  Does not include nonpatient animal shelters used for farm animals (see Field Building-560) or nonveterinary school laboratory animals (see Animal Facilities-570).

815 Patient Bedroom Service

- *Definition:* A room that directly serves one or more patient bedrooms as an extension of the activities in those spaces.

- *Description:* Included are linen closets, patient lounges, children's play rooms, and any other service areas that are used primarily by patients rather than staff. Also includes small anterooms and closets connected to the patient bedrooms if these areas are not aggregated with the Patient Bedroom (810) space.

  Veterinary facility areas commonly called ward storage and groom spaces should be classified within this category.

- *Limitations:* Excludes the small, connected clothes closets in patient bedrooms, which are included in the Patient Bedroom (810) space. Support areas that do not directly serve a patient bedroom or patient bedroom ward should be classified with the service code corresponding to the primary activity area being served. Also not included are the utility, storage, medication preparation, and other work rooms that serve a nurse station (see Nurse Station Service-835).

  Does not include feed storage or mixing rooms, cage washing areas, surgery, casting, or instrument rooms that serve a laboratory animal quarters facility (see Animal Facilities Service-575). Veterinary institution feed storage and food preparation rooms are classified as Nurse Station Service (835).

820 Patient Bath

- *Definition:* A room containing patient bath and toilet facilities.

- *Description:* Included in this category are toilet and bath facilities adjoining or in proximity to patient bedrooms. These rooms may contain various configurations of toilet, tub, shower, or commode facilities; individual types of Patient Bath (820) may be distinguished through the application of extension codes.

  Animal cleaning rooms in veterinary schools are included in this classification unless the cleaning rooms are specifically used for surgery preparation (see Surgery Service-845).

- *Limitations:* Public rest rooms and private rest rooms serving areas other than patient bedrooms (e.g., Office Service-315, Nurse Station Service-835) are excluded. Special tub rooms used by nursing staff for cleaning patients are classified Nurse Station Service (835).

  Animal groom rooms should be coded 815.

830 Nurse Station

- *Definition*: A room or area used by nurses or other patient care staff who are supervising or administering health care services.

- *Description*. This is the primary workstation area used by nurses and other patient care staff; these personnel are typically assigned to a specific ward of the facility. Includes ward reception and admissions desks and records or charting work areas.

- *Limitations:* Spaces that are used as Offices (310) should be so classified.

835 Nurse Station Service

- *Definition:* A space that directly serves one or more nurse station spaces as an extension of the activities in those spaces.

- *Description:* Includes nurse lounges or break rooms, locker rooms, private staff rest rooms, utility rooms, storage (e.g., medications, supplies, etc.), formula and medication preparation areas, equipment sterilization, and other work rooms directly serving the nurse station. Also includes special tub rooms, nourishment rooms, and separate storage rooms for records and charts.

  Animal or poultry maintenance service rooms in veterinary institutions, including tack rooms, horseshoeing rooms, food preparation, and feed storage rooms, are also included in this category.

- *Limitations:* Spaces used as Offices (310) should be so classified. Pharmacy and other central supply areas are classified as Central Supplies (870). Areas directly serving patient bedrooms are coded Patient Bedroom Service (815). Additional codes may be used to distinguish clean and soiled utility rooms, medication and nourishment rooms, etc., as needed.

840 Surgery

- *Definition:* A room used for surgery.

- *Description:* Included in this category are major and minor surgery rooms, delivery rooms, and special procedures operating rooms (e.g., OB-GYN, ophthalmic operating rooms). These spaces are typically equipped with operating room tables, sterile lights, anesthesia machines, and various types of monitoring equipment. Institutions may wish to distinguish specific types of surgery or operating rooms through extension coding.

  Also includes rooms in veterinary facilities typically referred to as large animal surgery, small animal (includes poultry) surgery, bovine surgery, bull surgery, etc.

- *Limitations:* Does not include the various surgery support spaces that are used as a direct extension of surgery activities (see Surgery Service-845). Also does not include spaces used for the minor invasive procedures (e.g., blood withdrawal, cardiac catheterization) of the diagnostic examination process (see Treatment/Examination Clinic-850).

845 Surgery Service

- *Definition:* A space that directly serves a surgery room as an extension of the activities in that facility.

- *Description:* Included are recovery rooms, labor rooms, special support equipment rooms (e.g., anesthesia, heart, lung, x-ray, etc.), dictation booths, scrub-up rooms, gown rooms, locker rooms, instrument cleanup and storage rooms, sterile supply storage rooms, patient (surgery preparation) cleaning rooms, monitor rooms, gas and gurney storage areas, postoperative and operating room repair rooms, and clean and dirty utility areas, if these spaces directly serve the surgery facility.

  Animal holding rooms are also included here if they directly serve a veterinary surgery room.

- *Limitations:* Storage and other support spaces that do not directly serve a Surgery (840) facility should be classified with the appropriate service space category. Rooms used for the direct implementation of surgical procedures are classified Surgery (840).

850 Treatment/Examination Clinic

- *Definition:* A space used for examinations, diagnosis, consultation, or treatment.

- *Description:* Included are rooms used for radiology, fluoroscopy, angiography, physical and occupational therapy, dialysis, body (e.g., CAT, MRI, ultrasound) scanning, cardiac catheterization, pulmonary function and vascular testing, EEG, ECG, EMC, EMR, linear acceleration, dental examination, treatment, speech, hearing, and other similar activities. Also includes combined doctor's office and treatment/examination clinic rooms.

  In veterinary institutions, rooms commonly called isolation treatment, small or large animal treatment, small or large animal x-ray, etc., are included.

- *Limitations:* Does not include rooms used for the more radically invasive treatment procedures of surgery (see Surgery-840). Treatment/Examination Clinic (850) diagnosis differs from Diagnostic Service Laboratory (860) testing and diagnosis in that the former requires the presence of the patient.

855 Treatment/Examination Clinic Service

- *Definition:* A space that directly serves a Treatment/Examination Clinic room as an extension of the activities in those spaces.

- *Description:* Included are dressing rooms, x-ray and film reading or viewing rooms, film processing rooms, dark rooms, work preparation areas, equipment and supply storage areas, soundproof rooms, patient dressing rooms, and clean and dirty utility rooms if these areas directly serve the primary activity treatment/examination clinic facility.

  Also includes spaces in veterinary institutions commonly called animal holding pens, or other similar services if these areas serve a treatment/examination clinic area.

- *Limitations:* Does not include service areas for diagnostic service laboratories (see Diagnostic Service Laboratory-860, Diagnostic Service Laboratory Support-865), which typically support the entire health care facility. Primary activity rooms that are used to deliver therapeutic and diagnostic treatment should be coded Treatment/Examination Clinic (850). Treatment, examination, or clinic waiting rooms are classified as Public Waiting (880) facilities.

860 Diagnostic Service Laboratory

- *Definition:* A space used to provide diagnostic support services to an entire health care facility.

- *Description:* Includes pathology, pharmacy, autopsy, isotope rooms or labs, etc., providing such services as hematology, chemistry tissue, bacteriology, serology, blood bank, and basal metabolism.

  Also includes areas commonly termed "animal necropsy rooms" in veterinary institutions.

- *Limitations:* Laboratories used primarily for instructional purposes should be classified with the Laboratory Facilities (Code 200 series). Rooms used for diagnostic and therapeutic examination or treatment of patients should be classified as Treatment/Examination Clinic (850) facilities.

865 Diagnostic Service Laboratory Support

- *Definition:* A space that directly serves a diagnostic service laboratory as an extension of the activities in that facility.

- *Description:* Included are cadaver storage rooms, morgues, autoclave and centrifuge rooms, warm and cold rooms, lockers, scrub-up and gown rooms, special processing rooms, and supply and storage areas that directly serve one or more diagnostic service laboratories.

  Also includes carcass refrigerators and other areas with the above service functions in veterinary institutions.

- *Limitations:* Does not include storage areas, dressing rooms, work preparation rooms, and other areas that support a patient Treatment/Examination Clinic (850) room.

870 Central Supplies

- *Definition:* A room used centrally to store health care supplies in a health care facility.

- *Description:* This classification, which serves a **central** storage or supply function similar to the Central Storage (730) classification, applies only to health care materials and supplies in a health care facility. Storage is relatively inactive in comparison to (usually smaller) standard service rooms. Included are pharmacy supply and storage rooms, dispensary areas, and central linen storage rooms. Additional codes may be used by institutions that wish to differentiate among the specific materials being stored.

- *Limitations:* Does not include central storage areas for materials or equipment that are not directly health care related (e.g., furniture, office equipment); such areas should be classified as Central Storage (730). Linen closets that serve nurse stations and other limited scope service areas should be classified with the appropriate service code. Also excluded are multipurpose supply or storage facilities that serve more campus units than just the health care facility.

880 Public Waiting

- *Definition:* A space used by the public to await admission, treatment, or information within a health care facility.

- *Description:* Included are lobby areas that are specifically configured and furnished for public waiting; physical or phantom boundaries should be assigned, as needed, to define nonassignable areas of entrance lobbies that simply serve a circulation function. Also includes patient waiting rooms, visiting areas, viewing rooms, and ward day rooms.

- *Limitations:* Open lounges (see Lounge-650) and other service room lounges (e.g., patient lounge—see Patient Bedroom Service-815) should be classified appropriately. Only areas specifically assigned to public waiting for admission, treatment, or information should be classified with this code.

890 Staff On-Call Facility

- *Definition:* A room or quarters used by health care staff to rest or sleep while on call to assigned duties within a health care facility.

- *Description:* Includes areas or rooms used by doctors, nurses, emergency medical technicians, night care crews, etc., to rest or sleep while on call to specific duties within the facility.

- *Limitations:* Staff on-call rooms or quarters differ from open and service area lounges (see Lounge-650) in that specific provisions are made for sleeping, and use is restricted to staff who typically work a long shift. Bedrooms for patients should be coded as Patient Bedroom (810); student residence quarters should be classified with the Residential Facilities (900 series) codes.

895 Staff On-Call Facility Service

- *Definition:* A space that directly serves as a staff on-call room as an extension of the activities in that facility.

- *Description:* Includes kitchens, baths, laundry rooms, lounges, closets, storage rooms, and other service areas that directly serve the on-call quarters.

- *Limitations:* Does not include storage and other support spaces that serve Patient Bedrooms (815). Also excluded are Central Supply areas (870).

900 Residential Facilities

General

Residential facilities include housing for students, faculty, staff, and visitors to the institution. Hotel or motel and other guest facilities are included in this series if they are owned or controlled by the institution and used for purposes associated with defined institutional missions (i.e., excluding commercial investment).

Note: Not all space in residential facilities is coded using the 900 series. Conventional primary activity and service codes, as with libraries, apply to specific areas. Included are Offices (310), Lounges (650), Study Rooms (410), dining areas (see Food Facility-630), Recreation (670) rooms, and their corresponding service codes. Service rooms that typically appear in residential facilities are specified in the Sleep/Study Service (935) or Apartment Service (955) descriptions.

910 Sleep/Study Without Toilet or Bath

- *Definition:* A residential room for one or more individuals typically furnished with bed(s), wardrobe(s), closet(s), desk(s), and chair(s), **without** an internally connected bath or toilet.

- *Description:* Includes single or multiple sleep/study rooms. A sleep/study facility may be a room for combined sleep/study, a room exclusively for sleeping, or a room for living and study. Connected closets are considered part of the room.

- *Limitations:* Study rooms for general use, available and open to the dormitory residents at large, and not part of bedroom or sleeping room suites, should be classified as Study Space (410). Residential quarters equipped with internal cooking facilities are coded Apartment (950). Separate food preparation rooms serving sleep/study areas, including small kitchens used by the occupants, are coded Sleep/Study Service (935) unless there is an accompanying eating area (see Food Facility-630) that the food preparation area directly serves. The appropriate service code of Food Facility Service (635) would then be applied.

919 Toilet or Bath

- *Definition:* A toilet or bathroom intended only for the occupants of the residential facilities, rather than for the public.

- *Description:* Includes common or shared bathroom facilities that may consist of full or half bath, shower, or toilet and shower combinations, used by the residents and accessible from a corridor or other general circulation area.

- *Limitations:* Does not include public rest rooms. Bathrooms internal to a Sleep/Study With Toilet or Bath (920), Apartment (950), or House (970) are included in those respective categories. Private rest room areas that serve offices are Office Service (315).

920 Sleep/Study With Toilet or Bath

- *Definition:* A residential room for one or more individuals typically furnished with bed(s), wardrobe(s), closet(s), desk(s), and chair(s), **with** an internally connected bath or toilet.

- *Description:* Includes single or multiple sleep/study rooms with bath facilities internal to the suite and not separately classified Toilet or Bath (919). A sleep/study facility with toilet or bath may be a room for combined sleep/study, a room exclusively for sleeping, or a room for living and study, and includes connected closets. A sleep/study with toilet or bath facility, by definition, has a private toilet or bath that is accessible without having to go out to a hallway or other general circulation area. Suites may have a study and living room that is private to the residents of the suite area. These areas are included as part of the Sleep/Study With Toilet or Bath (920) space.

- *Limitations:* Study spaces for general use, available and open to the dormitory residents at large, and not part of bedroom or sleeping room suites, should be classified as Study Rooms (410). Residential quarters equipped with cooking facilities are coded as Apartment (950). Sleep/Study Rooms Without Toilet or Bath (910) and their corresponding external Toilet or Bath (919) rooms are coded separately.

935 Sleep/Study Service

- *Definition:* A room that directly serves the occupants of sleep/study rooms.

- *Description:* This is the service code for the Sleep/Study Rooms Without Toilet or Bath (910) and Sleep/Study With Toilet or Bath (920) residential facility categories. Includes mail rooms, laundry and pressing rooms, linen closets, housekeeping rooms, serving rooms, trunk storage rooms, and telephone rooms that serve the occupants of sleep/study facilities. Kitchen or food preparation spaces that serve sleeping areas and do not serve an accompanying eating or dining area (see Food Facility-630) are also classified as Sleep/Study Service (935).

- *Limitations:* Does not include Offices (310), Lounges (650), Study Rooms (410), eating or dining areas (see Food Facility-630), toilet/bath areas for occupants of Sleep/Study rooms (see Toilet or Bath-919), Recreation (670) areas, or Meeting Rooms (680) in any residential facility, including institutionally controlled hotels or motels.

950 Apartment

- *Definition:* A complete living unit, with private cooking facilities, that is not a separate structure.

- *Description:* This is the basic module or group of rooms designed as a complete housekeeping unit (i.e., it contains bedroom(s), living room(s), kitchen, and rest room facilities). It is not intended that individual rooms be specifically identified within the apartment, but only that the total interior space be included. Includes apartments provided for faculty, staff, students, or visiting guests. Apartments need not be located in

a residential building. Duplex units or townhouses should be classified as Apartments (950) because they are not separate, freestanding structures.

- *Limitations:* Does not include single, freestanding structures (see House-970) or any residential units that do not contain private cooking facilities such as Sleep/Study Rooms Without Toilet or Bath (910) and Sleep/Study With Toilet or Bath (920).

955 Apartment Service

- *Definition:* A room or area that directly serves an apartment or group of apartments as an extension of the activities in that facility.

- *Description:* Includes laundry rooms, mail rooms, linen closets, maintenance, housekeeping or security rooms, trunk storage rooms, telephone rooms, and weight or exercise rooms that serve apartment facilities. Apartment service facilities may be located in a separate building that serves an apartment complex. Service rooms (laundry, storage, etc.) that are internal to an apartment unit are included in the Apartment (950) space.

- *Limitations:* Does not include service rooms (laundry, mail, trunk, etc.) that directly serve residential facilities that have no internal cooking facilities such as Sleep/Study Rooms Without Toilet or Bath (910) or Sleep/Study With Toilet or Bath (920). This category also excludes service rooms within a separate, freestanding residential unit (see House-970).

970 House

- *Definition:* A complete living unit, with private cooking facilities, that is a separate structure. Should include fraternity and sorority houses only if owned or controlled by the institution.

- *Description:* This is the basic module or group of rooms designed as a complete housekeeping unit (i.e., it contains bedroom(s), living room(s), kitchen, and toilet facilities). It is not intended that individual rooms be specifically identified within the structure, but only that the total interior area be accounted for. Includes houses provided for faculty, staff, or students. Should include fraternity and sorority houses only if owned by the institution.

- *Limitations:* Houses and other residential properties that are owned or controlled by an institution as commercial investments, and that do not serve the institution's primary missions, are often excluded from the formally coded facilities inventory. Does not include complete living units that are part of a larger structure (see Apartment-950). Houses used as office areas should be classified with the Office Facilities (300 series) codes.

000 Unclassified

General

Unclassified facilities include those assignable areas that are inactive or unassigned; in the process of being altered, renovated, or converted; or in an unfinished state.

050 Inactive Area

- *Definition:* Rooms available for assignment to an organizational unit or activity but unassigned at the time of the inventory.
- *Limitations:* Rooms being modified or not completed at the time of the inventory are classified as Alteration or Conversion Area (060) or Unfinished Area (070).

060 Alteration or Conversion Area

- *Definition:* Spaces temporarily out of use because they are being altered, remodeled, or rehabilitated at the time of the inventory.
- *Limitations:* Spaces inactive or not completed at the time of the inventory are classified as Inactive Area (050) and Unfinished Area (070), respectively.

070 Unfinished Area

- *Definition:* All potentially assignable areas in new buildings, shell space, or additions to existing buildings not completely finished at the time of the inventory.
- *Limitations:* Intended only for the unfinished part or shell area of a building or addition; the parts that are in use should be appropriately classified.

NONASSIGNABLE AREA

General

The following nonassignable categories are included to complete the list of space use categories. When the total area of the assignable space use categories is added to the total area of the nonassignable space use categories, they provide the net usable area of a building as per the formula in section 3.1, Overview of Building Measurement Terms.

Net Usable Area = Assignable Area + Nonassignable Area

It is recommended that institutions include these areas in their space inventories for the several important purposes outlined earlier in section 4.1, under Space Use Category Structure. Definitions of the three categories of nonassignable space are provided in chapter 3. As with all other space use classifications, institutions also may wish to track nonassignable areas with special physical characteristics, functions, or equipment (e.g., elevators for freight, passengers, and dumb waiters; public rest rooms for female, male, or unisex use, as well as handicapped accessibility, etc.) through the development and application of additional subcategory codes.

Physical assets (e.g., site improvements, major site utility distribution, etc.) that do not fall within the limits of a building are considered *infrastructure.* Suggested categories for infrastructure assets are provided in chapter 6 and appendix D.

WWW Circulation Area

General

Nonassignable spaces required for physical access to floors or subdivisions of space within the building, whether directly bounded by partitions or not.

W01 Bridge/Tunnel

- *Definition:* A covered and walled connecting passageway for people to pass over or under the ground to gain access to another facility.
- *Limitations:* Ground-level covered passageways, walled or not, are coded as Public Corridors (W06). Any portion of the floor area of covered and walled bridges or tunnels used exclusively for housing utility services such as gas, steam, or water lines, should not be included in a space inventory as they are considered *infrastructure* and should be dealt with accordingly.

W02 Elevator

- *Definition:* The structural shaft built to accommodate one or more elevator cabs. The entire cross-sectional shaft area is to be inventoried at each floor level through which it passes.
- *Limitations:* Individual elevator cabs are considered as fixed equipment within the shaft space; thus, their area is not added to the space inventory.

W03 Escalator

- *Definition:* A moving passageway that carries passengers from one floor level to another, or along a level path over some distance. For a ramped escalator, the floor area taken by the entire length of each escalator at the lowest level is recorded at that floor level. The area of each floor penetrated by that escalator is inventoried on each of those floors.
- *Limitations:* The escalator equipment itself is considered as fixed equipment and may be inventoried as a fixed asset. The overall dimensions of that equipment may be smaller than the floor area penetration inventoried for a space inventory.

W04 Loading Dock

- *Definition:* A covered area of a platform used to load or off-load goods or materials that are to be transported elsewhere within a reasonable amount of time such that the platform is not considered as a storage location. Only the length and width of the platform's covered area is to be included in the inventory. If the platform is internal to the building line, that area of the platform covered by the floor immediately above is to be included in the inventory.

- *Limitations:* Any part of the platform area not covered is excluded from the building's *gross*, assignable, and *nonassignable* areas. Any area of a loading dock that is used for central storage of nonhazardous materials should be regarded as assignable area and coded as Central Storage (730).

W05 Lobby

- *Definition:* A circulation area used to transition from the floor's external entrance to internal circulation space, to pass from one corridor to another, or to move to a different level such as a lobby area outside an elevator bank. Although a Lobby may have some limited seating furniture, it is designed more for passing through (or having standing conversations) than for sitting and relaxing.

- *Limitations:* A Lobby differs from an assignable Lounge (650) in furniture placement, use, and intent.

W06 Public Corridor

- *Definition:* A covered passageway or ramped area available to the general public, whether walled or not, to transport people or things from one location to another. The use of phantom walls is recommended to identify portions of passageways on the same floor level that may represent differing purposes, e.g., a main corridor versus a side corridor, or differing maintenance needs, e.g., terrazzo flooring versus carpeted flooring.

- *Limitations:* Restricted access private circulation aisles or ramped areas used only for circulation within an organizational unit's suite of rooms, auditoria, or other working areas should not be included. In these cases, they may fall within the service subcategories of those space use categories, or earn a separate service subcategory of "Private Circulation," for example (see *Description* under 315 Office Service, p. 53).

W07 Stairway

- *Definition:* The covered internal or external space dedicated to provide nonmechanically assisted passage from one floor level to another. In an enclosed stairway, the cross-sectional area of the stairwell is inventoried at each floor through which it passes. In an unenclosed stairway, only that area beneath the stairway structure that is not accessible or has less than a 3-foot ceiling height is included.

- *Limitations:* In stairways that pass through floor openings larger than themselves, the **open** area around the stairway's floor penetration is not counted as either gross area or usable area. In an unenclosed stairway, that area beneath the stairway structure that is accessible and has a 3-foot ceiling height or greater should be included as both *gross area* and usable area in the inventory.

XXX Building Service Area

General

Nonassignable spaces used to support a building's cleaning and public hygiene functions.

X01 Custodial Supply Closet

- *Definition:* A small area or closet that houses limited quantities of custodial supplies for daily use by custodial staff.
- *Limitations:* Similar areas in health care facilities should be coded as Treatment/ Examination Clinic Service (855).

X02 Janitor Room

- *Definition:* A space dedicated for use by janitorial staff. It may include a clothes changing area, clothes lockers, shower facility, a small eating and relaxing space, a desk for completing paperwork, a sink room for wet mop activities, or a temporary trash collection area for nonhazardous waste materials.
- *Limitations:* Similar areas in health care facilities should be coded as Treatment/ Examination Clinic Service (855).

X03 Public Rest Room

- *Definition:* Includes all toilet facilities, whether locked or not, that are made available for general public use. Accompanying rest areas that are contiguous to a public rest room are also included as part of the toilet facility's area. For planning purposes, some may wish to provide subcategories of this space use that identifies gender- or non-gender-specific rest rooms, handicapped accessibility, etc.
- *Limitations:* Similar areas that by nature of their location or their door locks are reserved for certain staff within the building should be coded as Office Service (315). The use of the subcategory Private Rest Room within the Office Service code is an option to further delineate these types of spaces.

X04 Trash Room

- *Definition:* A space for the temporary storage of nonhazardous waste awaiting disposal or removal.
- *Limitations:* Rooms or spaces that house hazardous waste should be coded as either Hazardous Waste Storage (770) or Hazardous Waste Services (775).

YYY Mechanical Area

General

Nonassignable spaces of a building designed to house mechanical equipment and utility services, and shaft areas.

Y01 Central Utility Plant

- *Definition:* A facility that primarily houses central utility production and/or distribution to more than one facility on campus. These include such facilities as steam plants, co-generation facilities, and electrical distribution facilities.

- *Limitations:* Conventional space use types such as Offices (310), Office Service (315), Conference Rooms (350), and the like are designated as such, even though they are located in a central utility plant.

Y02 Fuel Room

- *Definition:* A room or area within a building in which fuel for the heating/cooling of the building is stored.

- *Limitations:* Underground tanks adjacent to the building that do not fulfill the definition of a building should be treated as infrastructure.

Y03 Shaft

- *Definition:* Included are accessible or nonaccessible shaft spaces available to house utility pipes and cables, or to distribute air within or to the exterior of a building. The cross-sectional area of every shaft is to be inventoried at each floor level through which it passes.

- *Limitations:* Shafts that house elevator cabs are to be coded as Elevator (W02).

Y04 Utility/Mechanical Space

- *Definition:* Included are covered and walled areas that house one or more utility and/or mechanical functions for the building. These areas range from large rooms co-located on a "mechanical" floor or basement area to small closet spaces distributed throughout the building. Such areas, while generally located within the exterior walls of a building or as an accessible roof structure, may be separately housed adjacent to the structure that they serve. They include such areas sometimes referred to as electrical, meter, network, or telecommunication spaces. Some may prefer to identify these specific spaces separately and may do so by adding them as subcategories of this space use.

- *Limitations:* Air inflow or outflow shafts within or immediately adjacent to the building, with a minimum ceiling height of 3 feet, fall under the nonassignable space use Shaft (Y03) and must be included in both gross area and nonassignable area calculations.

ZZZ Structural Area

General

The remaining area within the gross square footage of a building is structural or "construction" area, which cannot be occupied or put to use. (See section 3.2, Definitions of Building Areas.) Institutions may wish to include this area using the ZZZ code to have a complete inventory for all the building areas that add to the Gross Area total for a floor and for a building.

- *Definition:* The sum of all areas on all floors of a building that cannot be occupied or put to use because of structural building features. This area is the algebraic difference between Gross Area and Net Usable Area. Examples of building features normally classified as structural areas include exterior walls, fire walls, permanent partitions, unusable areas in attics or basements, or comparable portions of a building with ceiling height restrictions, as well as unexcavated basement areas

- *Limitations:* This area is not measurable but can be calculated by the formula:

$$\textit{Structural Area} = \textit{Gross Area} - \textit{Net Usable Area}$$

4.4 Space Use Codes Questions and Answers

Many questions arise in applying the definitions and coding structures contained in this manual to the particular circumstances and needs of individual institutions. The following are examples of common questions and dilemmas, with answers based on common practices in applying this manual.

1. **Question:** **In the many years between publication of the *Facilities Inventory and Classification Manual*, 1973 and 1992 revision, and now this revision, space use codes have been changed and others added. Should we incorporate these changes and additions?**

   Answer: It is recommended that campuses incorporate these changes and additions to retain the ability to easily respond to federal and state surveys that will likely incorporate these changes into their next surveys, or to easily participate in benchmarking data activities, both within and external to a specific campus. As noted throughout this revised manual, campuses may choose to develop and use their own special space use subcodes as long as these codes can be aggregated upward to the 10 major space use categories of assignable space and the 3 major space use categories of nonassignable space defined in this chapter.

2. **Question:** **How does the coding structure account for such spaces as offices in auxiliary enterprise or hospital facilities? How are office assignments among academic departments differentiated?**

   Answer: All offices are coded Office (310). While some institutions have expanded this code to include faculty office, administrative office, clerical office, etc., this practice is discouraged as it mixes two distinct data types—space use and occupant rank. Greater flexibility for planning and utilization studies is achieved by storing the space occupant's rank in a separate field of data associated with the space's space use. The ability to report on all office space is easier; and the ability to study space utilization only of faculty offices, for example, is also easily done by reporting on only spaces coded Office (310) **and** housing an occupant of the rank Faculty. Similarly, the space use categories have been kept free from activity connotations. The use of the functional category structure allows offices used by auxiliary enterprises to be differentiated from offices assigned to instruction. An office with the functional category of general academic instruction could be further classified by academic discipline.

3. **Question:** **Classrooms may be scheduled by a central campus office such as the Registrar or may be assigned to a specific department, which then schedules the classes. How does the coding scheme allow me to differentiate among these rooms to compare the utilization of classrooms scheduled by the Registrar with the utilization of classrooms scheduled by specific departments?**

   Answer: Under this manual's classification system, all classrooms are coded 110. By using the organizational assignment of each classroom, a required field of space data that is different from the space use category, institutions can easily

differentiate among classrooms assigned by a Registrar and those assigned by a specific college or department. The organizational assignment for a room scheduled by a central campus office might be Registrar. The assignment for a room scheduled by a specific department or college would be that department or college.

4. **Question:** **How should laboratories used for "departmental research" be coded?**

Answer: If the primary use of the space is as a research/nonclass laboratory, the space use code is Research/Nonclass Laboratory (250).

(According to the conventions and definitions in NACUBO's *Management Reporting and Accounting for College,* departmental research and public service that are not separately budgeted should be included as instruction. The functional category in this case should be instruction. Research/Nonclass Laboratories (250) can have a functional category of either 1.0 (instruction) or 2.0 (research), depending upon whether the laboratory is used for departmental (1.0) or separately budgeted (2.0) research.)

5. **Question:** **How are "departmental libraries" coded?**

Answer: The use of the term *departmental libraries* is highly discouraged. It creates significant conflict with official (formal) central and branch libraries. Most of the spaces will have the use code Study Room (410).

These libraries, if they contain catalogued materials, can be optionally classified as a library function within the functional category of academic support. (See appendix B for definitions of functional categories.)

6. **Question:** **How are fraternity and sorority houses classified?**

Answer: Fraternity and sorority houses and rooms that are part of university facilities and not separately organized and controlled are classified as House (970), with the appropriate organizational unit assignment, and can optionally have an auxiliary enterprise functional classification. However, if the fraternities or sororities are not owned or controlled by the university, they should not be included in the inventory.

7. **Question:** **How are heating plants coded?**

Answer: Most of the space in a heating plant is nonassignable and should be classified as Central Utility Plant (Y01) under Mechanical Area (YYY). Conventional assignable space use types, such as Office (310), Office Service (315), Conference Room (350), and the like, are designated as such even though they are located in a central utility plant. All such spaces that are part of heating plant operations should be within the functional category of operation and maintenance of plant.

8. **Question:** **How should receiving areas be classified?**

Answer: Receiving areas, such as Loading Docks (W04), should be treated as circulation space. A receiving area that is also used for central storage should be regarded as assignable area and coded as Central Storage (730). A central or campus-wide shipping and receiving area would be coded Central Service (750).

9. **Question:** **How is spectator seating in an uncovered stadium coded? How is the space underneath the seats classified?**

Answer: An uncovered stadium is, by definition, not a building. Therefore, its permanent seating is not assignable area. However, if any space under the seats meets the definition of a building, the spaces could be coded as Athletic or Physical Education Service (525) or Office (310), for example, depending upon their use.

10. **Question:** **How should chapels be coded?**

Answer: A chapel meets the definition of a devotional facility and should be coded as Assembly (610) along with other devotional facilities. If the chapel is not under university control, it should not be inventoried.

A chapel can be optionally classified as social and cultural development function within the functional category of student services if under university control. A chapel in a hospital would be optionally classified under the NACUBO function of hospital. See appendix B for definitions of functional categories.

11. **Question:** **How should day care centers be coded?**

Answer: Day care centers may be coded as Demonstration (550) or Day Care (640). Day care rooms used to **practice**, within an instructional program, the principles of child care or development, or teaching are classified as Demonstration (550). Day Care (640) serves as a central service center for faculty, staff, and students.

(Demonstration day care centers have a functional classification of instruction, while those facilities coded 640 could have a functional classification of either institutional support or auxiliary enterprise depending upon how the activity is organized.)

12. **Question:** **A room is used for many different space uses. How do I classify it? A room was designed as a laboratory and is now used as an office. Is it classified as a laboratory or an office?**

Answer: Unless space is being prorated within a database that allows for multispace use assignments, or phantom walls are used to delineate the different space uses, the room should be classified according to its primary or predominant space use (based upon either amount of time or amount of space) when the inventory is made. To get a complete picture, campuses may wish to capture both the original designed use in a data field separate from the actual space use. Room intent, design, type, name, or contained equipment does not, therefore, affect the space use coding classification unless it is compatible with actual use.

13. **Question:** **How do I classify clinical space based on functional activity when humans, clients, patients, or subjects are involved? Research, instruction, and patient care may all be occurring simultaneously.**

Answer: The classification is generally driven by who pays. If a sponsored project is underway, the classification will be Research/Nonclass Laboratory (250). If the function is organized health care in medicine, dentistry, optometry, or the like for instructional activity, the classification is Class Laboratory (210) (scheduled laboratory). If the clinic is located within a hospital, it is classified as Treatment/Examination Clinic (850).

14. **Question:** **We have a glass blowing shop on campus that serves many of our scientific departments. How should this space be classified?**

Answer: Special purpose shops (e.g., glass blowing, machining) supporting multiple rooms for scientific instruction and research should be coded as Shop (720).

15. **Question:** **How are interior office hallways coded? Are they assignable or nonassignable space?**

Answer: If they are private circulation areas (restricted, nonpublic access), they are generally classified as assignable Office Service (315), laboratory service (215, 225, 255), Animal Facilities Service (575), etc.

16. **Question:** **What is the difference between a lobby and a lounge?**

Answer: An assignable Lounge (650) differs from a nonassignable Lobby (W05) in placement, use, and intent. A lobby is generally located at a major entrance with openings to hallways on more than one side; and although it may have seating furniture, it is designed more for walking through (or having standing conversations) than for sitting and relaxing.

17. **Questions:** **We have a large room used for the registration process and have had trouble trying to decide how to classify it.**

Answer: The investigator needs to determine the primary use of the space. If the space is **only** used for registration, it should be coded Meeting Room (680) since it is used by the institution for nonclass meetings.

18. **Question:** **We have water wells that are equipped with motorized pumps and are covered with a shed for protection against the elements. Should these structures be included in the facilities inventory?**

Answer: Separate, minor structures, such as wells, should not be included in the facilities inventory unless they meet all four criteria for buildings. Although the wells are roofed and serviced by a utility exclusive of lighting, we cannot tell if the wells are attached to a permanent foundation and if they are a source of significant maintenance and repair activities. Assuming that these two latter criteria have not been met, the wells should not be included in the facilities inventory. As such, we would recommend that the wells be reported in the institution's plant asset or equipment inventory system.

19. **Question:** **How should I report an area which is covered, but not enclosed on all four sides, and is used for central campus storage? Is this space assignable?**

Answer: Yes, this covered, unenclosed area would be considered assignable space and would be classified as Central Storage (730).

20. **Question:** **There is a permanent eating area, equipped with tables and chairs, which is located in a covered, unenclosed area of our Student Union Building. Is this space assignable even though the facility only has one wall? Should I count this space as part of the gross area?**

Answer: Yes. By creating a "phantom wall" around the drip line of the area's cover, you would classify this assignable area as Food Facility (630). This area should also be reported as part of the building's gross area.

21. **Question:** **At our campus, we have underground pedestrian tunnels and above-ground pedestrian bridges that connect one building to another. How should I account for these areas? Are they assignable? If so, which space use code would I use? How do I report the amount of space as part of the gross area? Does the length of the tunnel or bridge get reported to one building, or should I split the area equally between the two connected buildings?**

Answer: Underground pedestrian tunnels and above-ground pedestrian bridges that connect two separate buildings are considered nonassignable circulation area and classified as Bridge/Tunnel (W01). Generally, institutions should include one-half of the tunnel's or bridge's gross area and its nonassignable area to each of the two buildings. Alternatively, enclosed connectors that are clearly identified with one building by virtue of style, date of construction, etc., may be included in the gross area and nonassignable area of that structure.

22. **Question:** **We have several houses that were converted into administrative offices. The uppermost usable floor has a vaulted ceiling. The floor to ceiling distance is 4'0" around the perimeter of the exterior rooms. Should the area be calculated from the edge of the kneewall? The ceiling height in the attic is 5'0" and contains HVAC equipment. Should this space be considered a Building Service Area?**

Answer: The area on the uppermost usable floor with a vaulted ceiling should be included in that floor's gross area. Since assignable area includes any interior space having 3 feet or more of ceiling height, in your case, the assignable area would be measured from the smallest floor to ceiling distance—the 4'0" kneewall of the space. Attic space used for administrative offices should be categorized as Office (310). Attic space containing HVAC equipment should be designated as nonassignable Utility/Mechanical Space (Y04).

23. **Question:** **I have a closet located under a stair that goes all the way to the underside of the stairs. Should I include it in my space inventory?**

Answer: Yes, but only to the point at which there is a minimum 3-foot ceiling height.

24. **Question:** **Should the threshold of a doorway be accounted for as usable space? If so, should it be allocated to the corridor or the room.**

Answer: It is not necessary but may be acceptable in older buildings with very thick walls to divide the threshold area in half with equal allocation to the dividing rooms. Otherwise the cost to calculate the area of every threshold on a campus can far exceed the benefit derived.

25. **Question:** **Many of our buildings have covered, unenclosed porches that are used for building entry. Should this be considered part of the gross square footage?**

Answer: Yes, as both gross area and nonassignable area categorized as Public Corridor (W06). Covered porches, whether enclosed or not, with seating that can be used for rest and relaxation would be classified as Lounge (650). If the porch had access from more than one stairway, the covered area between the stairways would qualify as nonassignable Public Corridor (W06).

26. **Question:** **One of our research buildings has an interstitial space beneath the entire facility. This space houses most of the building systems. The floor to ceiling height is only 4'8"; should this be included in building service area?**

Answer: The space has more that 3 feet of ceiling height and should be included in the gross area of the building. It should also be inventoried as nonassignable Utility/Mechanical Space (Y04) as it houses equipment necessary for the general function of the building.

27. **Question:** **We lease the roof space out to a cellular phone company. It has a cell tower with GPS receivers and transmitters. Should this space be considered assignable?**

Answer: The cell tower and its equipment have no area associated with them since they are pieces of (uncovered) equipment. Space leased out to others is not included in the inventory.

28. **Question:** **We recently remodeled our dining center to provide a "marketplace" food service area that includes food preparation in front of the customers. How should we classify this food preparation space?**

Answer: There are two possible options that your institution could use:

If you create a phantom wall around each food preparation area, you could classify the food preparation area as Food Facility Service (635) and the remainder of the space as Food Facility (630).

If your institution does not use phantom walls to aid in the classification of space, code the square footage within the walls of the "marketplace" as Food Facility (630) space, both seating and food service counters. The back room functions, including the kitchen and freezers, would be coded Food Facility Service (635).

29. **Question:** **We have a Campus Conference Center. How do I classify these spaces?**

Answer: There is no unique conference center space classification. Rather the center's spaces should be classified according to their use. For example, the bedrooms would be classified as Sleep/Study With Toilet or Bath (920) if they had a bathroom within the room. The kitchen would be Food Facility Service (635); the dining area, Food Facility (630); building offices, Office (310); public lounges, Lounge (650); etc. If the Center is open to public use and not solely dedicated to academic programs, then the various "conference rooms" would be classified as Meeting Room (680) not Classroom (110).

30. **Question:** **We have a computer simulator room on Campus, and I don't understand why it is classified as a Class Laboratory (210).**

Answer: The simulator room is classified as such because the simulator room has a specialized use that focuses on or supports a limited number of educational disciplines. Because of this specialization, it meets the "…the special purpose equipment or a specific room configuration…" portion of the Class Laboratory definition.

31. **Question:** **How should I classify an assembly room that we recently upgraded with the latest electronic capability and now is being used as an electronic classroom when not scheduled for dramatic, musical, and other assembly-intended activities?**

Answer: The **predominant** use should be the determinant in situations where, over time, the use of a room has changed regardless of any upgrades that may have occurred. For example, an Assembly (610) facility that has been converted to an electronic classroom for either generation or reception of digitally enhanced or delivered instruction should be coded as a Classroom (110) if its major use is scheduled instruction rather than presentations of fine arts or cultural events.

Chapter 5. Data Analysis and Reporting

5.1 Comparison and Complexity

Market conditions and complexity are realities for postsecondary institutions that are under pressures to focus on improvement, to find their market niche, and to be competitive. Competition for potential students may require institutions to make greater investments in faculty, in student financial aid, and in physical plant improvements. Consequently, they must monitor and measure their current internal conditions so that they can make needed operational changes and allocate resources to programmatic priorities, as well as have a clear understanding of their relative market and qualitative position compared with competitors.

Demands for greater accountability and for more consumer information mean that more external reporting is also a reality for postsecondary institutions. States make decisions on the fair and equitable allocation of resources for operations and for capital improvements among public colleges and universities. Having comparable information on facilities, finance, faculty, and students for institutions within a state as well as for peer institutions is extraordinarily important to states' policy and decision-making processes.

Many states collect facilities inventories for public institutions. These data may be used for a multiplicity of purposes, including determining the allocation of maintenance and operations funds among colleges and completing space utilization studies that may be used to determine the need for, and relative priority of, new facilities. In addition, a number of states conduct facilities audits to support capital budget requests for renovation and renewal of facilities. Thus, postsecondary institutions are involved in collecting and analyzing information for themselves and for others as well. This information helps colleges and universities communicate more effectively, build credibility, and develop the case for additional financial support from donors and government agencies.

In summary, facilities data collections are used internally for management purposes, to establish strategic directions, and to build support for additional resources. States use facilities data for accountability reporting, for informing consumers, and in the budgetary process.

5.2 Required Data Elements

As referenced in chapter 2, this manual outlines two broad categories of facilities inventory data: *required data elements* and *optional data elements.*

If an institution is assembling a facilities inventory database for the first time or re-inventing and overhauling one that has become obsolete, please refer to chapter 1 for practical tips on how to begin this process. This manual recommends first collecting at least the four required data elements. It also recommends that if a room is divided into several spaces for either assignment or architectural use purposes, data for each space should be provided.

Table 5-1 presents the four types of required data. They are the minimum necessary to provide unique identification to a given room or space. Together, they serve as the foundation upon which other data may be added to suit the needs of each institution.

Table 5-1. Required data elements

Unique Space or Room Identifier	A code assigned by the institution to identify every specific room or space, whether assignable or nonassignable. This code should incorporate a unique building, floor, and room number for each space.
Organizational Unit	An institutionally determined name or code to identify the organizational unit(s) to which the space is assigned at the time of inventory (e.g., school, department, division).
Area	The floor area of every specific room or space, measured in square feet or meters, whether assignable or nonassignable. For a specific space, it is the area assigned to or available for assignment to an occupant or specific use. If the space is prorated, the area should be proportionately allocated. Floor areas are defined in chapter 3.
Space Use Category	Code indicating the classification of every specific room or space based on primary use or activity that occurs in the space at the time of the inventory. It may be a space use name, a numerical code, or both. The standard classifications of space use are defined in detail in chapter 4.

5.3 Optional Data Elements

Optional data elements contribute to greater effectiveness by providing additional data that increase the overall value of the database for intrainstitutional analysis and organize the data for external (interinstitutional) reporting. (Appendix A contains a basic framework for external sharing or reporting

of summary data drawn from building inventory and room inventory data sets maintained by institutions or system- or state-level offices.)

In this section, several additional data elements commonly used in facilities inventory systems are explained. The need for and the mix of optional data elements vary and are specific to each institution. As a general rule, the need for a specific type of optional data will be driven by two factors: first, what the institution needs to analyze its inventory and make decisions about its facilities; second, what types of reporting and accountability are required of the institution.

5.4 Optional Building and Space Data Elements

Table 5-2 lists the optional building and space data elements, and tables 5-3 and 5-4 briefly describe them. These tables are intended to indicate and provide guidance on which data elements are generally viewed as most important and useful for institutional management or external reporting. None of these data elements should be viewed as prescriptive, and institutions typically vary as to which data elements are included in their facilities inventory.

Table 5-2. Optional building and space data elements

Building Information	
Institutional Identifier	Location or Street Address
Site Identifier	Local Name
Building Identifier	Number of Floors
Ownership Status	Type of Construction
Estimated Replacement Cost	Landmark Status
Original Building Cost	Gross Area
Cost of Latest Major Renovation	Assignable Area
Year of Construction	Fixed Equipment
Year of Beneficial Occupancy	Building Service Area
Year of Latest Major Renovation	Circulation Area
Disabled Access to Building	Mechanical Area
Building Condition	Structural Area
Space Information	
Institutional Identifier	Local Space Name
Building Identifier	Suitability
Academic Discipline	Space Architectural Features
Functional Use	Space Fixed Equipment
Number of Stations	Space Moveable Equipment
Disabled Access to Space	Functional Categories (NACUBO and A-21)
Space Condition	Academic Discipline Codes (CIP)

Table 5-3. Optional building data element descriptions

Institutional Identifier	A code (such as the IPEDS Unit ID) that identifies the institution; may be used for reporting as part of a multi-institutional (comparative, state, or national) reporting effort.
Site Identifier	A code assigned by the institution to identify the unique physical description of the site where the building is located (e.g., "Main" or "West" campus).
Building Identifier	A unique identifier assigned by the institution to the specific building (a unique building name or a code consisting of numbers or letters).
Ownership Status	The agency with which the ownership of the building resides (also may include data on the conditions of ownership, terms of a lease, etc.). Suggested codes are provided in section 5.5.1.
Estimated Replacement Cost	Estimated building replacement cost (construction only) at time of inventory.
Original Building Cost	The total original project cost of the building to the institution.
Cost of Latest Major Renovation	The dollar value of the latest renovation that cost in excess of 25 percent of the estimated replacement cost of the structure and that significantly extended its useful life.
Year of Construction	The year the construction of the building was completed.
Year of Beneficial Occupancy	The year the institution occupied the building.
Year of Latest Major Renovation	The year of the most recent renovation that cost 25 percent or more of the estimated replacement cost of the building and that significantly extended its useful life.
Disabled Access to Building	Indication that there are no exterior site or architectural barriers to access to the building by a mobility-impaired person. Access to Building means the ability to physically approach and enter the building without assistance; floor accessibility is noted by the room accessibility data element. Compliance should be measured using the Uniform Federal Accessibility Standards or the ADA Accessibility Standards, developed by the Architectural and Transportation Barriers Compliance Board. A summary of these standards is provided later in this chapter (section 5.5.3).[1]
Building Condition	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.

See notes at end of table.

Table 5-3. Optional building data element descriptions—Continued

Location or Street Address	The specific location at which the building can be found.
Local Name	The name commonly given to the building.
Number of Floors	The number of floors in the building, including basements, attics, and rooftop structures that have assignable area.
Type of Construction	A code assigned by the institution to indicate the type of construction used in the building.
Landmark Status	Indication that the building is listed on the National Register of Historic Buildings or on some other official listing that limits the character of changes that can be made in the building's use or appearance.
Gross Area	The total floor area of the building within the outside faces of the exterior walls. This is also referred to as Gross Square Feet (GSF).
Assignable Area	The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant or use, excluding nonassignable spaces defined as building service, circulation, mechanical, and structural areas. This is also referred to as Net Assignable Square Feet (NASF).
Fixed Equipment	Information assigned by the institution to indicate the presence of special fixed equipment such as chillers or elevators.
Building Service Area	The sum of all areas on all floors of a building used for custodial supplies, sink rooms, janitorial areas, and public rest rooms.
Circulation Area	The sum of all areas required for physical access to some subdivision of space within the building, whether directly bounded by partitions or not.
Mechanical Area	The portion of the gross area of a building designed to house mechanical equipment, utility services, and shaft areas.
Structural Area	The sum of all areas on all floors of a building that cannot be occupied or put to use because of structural building features. This is a nonmeasured area calculated as the difference between gross area and the sum of assignable and nonassignable space.

[1] See also the definitions for Disabled Access to Room provided in table 5-4 and the comprehensive regulations and definitions under the 1990 Americans with Disabilities Act (ADA). For example, see S.R. Colter, *Removing the Barriers: Accessibility Guidelines and Specifications* (Alexandria, VA: Association of Higher Education Facilities Officers, 1991).

Table 5-4. Optional space data element descriptions

Institutional Identifier	A code or other means to indicate the campus or site of the building where the space is located. For use when institutional space data are reported as part of a larger multicampus system or statewide reporting effort.
Building Identifier	The unique identifier determined by the institution for the building where the space is located. May be a unique name, number, letter, or combination of these.
Academic Discipline	Identifies the academic field, discipline, or program area to which the space is assigned for instruction, research, and academic support.
Functional Use	Identifies the assignment of space to academic and support functions. (See appendix B for codes.)
Number of Stations	Identifies the capacity of the space for selected space use categories where information about capacity (number of workstations, seats, or beds, for example) is useful in assigning or scheduling the space. The space use codes for which this information is useful include Classroom, Class Laboratory, Open Laboratory, Research/Nonclass Laboratory, Conference Room, Study Room, Open-Stack Study Room, Athletic Facility Spectator Seating, Assembly, Food Facility, Meeting Room, Patient Bedroom, Staff On-Call Facility, and Sleep/Study. (See chapter 4.)
Disabled Access to Room	Indicates whether the room is barrier-free for its assigned use, normally through a simple notation for accessibility. This indicates that the room can be approached, entered, and used, without assistance, by a mobility-impaired person. Floor accessibility is, therefore, indicated by this notation at the room level. If the site and the building are not accessible, no notations of disabled access to rooms in that building should be made.
Space Condition	Identifies the need for a room to be repaired, upgraded, or renovated based solely on its physical condition.
Local Space Name	The name commonly given to the room, such as the "Anderson Hydraulic Laboratory," or the "Multi-discipline Teaching Laboratory." This is the locally used name for the room rather than the name of the room use category.
Suitability	Evaluation of the suitability or functionality of the room for its assigned use and function at the time of the inventory, based on the design, configuration, and fixed equipment in the room. The evaluation of room suitability may change as its use, function, or assigned organizational unit is changed. Detailed definitions for coding room suitability are presented in this chapter (section 5.5.5).
Space Architectural Features	Identifies the physical characteristics of the room that are built into its architectural design and that affect the assignment or use of the room. These include structural features, such as high bay space or a sloped floor, and the type and amount of utility service provided. The coding of architectural features would not change, regardless of room use or function, unless the room was remodeled.
Space Fixed Equipment	Identifies special fixed equipment that allows the room to be used for specific purposes, such as a fume hood.
Space Movable Equipment	Identifies movable equipment assigned to a room. It is suggested that current practices set forth in OMB Circular A-21, A-110, and the like, be considered as guidelines here.

5.5 Building and Space Optional Data Element Discussion

This section includes a discussion of specific optional data elements that need further explanation, including building ownership status, estimated replacement cost, disabled access to buildings, building condition, space suitability, space condition, space architectural features, functional categories, and coding for organizational unit, academic discipline, or academic program.

5.5.1 Building Ownership Status

A. **Definition.** The type of ownership and relation of title holder to institution.

B. **Description.** The following categories illustrate types of ownership status; they may also be used as descriptors of codes for ownership status in the facilities inventory database.

i. Owned in fee simple.

ii. Title vested in the institution and being paid for on an amortization schedule (regardless of whether the building is shared with another institution or organization).

iii. Title vested in a holding company or building corporation to which payments are being made by the institution; title will ultimately pass to the institution (includes lease-purchase arrangements).

iv. Not owned by the institution:

a. Leased or rented to the institution at a typical local rate.

b. Available to the institution either at no cost or at a nominal rate.

c. Shared with an educational organization that is not a postsecondary institution.

d. Shared with another postsecondary education institution.

e. Owner may or may not be university affiliated, but building is used exclusively for institutional services (e.g., housing, bookstore, food service, warehouse). Facility is located on institutional property.

f. Shared with a noneducational institution.

Note: For some institutional purposes and external sharing of data, it may be appropriate to collapse categories iv (a) through (f) into a single category of "Other, not owned by the institution, including facilities shared with other entities."

5.5.2 Estimated Replacement Cost

A. **Definition.** The estimated cost to replace the building at the time of inventory.

B. **Basis for Calculation.** The cost to replace the building's gross floor area at current construction costs in accordance with current building and public safety codes, and standard construction methods. *The Engineering News Record*, R.S. Means,[6] or Whitestone Research,[7] or replacement value shown on the building's insurance policy are examples of frequently used sources of information for determining construction cost indices. The selected source of information should be locally determined. The replacement cost of *fixed equipment* in the building should be included.

5.5.3 Disabled Access to Buildings

A. Section 504 Program Accessibility Standards

The Department of Education's Section 504 regulation applies to preschool, elementary, secondary, postsecondary, vocational, and adult education programs and activities, as well as other programs and activities that receive federal financial assistance. In accordance with Subpart C of the Section 504 regulation, no qualified individual with a disability shall be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity because a recipient's facilities are inaccessible to, or unusable by, persons with disabilities.

The Section 504 regulation contains two distinctly different standards to be used in determining whether a recipient's program and activities are accessible to individuals with disabilities. One standard applies to existing facilities; the other applies to new construction.

The term *"existing facility"* refers to any facility in existence or in the process of construction on or before June 3, 1977, the effective date of the regulation. The term "new construction" means groundbreaking that took place after the effective date of the regulation. "Facility," as defined in the Section 504 regulation, includes all or any portion of buildings, structures, equipment, roads, walks, parking lots, laboratories, and other real or personal property or interest in such property.

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[6] R.S. Means Company, Inc., Construction Consultants and Publishers, publishes an historical cost index. In addition, the Commercial/Industrial/Institutional section of one of the Means manuals contains base building costs per square foot or floor area for 70 model buildings.

[7] The Whitestone Research organization specializes in applied economic research and software development for both public sector and corporate clients. Whitestone also publishes focused technical reports and software products.

For an existing facility, the regulation requires that the recipient's program or activity, **when viewed in its entirety,** be readily accessible to persons with disabilities. This standard does not require that every facility or part be accessible, as long as individuals with disabilities have access to the programs and services contained in those facilities. Thus, recipients need not make structural changes to existing facilities where other alternatives are effective in making programs and activities accessible.

Examples of alternative methods include redesign or relocation of equipment, reassignment of classes and services, and provision or assignment of aids (e.g., use of "reach extenders" to access controls on elevators or light switches, assistance in retrieving library materials.)

Priority consideration, however, must be given to offering the programs or activities in the most integrated setting appropriate. In meeting the objective of program accessibility, an institution must use precaution not to isolate or concentrate individuals in settings away from other participants. For example, the Section 504 regulation would not permit making only one facility or part of a facility accessible if this resulted in segregating students with disabilities. It should be noted that if no effective alternatives can be provided to achieve program accessibility, a recipient is required to make necessary structural changes. These changes are to be consistent with the requirements for new construction.

For new construction, the regulation requires that a facility or part of a facility constructed by, on behalf of, or for the use of a recipient of federal financial assistance must be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by persons with disabilities. Likewise, all alterations that could affect the usability of a facility are required, to the maximum extent feasible, to be readily accessible to and usable by persons with disabilities, where the alteration was initiated after June 3, 1977.

When the Section 504 regulation became effective on June 3, 1977, design, construction, or alteration of buildings in conformance with the American National Standards Institute (ANSI) Standards A117.1-1961 (R 1971) was sufficient to satisfy the requirement for new construction. However, on January 18, 1991, an amendment to the Section 504 regulation replaced the accessibility guidelines included in the ANSI 1971 document with the Uniform Federal Accessibility Standards (commonly referred to as UFAS) (Appendix A to 41 C.F.R. subpart 101-19.6) for all new construction or alterations initiated from that date forward by a recipient of federal financial assistance. The Section 504 regulation permits departures from particular technical and scoping requirements of UFAS by the use of other methods where substantially equivalent or greater access to and usability of the building is provided.

B. Accessibility Standards under the Americans with Disabilities Act

The American with Disabilities Act of 1990 (ADA), which provides comprehensive civil rights protection to individuals with disabilities in the areas of employment, public accommodations, state and local government services, and telecommunications, was enacted on July 26, 1990. On July 26, 1991, the Department of Justice issued final regulations implementing subtitle A of Title II of the ADA, which prohibits discrimination on the basis of disability by public entities. The U.S. Department of Education, Office for Civil Rights (OCR) is responsible for enforcing the Title II regulation in public elementary and secondary education systems and institutions, public postsecondary institutions and vocational education institutions (other than schools of medicine, dentistry, nursing, and other health-related schools), and public libraries. The regulations implementing Title II became effective on January 26, 1992.

The Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) is the applicable accessibility standard under the Title II regulation for new construction and alterations that were initiated after January 26, 1992, by, for, or on behalf of public entities. Because the regulation implementing Section 504 continues to apply to entities that receive federal financial assistance, public entities have a choice of following UFAS or ADAAG. However, public entities must follow the same standard throughout an entire building. They may not, for example, follow ADAAG on one floor of a new building and UFAS on the next floor.

It is important to note that although the ADAAG is modeled on UFAS, the ADAAG established different requirements in some areas. For example, requirements differ concerning elevators, signage, and telecommunication display devices or telecommunication devices for the deaf for individuals who cannot use voice telephones. In addition, the Title II regulation specifically disallows the elevator exemption contained in ADAAG for small buildings. The Title II regulation permits departures from particular requirements of either standard by the use of other methods when it is clearly evident that equivalent access to the facility or part of the facility is thereby provided.

5.5.4 Building Condition

A. **Definition.** 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.

B. **Derivation.** The most useful facilities management information is produced when the inventory or audit rates each subsystem of a building. This approach documents the building's overall composite rating and provides information about needed repairs or

replacements. A facilities audit should tie subsystem and overall composite ratings to the estimated building replacement value to provide a rough estimate of the cost of rehabilitating or renovating the facility.

C. **Description.** Building condition has the following categories based on the extent of renovation or restoration required:

i. Minimal Renovation (Good). Suitable for continued use with normal maintenance. The approximate renovation cost is less than 5 percent of building replacement cost.

ii. Limited Renovation (Satisfactory). Requires restoration to present acceptable conditions. The approximate cost of restoration is 5–15 percent of building replacement cost.

iii. Moderate Renovation (Fair). Requires updating or restoration. The approximate restoration cost is 16–30 percent of building replacement cost. The physical conditions may have an affect upon building operations.

iv. Significant Renovations (Poor). Requires significant updating or restoration. The approximate restoration cost is 31–45 percent of building replacement cost. The physical conditions adversely affect building operations.

v. Major Renovations (Unsatisfactory). Requires major restoration with possible need to overhaul building subsystems. The approximate restoration cost is 46–60 percent of building replacement cost. Consideration of actual restoration requirements may lead to classifying the facility as being in need of replacement.

vi. Replace/Demolition. Should be demolished or abandoned because the building is unsafe and/or structurally unsound, irrespective of the need for the space or the availability of funds for a replacement. Additionally, this category takes precedence over categories i-v. If a building is scheduled for demolition, its condition is reported in this category, regardless of condition.

vii. Termination. Planned termination or relinquishment of occupancy of the building for reasons other than unsafeness or structural unsoundness, such as abandonment of temporary units or vacating of leased space. Additionally, this category takes precedence over categories i-vi. If a building is scheduled for termination, its condition is reported in this category, regardless of its condition.

5.5.5 Space Suitability

The coding of space suitability is intended to reflect a judgment about how well the design of a space supports the function of the space and the organizational unit to which the space is assigned. This evaluation of *space suitability* for its assigned use focuses on a different dimension than the coding of *building condition*, which generally assesses the useful life of a building through the evaluation of

structural and building systems. Suitability coding is also different from the coding of *space condition*, which may assess the need for the space to be repaired, upgraded, or renovated based solely on the physical condition of the space. Assessment of space suitability is not required for the initial task of performing a space inventory.

It is entirely possible that the evaluation of space suitability may reflect an evaluation that seems to conflict with the evaluation of building condition. For example, a space such as a geography class laboratory (see Class Laboratory-210) could be evaluated as satisfactorily suited for its existing use, even though the building in which the space is located could be rated as requiring major remodeling due to the age and condition of utility or structural systems. Conversely, a similar laboratory, being used as an office, located in a building that is in excellent condition, may be rated as having an unsuitable use.

A. **Definition.** The suitability or functionality of the space for its assigned use at the time of the inventory or audit.

B. **Basis for Classification.** The evaluation of a space for functional suitability should be based on the judgment of a departmental representative (rather than the individual user assigned to the space) and the institution's facility planning or physical plant personnel. Only permanent architectural features and fixed equipment should be considered in rating the space's suitability; the configuration, age, condition, or amount of movable furniture and equipment should not affect the rating. The rating of space suitability can change significantly from one inventory or audit date to the next if, in the intervening period, the space has been reassigned to a different function or organizational unit, even though no physical alterations have been undertaken.

C. **Coding.** The following categories may be used to designate space suitability.

Highly Suited, Excellent A	Highly suited or optimally matched to the original design intent and configuration of the space. The architectural features of the space support the use/activity. Appropriate building infrastructure and services are easily and readily available to support the use.
Satisfactory B	Suitable for continued use and provides adequate support for program delivery. Although the space is not optimal for the use, minor modification may be desired to improve the suitability.
Conditional C	Requires limited renovation to support the use on a continued basis. The cost of renovation to optimize program delivery would not exceed 25 percent of the replacement cost of the space.
Development Required D	Requires significant renovation to support the assigned use on a continuing basis. The space significantly inhibits program delivery. The cost of renovations to optimize the fit between the assigned use and the space would range

	between 25 percent and 50 percent of the replacement cost of the space.
Unsatisfactory F	Is unsatisfactory for the assigned use. Renovating the space to fit the use would not be cost-effective. Renovation costs would exceed 50 percent of the replacement value of the space.
Inappropriate I	Not appropriate for current use but may be appropriate for other uses. It may be appropriate to relocate the activity to another location and use this space for more suitable activity.

5.5.6 Room or Space Condition

Room condition coding must be distinguished from the coding of *room suitability*. *Room condition* coding provides a structure for assessing the need for a room to be repaired, upgraded, or renovated based solely on the physical condition of the room. A room can be in poor condition but still be highly suitable for its use.

The condition of a room may be considered independent of the condition of its building. Room condition pertains to specific conditions in the room itself, such as interior finishes, rather than conditions of **base** building systems, such as heating and air conditioning or exterior walls, which affect the building as a whole.

A. **Definition.** The physical status of the room 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 room.

B. **Derivation.** The most useful facilities management information is produced when the inventory or audit rates each space or space within a building. This approach documents the rating of each space, as well as the overall composite rating of all spaces in a building, and provides information about needed repairs or replacements. A facilities audit should tie subsystem and overall composite ratings to the estimated cost of rehabilitating or renovating the space(s).

C. **Description.** Space condition has the following categories based on the extent of renovation or restoration required:

i. Minimal Renovation (Good). Suitable for continued use with normal maintenance.

ii. Limited Renovation (Satisfactory). Requires restoration to present acceptable conditions.

iii. Moderate Renovation (Fair). Requires updating or restoration. The physical conditions may have an effect upon space use.

iv. Significant Renovations (Poor). Requires significant updating or restoration. The physical conditions adversely affect space use.

v. Major Renovations (Unsatisfactory). Warrants major restoration with possible need to overhaul interfaces of equipment in the space with building subsystems.

vi. Replace/Demolition. Barred from use because it is unsafe or hazardous, irrespective of the need for the space or the availability of funds for a replacement. This category takes precedence over all other categories.

vii. Termination. Planned termination or relinquishment of occupancy of the space for reasons other than unsafeness or hazardous conditions, such as abandonment of temporary units or vacating of leased space. Additionally, this category takes precedence over category vi. If a space is scheduled for intentional vacancy, its condition is reported in this category, regardless of its condition.

5.5.7 Room or Space Architectural Features

The design of a space in terms of architectural features often dictates the assignment of a space to specific uses or limits flexibility in reassigning some spaces to other uses or academic disciplines. The assignment of codes for architectural features can assist an institution in managing its space resources. This activity is not required for the initial task of performing a space inventory.

A. **Definition.** The architectural features of a space, including structural design and utility services, that are relevant to the use of the space.

B. **Basis for Classification.** The information needed to code spaces according to architectural features should be obtained by visual inspection of each space, but may also be obtained from as-built drawings. These space characteristics will change only when the space is remodeled. This coding should be done by those familiar with the physical characteristics of campus buildings and in consultation with the occupants of the space.

C. **Structural Features Coding.** The following categories may be used to indicate structural features:

1. Flat floor, low bay, no special characteristics.
2. Flat floor, low bay, one or more special characteristics.
3. Flat floor, high bay, no special characteristics.
4. Flat floor, high bay, one or more special characteristics.
5. Sloped or stepped floor.
6. Other structural configurations not classifiable into one of the above.

Low bay ceiling heights (measured floor to underside of floor above) are 13 feet or less. High bay ceiling heights are over 13 feet.

Special characteristics of the space may include such architectural features as wall or door arrangements to eliminate light, projection booths or rear-view projection, sound deadening, electromagnetic screening, x-ray blocking, vibration damping, special insulation in cold or hot rooms, and heavy security doors and walls in vaults.

D. **Utility Services Coding.** The following categories may be used to indicate the availability of identified utility services:

(C) Communication. Special cabling for telecommunications, data distribution, video sources, or media projection.

(E) Electrical Service. Special electrical services such as 200v, 440v, or filtered electrical supply.

(G) Gas Service. Gas piping installed to provide compressed air, lab gases (flammable or inert), and vacuum services.

(S) Special Plumbing Service. Special plumbing services such as acid drains, glassed pipes, distilled water, or ionized water provisions.

(T) Temperature Control Service. Special temperature and humidity control services, typically for cold or hot rooms.

(V) Ventilating Service. Special ventilating services such as fume hoods, clean rooms, or special air circulation systems for animal rooms.

(W) Water Service. Access to water drainage for drinking, washing, or sanitary functions.

E. **Architectural Features Coding.** Examples are indicated in figure 5-1.

Figure 5-1. Room or space coding for architectural features

		Utilities						
	Struct.	C	E	G	S	T	V	W
A space in a low bay section of a building (used for an office) with no architectural barriers	1							
A space in a low bay section of a building (used for a classroom) with no architectural barriers but wired for video projection	1	X						
A space in a high bay section of a building with 220v electrical service (could be used for a shop where large objects are handled, even if now being used as a classroom)	3		X					
A space in a low bay section that has water access and power (could be used for a kitchenette)	1		X					X
A space in a high bay section of a building that has 220v electrical service, acid drains, lab gases, and fume hoods	3		X	X	X		X	
A space in a high bay section with a stepped floor that has 220v electrical service	4		X					
A space in a low bay section with special insulation and with 220v electrical service and special temperature controls	2		X			X		

5.5.8 Functional Categories

In addition to *space use* categories and organizational unit assignment, facilities inventory systems commonly contain a set of categories or codes to allocate space across functional categories (e.g., instruction, research, public service, academic support). This is used primarily to link space allocations to financial data or to institutional missions (e.g., the proportion of space used for public service) or to analyze and compare space allocations across institutions according to commonly used functional categories.

The functional categories recommended for this purpose, outlined in appendix B, are adapted from standard financial reporting categories, including the definitions for these categories as adapted from standard financial reporting guidelines. Coding for function requires identification of the primary (or prorated) functional use of each space.

The categories outlined in appendix B are adapted from the *Financial Accounting and Reporting Manual for Higher Education*, Release 02-6, by the National Association of College and University Business Officers (NACUBO) and OMB Circular A-21, *Principles for Determining Costs Applicable to Grants, Contracts, and Other Agreements with Educational Institutions*. See these two documents for detailed information. While the functional categories are designed for financial reporting, they can be readily adapted to facilities reporting through limited modifications. For most functional categories, there is a direct crosswalk between NACUBO and Circular A-21. A crosswalk for each major category is provided in appendix B. It is highly recommended that functional activities be identified at the major category level and not at subcategory levels, which will preclude getting involved in detail that may add only marginal value to the identification of an institution's primary functional activities. Appendix B represents a brief synopsis of the adaptation of these functional categories. For those institutions that are seeking a Facilities and Administrative (F and A) Rate for the recovery of indirect costs associated with sponsored grants and contracts, it is highly recommended that the A-21 functional categories be adopted.

5.5.9 Coding for Organizational Unit, Academic Discipline, or Academic Program

Information and coding schemes to identify the organizational unit, academic discipline, or academic program to which a space (or room) is assigned are institution specific; that is, they are based on the institutionally determined names or conventions to identify the organizational unit (school, department, division, etc.) to which the space is assigned at the time of the inventory. Since these

organizational structures and names vary across institutions, these data are not useful for interinstitutional comparisons or reporting. For that purpose, users have adopted the National Center for Education Statistics (NCES) Classification of Instructional Programs (CIP) or some local or state adaptation of these coding structures for academic fields or programs.

For external reporting and interinstitutional use of facilities inventory data, this updated manual recommends that the academic discipline coding scheme adopted by an institution be consistent with or capable of being presented in a crosswalk to the categories defined by the NCES CIP, as used for standard federal academic program reporting. The current CIP at the two-digit level can be found in appendix C. This crosswalk to standard instructional programs is applicable only for space assigned to appropriate academic functions (e.g., instruction, research, academic support) and not for nonacademic functional categories (e.g., student services, institutional support).

5.6 Data Analysis and Reporting

The array of building, room/space, function, and academic discipline data elements described previously enable an institution to generate and analyze a wide variety of information for analysis, reporting, planning, and decisionmaking. Following are examples of the types of internal (intrainstitutional) reports that can be generated from these types of data, and the types of questions to which such reports can provide answers.

1. Reports by building:

    A. Detailed space-by-space listings for each building. This report will answer questions such as:

        i. What is the use of each space?

        ii. What is each space's floor area and number of stations?

        iii. To what institutional organizational unit is it assigned?

    B. Summaries for each building by space use category, by functional category, and by organizational unit. These summaries can answer such questions as:

        i. How many spaces are there in the building by each space use category? How many square feet of space are there in each space use category for that building?

        ii. How many spaces are assigned to each organizational unit in the building by each space use category?

iii. How many spaces are assigned to each academic discipline or functional category in the building by each space use category?

iv. How many square feet does each organizational unit have in the building?

v. What is the ratio of net assignable area to gross area in that building?

Figure 5-2 illustrates a report of a campus summary by space use category, formatted in the same manner as figure 3-1, Conceptual framework for analyzing building space, in chapter 3.

2. Reports by organizational unit (and/or by academic discipline and functional use):

   A. Detailed list of each space by the organizational unit to which it is assigned. This report can address such questions as:

      i. What spaces are assigned to this organizational unit, by space use category?

      ii. In what buildings are those spaces located?

   B. Summaries by space use category and by building. These summaries can answer questions such as:

      i. What is the total area assigned to each organizational unit, by space use category?

      ii. What is the total assignable area assigned to that unit and the percentage of each building that it occupies?

      iii. What is the total area assigned to each organizational unit in all buildings?

3. Reports by space use category:

   A. Detailed list of all spaces by space use category. This report can answer such questions as:

      i. How many classrooms (or laboratories, or offices, etc.) does the institution have?

      ii. What is the area and number of stations in each?

   B. Summaries by space use category. This report can answer a question such as:

      i. What is the area of each space use category within the institution?

Figure 5-2. Sample campus summary, by space use category

GROSS SQUARE FEET (GSF)							***100 %***						9,827,017 sf	
NET USABLE SQUARE FEET (NUSF)							***89.4 %***						100 % 8,784,483 sf 30,820 spaces	***10.6 %***
NET ASSIGNABLE SQUARE FEET (NASF)							***65.8 %***	73.6 % 6,468,705 sf 21,044 spaces		NON-ASSIGN SQ. FT. ***23.6 %***		26.4 % 2,315,778 sf 9,776 spaces		
2.1%	***4.7%***	***13.1%***	***18.0%***	***10.5%***	***0.3%***	***2.7%***	***2.0%***	***11.6%***	***1.0%***	***1.9%***	***14.5%***	***7.1%***		
2.4%	5.3%	14.6%	20.0%	11.7%	0.3%	3.0%	2.2%	13.0%	1.1%	2.1%	16.3%	8.0%		
644 sf average	360 sf average	429 sf average	191 sf average	260 sf average	124 sf average	819 sf average	758 sf average	542 sf average	297 sf average	101 sf average	307 sf average	213 sf average		
324 spaces	1282 spaces	2998 spaces	9245 spaces	3954 spaces	242 spaces	320 spaces	258 spaces	2099 spaces	322 spaces	1844 spaces	4646 spaces	3286 spaces		
CLASSROOMS 208,578 sf	**GENERAL USE 461,925 sf**	**LABORATORIES 1,284,931 sf**	**OFFICES 1,764,765 sf**	**RESIDENTIAL 1,027,989 sf**	**RSCH HLTH CARE 29,934 sf**	**SPECIAL USE 262,120 sf**	**STUDY 195,628 sf**	**SUPPORT 1,137,334 sf**	**UNCLASSIFIED 95,501 sf**	**BLDG SERVICES 186,694 sf**	**CIRCULATION 1,427,579 sf**	**MECHANICAL 701,505 sf**		**STRUCTURAL 1,042,534 sf**

Scope - Physical: Academic Owned and Leased; 157 Buildings; 786 Floor Plans; 143 Departments
Financial: $XXXM in FY'05 F&A cost recovery via INSITE™ + $YYYM from other INSITE™ area-prorated cost pools totaling $70.9M in the university's overhead recovery supported by INSITE™ space and asset data.

COURTESY OF INSITE

NOTE: All percentages are rounded to nearest tenth; **Bolded %** are based on Gross Square Feet; Unbolded % are based on Net Usable Square Feet; "Classrooms" are all teaching spaces, centrally scheduled or not.

SOURCE: "ABC" University's INSITE™ System; "ABC" University Office of Cost Analysis; Space Use definitions: *2006 Facilities Inventory Classification Manual*, National Center for Education Statistics.

4. Comparisons of the capacity of the facilities with their actual utilization. Note: These reports depend on being able to link the facilities files with current utilization records. These reports can answer such questions as:

   A. For each type or size of classroom or laboratory, what percentages of each type of spaces are in use at each hour of the day? How many hours per week are certain spaces in use, and for what purposes? Are there "valleys" in the utilization pattern that could be better scheduled?

   B. For classrooms or laboratories with different numbers of stations, what percentages of the stations are used at each hour? Where could more students be accommodated?

   C. Based on standards or criteria the institution or system wishes to use, how many students (or weekly student contact hours) can be accommodated in the existing physical plant? Does the institution have enough space? Too much? What categories of space are needed to accommodate additional students or program changes?

5. Uses of the facilities inventory database for space management and facility management decisions, to answer such questions as:

   A. What are the options for finding space for Professor X?

   B. With the shift in enrollment patterns, can some of the space assigned to Department Z be made available to Department Y?

   C. If I plan to repaint all classrooms every 8 years but complete whole buildings one at a time, how can I best schedule all the buildings, knowing the number of classrooms and approximate square footage and stations available?

5.7 Data Element Questions and Answers

1. **Question:** **How does the coding structure account for such spaces as offices in auxiliary enterprise or hospital facilities? How are office assignments among academic departments differentiated?**

   Answer: All offices are coded Office (310). While some institutions have expanded this code to include faculty office, administrative office, clerical office, etc., this practice is discouraged as it mixes two distinct data types—space use and occupant rank. Greater flexibility for planning and utilization studies is achieved by storing the space occupant's rank in a separate field of data associated with the space's use. The ability to report on all office space is easy; and the ability to study space utilization of faculty offices, for example, is also easily done by reporting on only spaces coded Office (310) **and** housing an occupant of the rank "Faculty." Similarly, the space use categories have been kept free from activity connotations. The use of the functional category structure allows offices used by auxiliary enterprises to be differentiated from offices assigned to instruction. An

office within the functional category of instruction **could** be further classified by academic discipline.

2. **Question:** **Classrooms may be scheduled by a central campus office such as the registrar or may be assigned to a specific department, which then schedules the classes. How does the coding scheme allow me to differentiate among these rooms in order to compare the utilization of classrooms scheduled by the registrar with the utilization of classrooms scheduled by specific departments?**

   Answer: Under this manual's classification system, all classrooms are coded 110. By using the organizational assignment of each Classroom, a required field of space data in all cases, institutions can easily differentiate among classrooms assigned by a registrar and those assigned by a specific college or department. The organizational assignment for a space scheduled by a central campus office might be "Registrar." The assignment for a space scheduled by a specific department or college would be that department or college.

3. **Question:** **How should laboratories used for "departmental research" be coded?**

   Answer: If the primary use of the space is as a research/nonclass laboratory, the space use code is Research/Nonclass Laboratory (250).

   According to the conventions and definitions in NACUBO's *Management Reporting and Accounting for College* and OMB Circular A-21, departmental research and public service that are not separately budgeted should be included as instruction. The functional category in this case should be instruction. Research/Nonclass Laboratories (250) can have a function code of either instruction or research, depending upon whether the laboratory is used for departmental or separately budgeted research. (See appendix B for definitions of functional categories.)

4. **Question:** **How are "departmental libraries" coded?**

   Answer: The use of the term "departmental libraries" is highly discouraged. It creates significant conflict with official (formal) central and branch libraries. Most of the spaces will have the use code Study Room (410).

   These libraries, if they contain catalogued materials, can be optionally classified as a library function within the functional category of academic support. (See appendix B for definitions of functional categories.)

5. **Question:** **How are fraternity and sorority houses classified?**

   Answer: Fraternity and sorority houses and rooms that are part of university facilities and not separately organized and controlled are classified as house (970), with the appropriate organizational unit assignment, and can have an optional classification as an auxiliary enterprise. However, if the fraternities or sororities are not owned or controlled by the university, they should not be included in the inventory.

6. **Question:** **How should chapels be coded?**

Answer: A chapel meets the definition of a devotional facility and should be coded as Assembly (610) along with other devotional facilities. If the chapel is not under university control, it should not be inventoried.

A chapel can be optionally classified as social and cultural development function within the functional category of student services if under university control. A chapel in a hospital would be optionally classified under the NACUBO function of hospital. See appendix B for definitions of functional categories.

7. **Question:** **How should day care centers be coded?**

Answer: Day care centers may be coded as Demonstration (550) or Day Care (640). Day care rooms used to **practice**, within an instructional program, the principles of child care or development, or teaching are classified as Demonstration (550). Day Care (640) serves as a central service center for faculty, staff, and students. Demonstration day care centers have a functional classification of instruction, while those facilities coded 640 could have a functional classification of either institutional support or auxiliary enterprise depending upon how the activity is organized and funded.

Chapter 6. Emerging Issues

This chapter consists of a series of recommendations and suggestions by recognized experts in the field on issues that are becoming increasingly important in tracking institutional physical assets. While not an integral part of a space inventory and classification system, they are often addressed by the same offices and individuals that are responsible for a space inventory. The issues and the principal contributors who address them are the following:

- Infrastructure reporting under Government Accounting Standards Board (GASB) 34/35; Principal Contributor: Eric Ness, Suffolk University, Boston, MA.
- Building preservation and development of capital improvement plans; Principal Contributor: Robert M. Broberg, BldgPreservation.com.
- Maintenance and development of capital and operating budgets for maintenance; Principal Contributor: Henry DePerro, The Ford Foundation.
- Privatization and the need for expanded definitions of ownership; Principal Contributor: William Bowes, University System of Georgia.
- Comparison of the *Facilities Inventory and Classification Manual* (FICM) and commercial space measurement systems; Principal Contributor: Lawrence W. Vanderburgh, BOMI Institute.

6.1 Infrastructure Reporting Under GASB 34/35

6.1.1 Background

The Governmental Accounting Standards Board (GASB), which is responsible for developing standards for state and local governmental accounting and reporting, including public postsecondary institutions, issued new guidelines in 2000 under GASB statements 34 and 35. These guidelines, designed to increase the public's understanding of financial reports and thereby the usefulness of reports in policymaking, fundamentally altered traditional reporting practices for public postsecondary education institutions. Among the many changes introduced under the new guidelines is the requirement that state and local governments report all capital assets, including infrastructure, and depreciation expenses associated with those assets.

Under the new guidelines, capital assets are reported at historical costs. Capital assets include land, land improvements, buildings and improvements to buildings, vehicles, equipment, works of

art and historical treasures, and infrastructure. Infrastructure assets are those with a long useful life. They are normally stationary in nature and can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems.

Infrastructure assets that are part of a network or are a subsystem of a network do not have to be depreciated as long as two requirements are met. First, public postsecondary institutions must manage assets by having an up-to-date inventory; performing regular condition assessments of the assets, which can measure, through an objective set of criteria, the outcome of that assessment; and estimating the annual amount needed to maintain and preserve the asset at the condition level that has been established and disclosed. Second, postsecondary institutions must document that the assets are being preserved at a level at or above the established condition level. Condition assessments must be performed in a consistent manner at least every 3 years and provide assurance that the second requirement is met.

6.1.2 Implications for the FICM

Chapter 2 of this manual encourages institutions to inventory **all** physical plant assets including those that are not within the definition of a building (i.e., infrastructure). Items within the infrastructure inventory represent those campus elements that directly service and support buildings, such as water, electricity, steam, sewage, telephone, and data systems, and those elements that support campus activities, such as roadways, athletic fields, street lighting, spectator stands, plazas, parking lots, signage, walkways, emergency phones, and certain types of vehicles. As suggested in chapter 2, institutions also may want to maintain records on land holdings, capital equipment, and movable equipment. GASB is not prescriptive in stating how these assets and records are to be tracked or maintained.

6.1.3 Recommendations

Given the GASB guideline change creating new requirements for reporting on infrastructure assets, institutions may want to consider developing categories and coding structures for these assets. Appendix D provides a detailed organizational format to consider when inventorying infrastructure assets. Appendix F provides a possible coding scheme for the detailed infrastructure assets in appendix D. Examples of categories might be the following:

- **Athletics - Outdoor.** Items in this category are used in direct support of outdoor athletic activities. These would typically include arenas, baseball fields, basketball courts, bleachers, circuit training courses, climbing walls, dugouts, field light poles, grass playing fields, hard playing surfaces, press boxes (unless they fulfilled the requirements of being considered a building; see chapter 2), ropes, course elements, running tracks, scoreboards, shooting ranges, ski lifts, softball fields, stadiums, outdoor swimming pools, synthetic fields, tennis courts, volleyball courts, etc.

- **Equipment** (that cannot travel on public roads). Items in this category include tractors and attachments; hand-held or worn leaf blowers, weed-wackers or trimmers; riding tractors, mobile carts, or mowers; walk-behind mowers, blowers, grinders, etc.; and other equipment that could not typically be licensed to operate on the public roads.

- **Grounds** (items that grow). Items in this category include various live plantings distributed through the grounds areas that support and enhance the grounds. These would typically include arboretums, fairways, flower beds, hedges, putting greens, shrub beds, trees, forest preserves, general turf, woody shrubs, etc.

- **Land and Land Elements.** Items in this category include any land assets that are not already a part of any other infrastructure element or support element. These would typically include pastures, preserve areas, undeveloped property, water bodies like ponds and lakes, etc.

- **Miscellaneous Structures.** Items in this category are structures that do not have a building envelope per se. These would typically include uncovered amphitheaters, bleachers, pedestrian and vehicular bridges, fences, gates, flagpoles, hazardous waste collection/storage sheds, memorial/donated structures, retaining walls, solid waste transfer stations, statues, fuel tanks, water tanks, towers, waterfront piers/docks, etc.

- **Retired, Demolished Structures.** Items in this category represent past infrastructures that have been demolished, removed, or perhaps renamed. The purpose of this category is to provide a coding for historical infrastructure that existed at one time but has been removed from the inventory. This process helps to keep a historically accurate accounting of infrastructure elements.

- **Site Furnishings** (items that do not grow). Items in this category include various furnishings distributed through the grounds areas that support and enhance the use of grounds but are not living, growing things and/or are not athletic elements. These would typically include ash receptacles/urns, benches, bike racks, roadway bollards, cemeteries, drinking fountains, outdoor grills, hardscape, parking lots, parking meters, picnic tables, plaques, monuments, ramps, roads, exterior signage, trash receptacles, recycling receptacles, etc.

- **Utilities Distribution Systems.** Items in this category include all the traditional utility systems such as steam, domestic water, natural gas, electric high voltage, and sanitary sewer, as well as cable TV, data, electric low voltage, electric secondary, energy management, fire alarm, fuel distribution, fuel storage, street lighting, pedestrian lighting, security, storm water, emergency telephone, general telephone, public telephone, chilled water, fire protection water, heating water, irrigation water, etc.

- **Vehicles (that can travel on public roads).** Items in this category include all those vehicles that are licensed to operate on the public roads. They would include cars, vans, trailers, trucks, fuel trucks, patrol cars, ambulances, and specialty vehicles like backhoes, aerial lifts, cranes, chippers, etc., as long as they are licensed to operate on public roads. It should be noted that some prefer to include these items in their institution's movable equipment inventories for asset tracking and control purposes, and for inclusion in their institution's Indirect Cost Recovery (ICR) proposal to the federal government.

When incorporated into any computerized maintenance management system (CMMS), use of these categories at this broad level allows for the collection and review of work/costs associated with the maintenance and repair of these campus elements. These categories can also be expanded to identify infrastructure types or even specific elements within a particular type of infrastructure by coding the infrastructure type (for example, grounds flower beds, furnishings bike racks, or utility storm water system) and then numbering a specific unique element within that type. Numbering a specific unique element would combine a type code with a serial number or bar code number. This format can be used in as little or as much detail as needed to identify campus assets and meet institutional goals.

6.2 Building Preservation

The purpose of building preservation is to optimize, at minimal cost, the value, performance, functionality, efficiency, and appearance of buildings and sites. It is a comprehensive approach that requires a focused and concerted initial effort to develop. Once established, significantly less effort is necessary to manage, update, and maintain a good program.

Surprisingly, some postsecondary institutions with extensive buildings and facilities portfolios—and consequent exposures—seem to have limited success in establishing and managing a comprehensive building and facilities preservation program. The problem seems to be a lack of understanding of how to establish a program without making a significant initial investment in professional consulting expertise and specialty software and without investing in costly ongoing professional updating and software maintenance. As a result, administrators and boards are reluctant to propose, approve, and support preservation efforts, which leads to depleted values, diminished uses, operational anomalies, and inefficiencies in buildings and facilities that are not well defined, predictable, or understood.

An improved effective and efficient approach is necessary to reverse this trend. The purpose of this section is to suggest a process and approach for creating and managing an ongoing capital plan that can be implemented and maintained for a fraction of the cost of an outsourced proprietary system.

6.2.1 Process Concepts

Components. Buildings, facilities, and sites comprise various components and subcomponents. A building consists of structure/foundation, exterior, interior, and systems components. Typically, exterior subcomponents include the roof system, gutter system, walls, windows, and doors. Interior subcomponents include walls, floors, and ceilings.

System subcomponents may include electric; plumbing; heating, ventilation, and air conditioning (HVAC); and telecommunications/data. These subcomponents are broken down further to coincide with different life cycles of the various major elements of the system.

Life Cycles and Replacement Costs. Each of the various building, site, and facilities subcomponents has an estimated life cycle, which can vary depending on preventive and planned maintenance programs. The replacement cost of the various subcomponents can be determined.

Conditions, Deterioration, and Condition-Related Costs. The condition of the various subcomponents can be evaluated and determined. A relationship between the condition and the replacement cost can be formulated to understand the deterioration of the subcomponent. The **current value of the subcomponent is the replacement cost minus deterioration.** As a result of a deteriorated condition in a subcomponent or an improvement in the efficiency of the subcomponent replacement, there may be a condition-related cost that will be either the:

- incremental annual operating cost attributable to the deteriorated condition or the annual operating cost savings attributable to the improved efficiency of the state-of-the-art replacement, or
- annual loss of program income attributable to the deteriorated condition.

Analysis. With the replacement costs, deterioration, current value, and annual incremental costs attributable to conditions and obsolescence known, a capital program consisting of corrective projects and upgrades can be developed, modeled, presented, and scheduled. Post-project subcomponent conditions can be estimated. Improvements in current values and condition-related costs can be determined and modeled, and projects can be ranked by projecting improvements in operating costs and program income over newly created life cycles.

6.2.2 Implementation

It is important to understand and to subscribe to the process and concepts of a preservation program before undertaking one. In fact, it is a requirement to effectively guide and manage a program. As an alternative to the potentially formidable expenses of using a consulting firm with a proprietary approach (and software), the advantages and disadvantages of using in-house professional staff should be carefully considered.

The advantages of using in-house professional staff include utilizing their extensive experience and knowledge, creating an in-house team that includes building users, identifying strengths and weaknesses of the program, establishing accountability and ownership of the initial effort, improving future management, limiting and defining consulting assistance, and realizing substantial savings.

The tasks involved in implementing a comprehensive building and facilities preservation program include:

- Instructing and training an in-house group;
- Selecting and developing software;
- Identifying and defining life cycles by component and subcomponent;
- Determining replacement costs;
- Evaluating conditions;
- Generating deterioration, current values, and condition-related costs;
- Developing projects, modeling improved conditions and current values;
- Adopting a capital plan with measurable results;
- Re-evaluating conditions and developing projects as necessary; and
- Maintaining an ongoing capital plan.

6.2.3 Ongoing Capital Plan

Understanding building preservation concepts and implementing a building preservation process enables postsecondary institutions to create an ongoing capital plan that requires modest efforts to

maintain and update. As subcomponent conditions change, they can be re-evaluated to generate revised current values and condition-related costs. A corrective project can then be developed, analyzed, modeled, and scheduled.

Buildings, facilities, and sites can be viewed in the aggregate as an institution's facilities portfolio that is periodically measured in terms of replacement cost, deterioration, current value, and operating cost changes reflecting the presumable positive impacts of the ongoing capital program and projects.

6.2.4 The Future

Postsecondary institution administrators should be well informed about their buildings, sites, and facilities. Application and minimal maintenance of the building preservation process provides a decision support system for broad-based understanding and support of a capital program. Management and extensive participation by key in-house staff is an effective way to maintain ownership of the solution to the problem and to minimize initial and ongoing costs.

6.3 Maintenance of Buildings and Infrastructure

While this manual does provide optional categories related to major repairs and renovations of buildings and space (building and space condition), it does not contain specific categories related to maintaining the building infrastructure, operating equipment, and space. Maintenance and refurbishment information is critical to determine the routine cycle and long-term replacement expenses associated with the ongoing care and upkeep of facilities infrastructure, equipment, and space. This information may include data on the age, preventive maintenance schedules, and performance of equipment such as HVAC (boilers, chillers, cooling towers), pumps, drive motors, generators, elevators, escalators, etc., as well as information on the upgrade or replacement of flooring, carpeting, paint, wall covering, furniture, window treatment, and more. Capturing and monitoring critical data of this nature can lead to the more orderly management and control of buildings and space, and the more efficient management and control of the operating and capital expenses related to these assets. It also can ensure that base building equipment and components, which are essential to the efficient and cost-effective operation of facilities, are properly maintained to maximize performance.

This section suggests a general approach to developing a set of equipment maintenance and space refurbishment identifiers and classifications. This multistep process includes identifying the various equipment and infrastructure components, determining the classifications of maintenance and refurbishment appropriate for tracking purposes, and tying the maintenance and refurbishment cycles and costs to the specific buildings and space.

1. Maintenance Categories and Classifications

    a. Identify all base building and infrastructure equipment components to be included in the classification process (possibly a comprehensive list of all elements included in buildings and then tailored specifically to each individual situation).

    b. Develop preventive maintenance standards for each equipment item or items.

    c. Develop maintenance classifications and schedules for each piece of equipment.

    d. Cross-reference the equipment and classification with the specific building identifier, i.e., name, number, etc.

    e. Consider expanding the equipment inventory list beyond the base building to include such items as audio, video, kitchen, laboratory, and other room-specific equipment.

    f. Develop a matrix to include building, equipment type, maintenance schedule, and annual cost.

    g. Utilize the data for evaluation of equipment efficiency and maintenance/repair versus replacement.

    h. Monitor data to assist with expense control and management and budget planning.

2. Refurbishment Categories and Classifications

    a. Identify buildings and spaces to be included in categorization process.

    b. Develop refurbishment standards for each category.

    c. Develop refurbishment classifications for each room (they could include universal or common classifications for all rooms tailored for specific instances).

    d. Cross-reference the classifications with each building and space identifier.

    e. Develop a matrix to include building, space, refurbishment categories, dates of last activity, schedule of next activity, and cost.

    f. Utilize data for evaluation of refurbishment and replacement requirements associated with specific space.

    g. Monitor data to assist with expense control and monitoring and budget planning.

Appendix E presents a suggested classification system for different approaches to facility maintenance. It includes criteria such as the mix of different types of maintenance, response times, level of customer satisfaction, service efficiency, and maintenance operating budget as a percentage of current replacement value.

6.4 Capital Facilities Privatization

6.4.1 Background

During the latter part of the 1990s, though the practice had earlier origins, many public postsecondary institutions began to develop facilities through public/private partnerships. Although most institutions use private financing to support the development of residential facilities, the practice has extended to academic and other support facilities. This trend can be attributed to three factors.

- First, state support for facilities has declined significantly in recent years. The most recent national recession caused many states to pull back funding support for public postsecondary education and especially capital facilities development.
- Second, the recent explosion in student enrollment across the country has left many institutions unable to meet the demand for housing and academic space in the near term.
- Finally, students today expect more amenities in their living and studying environment, including state-of-the-art technology and greater privacy. Residence halls, many of which were constructed during the expansion years of the 1960s and 1970s, simply do not meet today's student expectations. Since a residential life experience has been shown to have a positive impact on academic success, many institutions are eager to provide a quality living environment for students.

Under a typical privatized housing project, an institution will first determine the need for the project through a market analysis, which looks at project viability based, among other things, on student demand, comparisons with local housing rents, and projected occupancy. The institution's foundation, and other affiliated 501(c)3 nonprofit corporations, often a limited liability corporation (LLC) set up specifically for this purpose, or a nonaffiliated entity will assume responsibility for owning, developing, and managing the development project. The nonprofit corporation will establish an agreement with a governmental or public entity (e.g., a local development authority) to issue tax-exempt bonds to finance the project on its behalf. The nonprofit corporation also will contract with a developer to design and build the project, an investment banker to develop a finance plan and underwrite project bonds, and a third party to oversee ongoing operational management of the project. If the project is constructed on the college or university's property rather than adjacent land, the nonprofit corporation will obtain a ground

lease from the institution for the duration of debt service payments. In these circumstances, ownership is usually transferred to the institution at the conclusion of the debt service period, which normally ranges between 20 and 40 years.

There may be several variations of this approach, reflecting the different roles that institutions have chosen to assume in relation to the project. For example, the institution may serve as project manager for the foundation or nonprofit corporation. The institution also may agree to a student rental referral policy with the nonprofit corporation, participate in a cost-sharing agreement based on net project cash flow, play a role in determining project scope, or review agreements with the developer. Increasingly, to exert a greater level of control over projects, some institutions choose to "lease back" facilities through rental agreements with the foundation or nonprofit corporation, which changes both the nature of the relationship between the two entities and the institution's liability. The institution's level of involvement has implications for the financing costs of these arrangements because of its impact on risk and liability as viewed by credit rating agencies and bond underwriters.

There are many benefits to privatization. First, housing projects developed under traditional state methods are subject to extensive rules affecting capital construction and procurement. These requirements can extend project completion time and increase project cost. Privatized housing projects can be completed more rapidly due to the developer's ability to expedite contracts and financing agreements. In addition, institutions that lack the expertise in the construction, operation, and management of housing can call upon experts who have this knowledge and experience, which can lead to improvement in housing services, just as outsourcing other campus services can enhance service and reduce cost. Finally, depending upon the particular circumstances and financing structure adopted by the institution, these transactions can help preserve the debt capacity and credit rating of the institution or state.

There are disadvantages too. As with other outsourced services, the institution may feel a loss of control over the financing or operation of the project. Additionally, despite the fact that these projects are financed with tax-exempt bonds, interest rates will tend to be much higher than what might have been obtained using state general obligation bonds.

6.4.2 Implications for the FICM

This manual was last revised at a time when these types of projects were less common. Although the manual addresses ownership issues through the use of a "building ownership status" code,

this feature does not deal with facilities that are owned, operated, and maintained by an outside entity and not leased to the college or university, even though the project may play a significant role in serving the institution's mission. Under most privatized arrangements, rental agreements are made directly between the student and the foundation or nonprofit corporation, often through its third-party manager.

The question then is whether to include a separate ownership status code that recognizes privatized projects (housing or otherwise) in the institution's inventory. How institutions view the benefit of recognizing privatized housing in their facilities inventory may depend on their role and responsibility with respect to these types of projects. An institution that assumes a minimal role where it may, for example, only refer students to the housing project but take no part in operation or management, nor create a "residential life" program that offers specific services to students, may opt not to include such facilities in its inventory. On the other hand, an institution that assumes a more significant role, by operating and maintaining facilities under contractual agreement and being more directly involved in the relationship between the student and the housing provider, may choose to include these facilities in its inventory.

At the system, state, or national level, the facilities inventory has greater value as a source for making comparisons among institutions. For this reason, there may be greater interest in including data on privatized facilities since they can provide a better measure of total available space for institutional programs based on mission. For example, an institution may have a mission as a residential campus but have its entire housing stock owned, operated, and managed privately. If a system or state wishes to make comparisons of available residential space among its institutions, many of which may own and manage such space directly, the inclusion of privately owned housing, particularly housing situated on campus property, makes sense.

6.5 Space Measurement Systems Compared

Chapter 3 of this manual provides specific definitions, boundaries, and measuring points for each of the critical types of areas to be measured. This section on commercial space measurement is provided for planners and facilities managers who find themselves renting space for institutional purposes from the commercial sector.

The approach to space measurement embodied in the FICM standard differs in several significant aspects from the common approach in commercial office buildings and architectural/ engineering and construction practice. Those differences can result in significant area differentials for

planners and managers trying to track and equitably distribute institutional space among competing educational and research activities. Significant financial differences also occur when determining the pro rata share of space dedicated to certain activities, not the least of which is research at those institutions that seek indirect cost recovery funds for their government-sponsored research activities. In general:

- Landlords leasing or renting space use space measurement mainly as a cost-recovery and income mechanism. They focus on all interior space, including that which is under interior walls and partitions, to maximize the leased or rented space, while ignoring vertical penetrations and exterior walls. They further prorate and allocate all shared or common areas (e.g., public lobbies, lavatories, and corridors) to all tenants in the form of a surcharge on space actually occupied by each tenant.

- Architects, engineers, and builders tend to measure buildings in terms of gross area that often include such items as light wells, overhangs without regard to their "drip areas" over otherwise smaller areas that they protect, exterior wall projections, and open areas in multifloor spaces. This is done to provide the building owner with the age-old design and construction industries' published measures of "project (or construction) cost per gross square foot." One factor that favors this approach is the recognition that the higher a ratio's denominator, the lower the result. In other words, the higher the gross area of a given building, the lower is the resulting project and construction cost per square foot.

- The FICM system is driven by a set of cost recovery factors unlike those of any other group mentioned above; as a result, it has some characteristics in common and some characteristics at variance with each of these approaches. Those commonalities and differences are discussed below.

- Commercial space measurement is a relatively obscure aspect of property and facilities management, but it plays a crucial role in how rental rates and space assignment records are set. There are several space measurement systems in use in North America. Many of them use identical or similar terms but interpret them in different ways. In several systems, language is not precise. All systems strive to ensure the utmost fairness to occupants and building owners, but their rules are quite complex, particularly if one system must be translated to another system. Readers contemplating the use of any particular system are encouraged to study its documentation extremely carefully, especially if it will be referenced in any legal or contractual documents. "Buyer beware" best characterizes a proper approach to this subject.

Six commercial space measurement systems are reviewed here. They are not the only systems used; there are several regional variations in use in major North American urban centers. The information presented here was written to assist readers in selecting, adapting, or translating space measurement systems. The six measurement systems studied are as follows:

- Building Owners and Managers Association (BOMA) – new standard

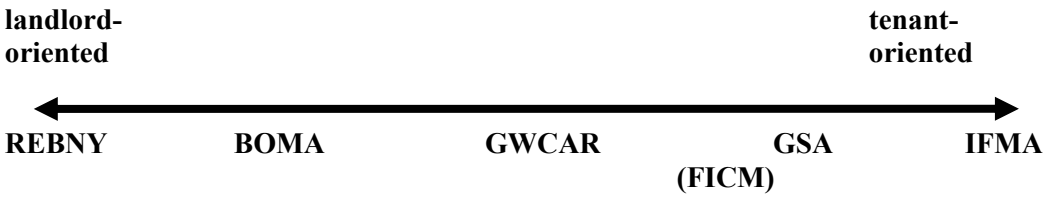
- Building Owners and Managers Association (BOMA) – old standard

- The Real Estate Board of New York (REBNY)

- Greater Washington Commercial Association of Realtors (GWCAR)
- General Services Administration (GSA) – former system
- International Facility Management Association (IFMA)

Some general **comments** about the overall characteristics of each system will help the reader understand the basic nature of each system. The six systems on a scale ranging from most landlord-oriented to most tenant-oriented are shown in figure 6-1.

Figure 6.1. Six commercial space measurement systems and the FICM on a scale from most landlord-oriented to most tenant-oriented



6.5.1 Landlord-Oriented Systems

Landlord-oriented systems are designed from the viewpoint of a property owner renting space to building tenants in the commercial real estate market. They tend to be organized "from the outside in," that is, they are sensitive to market and economic forces and to how property owners organize their charts of accounts and manage their operations. These systems reflect very little of the internal concerns of facilities managers with regard to their own end users. Some salient characteristics of the landlord-oriented systems are as follows:

- Rentable (billable) space comprises a large number of space categories.
- Space accounting and tracking are relatively simple for landlords but are not sensitive to internal churn (reconfiguration) rates of tenants.
- Tenants need to analyze leases very carefully to determine exactly how **billed** space reconciles to **physical** space used exclusively by the tenant.
- Measurements are relatively simple, but calculations of rentable area are becoming more complex as common area features and amenities increase.

6.5.2 Tenant-Oriented Systems

Tenant-oriented systems are designed "from the inside out." These systems are designed from the viewpoint of in-house corporate facilities managers who must be sensitive to the needs and desires of the corporation's internal clients, its end users, and the corporate culture in which they operate. Some salient characteristics of tenant-oriented systems are as follows:

- Rentable (billable) space in a building relates more closely to a tenant's individual quarters; more common areas are deducted from the billable total.
- Space accounting and tracking is more complex because (a) tenants vary considerably, (b) churn rates generate change to tenant space assignment records, and (c) the measurement systems contain more categories and subdivisions.
- Landlords who want to lease space to companies using tenant-oriented standards usually convert space measurements from their customary system to the tenant's system. There is little consistency or standardization, so such conversions may be problematic.
- Measurements may be more complex to obtain and record.

The authors of all six commercial systems discussed here have exercised care in the design and terminology used. However, there are problems of interpretation, and for each one, some subjects are not addressed. Before 1992, there was little attempt to compare the systems. Now, the trend is more toward reconciliation than standardization.

Finally, there is no legal constraint to use any of these systems. Landlords are free to use their own definitions, converting to a tenant's system only when requested to do so during lease negotiations.

6.5.3 Criteria Common to Most or All Six Systems

- Except for retail space, at least some of the area occupied by the exterior building wall construction is excluded from any other type of measurement.
- Mechanical equipment penthouses (unenclosed space) are excluded from any space billed to a tenant except for the REBNY method. The other five systems deduct vertical penetrations for duct shafts, major plumbing and electrical chases, elevator shafts, and public exit stairs. All such costs must be amortized in the basic rental rates charged by the landlord.
- The dominant portion of the inside face of the exterior wall is the anchor point for all systems, although each system differs on exactly where that point is located.

- **Core** or **loss** factors (the percentage of the billable area of each floor that is not part of the tenant's own space) are part of almost every lease negotiation. However, the factors are mentioned only briefly in two standards (REBNY and GWCAR). They are calculated in the new BOMA system but are not specifically mentioned.

- Private stairs, dumbwaiters, toilets, and kitchens are considered part of the rentable space.

6.5.4 Differences Between Commercial Measurement Systems, FICM, and Architectural/ Engineering/Construction (A/E/C) Practice

The measurement approach used in the FICM is, generally, more tenant-oriented than landlord-oriented.

- Like most landlord-oriented systems, FICM does not deduct interior columns and projections.

- Like the old GSA system, FICM measures physical space that is actually usable for a given activity or occupant. For example, FICM measures to the face of interior walls, unlike landlord-oriented systems, which attempt to recoup every interior square foot of area in the form of rent by measuring to the centerline of walls. The result is that the FICM approach results in a smaller square-foot area than typical landlord-oriented systems—often by as much as 10 percent.

- Similar to the above, FICM measures to the face of the exterior wall, or to the face of the front of a convector running along the floor in front of the exterior windows. Most landlord-oriented systems measure to the **dominant portion** of an exterior wall, usually to the glass line in modern buildings.

- "Construction area" is not ignored in FICM. It is measured by subtracting a floor's measured "gross area" from the floor's *net usable area*—the latter determined by the sum of the internally measured *net assignable area* and *nonassignable area*—each measurement term being specifically defined in FICM.

- Like most commercial systems, but unlike what architects and builders often do, FICM counts the area of multistory spaces (such as atriums, large lecture halls, etc.) only once. For example, a six-story atrium measuring 1,000 square feet on its lowest level would be counted as 1,000 square feet in FICM, but perhaps as much as 50 percent higher when accounted by an A/E.

6.5.5 Summary

The subject of space measurement continues to attract increased professional attention. Some groups are developing new approaches to space measurement for use in rough planning exercises,

such as strategic facilities inventory planning or the early stages of project planning. Others have developed software programs customized to automate the complex process of space measurement according to a particular system.

The development of a universal space measurement standard is uncertain. As we move increasingly toward emulation of commercial real estate practice in facilities management operations in the United States, the tenant-oriented space measurement systems are likely to either adapt themselves to landlord-oriented systems (as GSA has) or complement such systems (as the International Facilities Management Association does). However, multinational companies are more likely to experience the influence of efforts by bodies such as the ISO, which tend to be more tenant-oriented. No single measurement system covers every situation for every organization. As with any type of standard, some gray areas will always be present, requiring interpretation and judgment.

Appendix A:
Using Facilities Inventory Data for Reporting and Interinstitutional Data Exchange

In addition to institutional use, the definitions and framework provided in this manual are adaptable to inter-institutional data exchange and other types of external reporting. The National Center for Education Statistics, the State Higher Education Executive Officers, and other participating organizations wish to encourage the adoption of this manual by those organizations and states already engaged in collecting and reporting multi-institutional facilities data, as well as to encourage additional organizations and states to undertake this activity.

To help stimulate these activities and thereby enhance the availability and comparability of such summary information, this appendix provides a sample instrument or format for Data Exchange on Postsecondary Physical Facilities. The sample instrument is intended to provide a basic framework for external sharing or reporting of summary data drawn from more detailed building inventory and room inventory data sets maintained by individual institutions and by system- or state-level offices. The sample format includes only the most basic data in areas of general concern, such as total building area, ownership status, year of construction, and current condition, with assignable area allocated across the standard Room Use Categories. In addition, it suggests a format for cross-referencing Room Use Categories with the standard Functional Categories. Such cross-referencing of the two coding structures is useful for identifying the proportion of Classroom, Laboratory, or Office space used for instruction, organized research, public service, or other functions.

Sponsoring organizations may wish to expand this sample data exchange instrument to add additional data elements or greater detail with respect to particular categories or codes (e.g., subdividing Academic Support functions to identify Libraries). Data exchange programs may also wish to provide an instrument, in computer diskette format or on the web, containing instructions, definitions, and built-in column summation and data editing routines. Computer-based formats have the potential to improve substantially data reporting by institutions, as well as data entry and analysis by the sponsoring organization.

In addition to data that focus exclusively on physical facilities, many institutions, data exchange organizations, and other agencies may find it useful to relate facilities data to the number of students, faculty members, academic programs, or other variables. Multi-institution system or state-level facilities reports typically include a variety of such comparative indicators. The annual North Carolina *Facilities Inventory and Utilization Study,* for example, contains capacity/enrollment ratios, facility utilization rates, and accessibility indicators.[8]

[8] See, for example, State Commission on Higher Education Facilities, *Facilities Inventory and Utilization Study, Fall of 1990* (Chapel Hill: The University of North Carolina, General Administration, 1991).

As suggested in chapter 3 of this manual, several types of ratios may be useful for both intra-institutional and inter-institutional comparisons. These include

- assignable square feet per student, analyzed by the type of space, program area, student status or other characteristics;
- residential facility space per student housed on campus;
- library space per student and program type;
- office space per faculty member and nonfaculty staff by area or function; and
- research or other nonclass laboratory space per faculty member in relation to discipline and other factors.

In designing and using such ratios, care should be taken to make sure that comparisons across programs or institutions accurately reflect different academic missions, clientele, urban/rural locations, institutional types, and other factors. For example, space per student or faculty member may be directly affected when facilities can be used for extended day and evening services or if the institution has extensive sponsored research activities. It is also important to have consistent and sufficient detailed definitions for different categories of students. Similarly, relating facility space to faculty may require additional detail on faculty responsibilities, discipline or program type, and other factors.

Data Reporting and Exchange for Postsecondary Physical Facilities

Part A — Organizational and Institution Identification

At this time, space data reside in an accessible computer file. What is the next step? The first step is to output the data in an organized way that presents a data picture of your institution's facilities and space. Outlined in the following pages is an initial report that facilitates viewing institutional space data and serves as preparation for the important second step of exchanging space information with other institutions in a meaningful way. It is important to note that the initial report may not be complete. This is to be expected. Incomplete data points will require additional effort. The important thing to remember is that the institution now has space and facilities data that can be turned into information that can be used to develop answers to such questions as how much and what kind of space does the institution have.

1. Data exchange sponsoring organization

1a. Organization:
1b. Address:
1c. Contact Person:
1d. Telephone and E-mail:

2. Responding institution/organization

2a. Name:
2b. Address:
2c. Institution Identification: IPEDS UNIT ID _____ Other _____
2d. Name and Title of Respondent:
2e. Telephone and E-mail:

3. The institution/organization covered by this report is *(choose only one)*:
NOTE: See definitions in FICM Glossary.

3a.	☐	An institution that is not part of a system *(If yes, go directly to Part B.)*
3b.	☐	An institution that is part of a system *(If yes, indicate the name of the system in Question 4 below.)*
3c.	☐	A branch institution of a "parent" institution *(If yes, indicate the name of the parent institution in Question 4 below.)*
3d.	☐	A "parent" institution with one or more branch institutions and/or other campuses *(If yes, please answer Question 5 below.)*
3e.	☐	Other (*Specify*):

4. If the institution covered by this report is part of a system or a branch institution of a "parent" institution system," write in the name of the system or "parent" institution below:

5. Parent institutions (as checked in item 3) should list the names of all their branch institutions below. Use the first column to show whether data for any of these units are included with the data for the "parent" in this report.

	Are Data for This Unit Included in This Report?	Name of Branch Campus and/or Other Campus	Address (City, State and Zip Code)
5a.	Yes No		
5b.	Yes No		
5c.	Yes No		
5d.	Yes No		
5e.	(Extend as necessary)		

Part B — Building Inventory

INSTRUCTIONS: To maintain consistency with the FICM 1992 and the revised and reprinted FICM 1994, the line numbers in the inventory, where applicable, have been kept. Totals for Assignable Area in Line 1, Column (b) should match totals provided in Line 7, Column (b), Part D Line 68, Column (a) and Part E Line 12, Column (a). Totals for Gross Area in Line 1, Column (c) should match totals in Line 7, Column (c) and Part C Line 14, Column (h). Definitions and procedures for measurements are provided in the *Postsecondary Education Facilities Inventory and Classification Manual 2006*, (FICM 2006). The categories for Ownership Status follow definitions provided in FICM 2006, chapter 5, except that Line 5 requests a combined subtotal of categories 4a through 4f. NOTE: For institutions that do not collect detailed data on Ownership Status or that use other legal definitions, please use Line 2 to report all facilities owned by the institution, and Line 5 to report all non-owned facilities.

Line No.	Building Data Category	Number of Buildings Column (a)	Assignable Area (in square feet) Column (b)	Gross Area (in square feet) Column (c)
1	Total Campus Space.			
	Ownership Status			
2	Owned in fee simple.			
3	Title vested in the institution and being paid for on an amortization schedule (regardless of whether the building is shared with another institution or organization).			
4-a	Not owned; leased or rented to the institution at a typical local rate			
4-b	Not owned; available to the institution either at no cost or at a nominal rate			
4-c	Not owned; shared with an educational organization that is not a postsecondary institution			
4-d	Not owned; shared with another postsecondary educational institution			
4-e	Not owned; owner may or may not be university affiliated but building is used exclusively for institutional services (i.e., housing, bookstore, food service, warehouse, etc.). Facility is located on institutional property.			
4-f	Not owned; shared with a non-educational institution			
5	Subtotal, all non-owned (rows 4-a through 4-f)			
7	***Total (Sum of Lines 2, 3, and 5)***			

Part C — Gross Square Feet by Condition and Year of Construction

		Building Condition in Gross Square Feet							
Line No.	Year of Construc-tion	Minimal Renovation /Good Column (a)	Limited Renovation /Satisfactory Column (b)	Moderate Renovation /Fair Column (c)	Significant Renovation/ Poor Column (d)	Major Renovation /Unsatis-factory Column (e)	Replace/ Demolition Column (f)	Termination Column (g)	Line Total Column (h)
6	Pre-1930								
7	1931-1950								
8	1951-1960								
9	1961-1970								
10	1971-1980								
11	1981-1990								
12	1991-2000								
13	2001 to present								
14	***Total (Sum of Lines 6-13)***								

Definitions adapted from chapter 5 of the *Postsecondary Education Facilities Inventory and Classification Manual, 2006 edition.*

NOTE: If data for Building Condition by Year of Construction cannot be reported, at a minimum please complete Columns (g) and (h), and Line 14 totals to the extent possible. If levels of renovation cannot be distinguished or if renovation estimates are not recent or are otherwise questionable, please report total renovation in Column (e), Major Renovations.

Building condition has the following categories based on the extent of renovation or restoration needed:

i. Minimal Renovation (Good). Suitable for continued use with normal maintenance. The approximate renovation cost is less than 5 percent of building replacement cost.

ii. Limited Renovation (Satisfactory). Requires restoration to present acceptable conditions. The approximate cost of restoration is 5-15 percent of building replacement cost.

iii. Moderate Renovation (Fair). Requires updating or restoration. The approximate updating or restoration cost is 16-30 percent of building replacement cost. The physical conditions may have an effect upon building operations.

iv. Significant Renovations (Poor). Requires significant updating or restoration. The approximate restoration cost is 31-45 percent of building replacement cost. The physical conditions adversely affect building operations.

v. Major Renovations (Unsatisfactory). Requires major restoration with possible need to overhaul building subsystems. The approximate restoration cost is 46-60 percent of building replacement cost. Consideration of actual restoration requirements may lead to classifying the facility as being in need of replacement.

vi. Replace/Demolition. Should be demolished or abandoned because the building is unsafe and/or structurally unsound, irrespective of the need for the space or the availability of funds for a replacement. Additionally, this category takes precedence over categories i-v. If a building is scheduled for demolition, its condition is reported in this category, regardless of its actual condition.

vii. Termination. Planned termination or relinquishment of occupancy of the building for reasons other than unsafeness or structural unsoundness, such as abandonment of temporary units or vacating of leased space. Additionally, this category takes precedence over categories i-vi. If a building is scheduled for termination, its condition is reported in this category, regardless of its condition.

Part D — Space Inventory by Room Use Categories

NOTE: Please report Assignable Area by major Room Use Categories [i.e., 3(a), 10(a), 15(a), 21(a), 31(a), 40(a), 47(a), 57(a), 63(a), 67(a) and 68(a)] even if Room Count and subcategory data are not available.

Line No.	Room Use Category	Assignable Area (in square feet) Column (a)	Room Count Column (b)
	Classroom Facilities (100)		
1	110 Classroom		
2	115 Classroom Service		
3	***Total (100) Classroom Facilities (Sum of Lines 1-2)***		
	Laboratory Facilities (200)		
4	210 Class Laboratory		
5	215 Class Laboratory Service		
6	220 Open Laboratory		
7	225 Open Laboratory Service		
8	250 Research/Nonclass Laboratory		
9	255 Research/Nonclass Laboratory Service		
10	***Total (200) Laboratory Facilities (Sum of Lines 4-9)***		
	Office Facilities (300)		
11	310 Office		
12	315 Office Service		
13	350 Conference Room		
14	355 Conference Room Service		
15	***Total (300) Office Facilities (Sum of Lines 11-14)***		
	Study Facilities (400)		
16	410 Study Room		
17	420 Stack		
18	430 Open Stack Study Room		
19	440 Processing Room		
20	455 Study Service		
21	***Total (400) Study Facilities (Sum of Lines 16-20)***		
	Special Use Facilities (500)		
22	510, 515 Armory		
23	520, 523, 525 Athletics		
24	530, 535 Media Production		
25	540, 545 Clinic		
26	550, 555 Demonstration		

Part D — Space Inventory by Room Use Categories—Continued

Line No.	Room Use Category	Assignable Area (in square feet) Column (a)	Room Count Column (b)
27	560 Field Building		
28	570, 575 Animal Facilities		
29	580, 585 Greenhouse		
30	590 Other		
31	***Total (500) Special Use Facilities (Sum of Lines 22-30)***		
	General Use Facilities (600)		
32	610, 615 Assembly		
33	620, 625 Exhibition		
34	630, 635 Food Facilities		
35	640, 645 Day Care		
36	650, 655 Lounge		
37	660, 665 Merchandising Facilities		
38	670, 675 Recreation		
39	680, 685 Meeting Room		
40	***Total (600) General Use Facilities (Sum of Lines 32-39)***		
	Support Facilities (700)		
41	710, 715 Central Computer/Telecommunications		
42	720, 725 Shop		
43	730, 735 Central Storage and 780, Unit Storage		
44	740, 745 Vehicle Storage Facility		
45	750, 755 Central Service		
46	760, 765, 770, 775 Hazardous Materials Storage and Waste		
47	***Total (700) Support Facilities (Sum of Lines 41-46)***		
	Health Care Facilities (800)		
48	810, 815 Patient Bedroom		
49	820 Patient Bath		
50	830, 835 Nurse Station		
51	840, 845 Surgery		
52	850, 855 Treatment, Examination		
53	860, 865 Diagnostic Service Laboratory		
54	870 Central Supplies		
55	880 Public Waiting		
56	890, 895 Staff On-Call Facility		
57	***Total (800) Health Care Facilities (Sum of Lines 48-56)***		

Part D — Space Inventory by Room Use Categories—Continued

Line No.	Room Use Category	Assignable Area (in square feet) Column (a)	Room Count Column (b)
	Residential Facilities (900)		
58	910, 919 Sleep/Study Without Toilet or Bath		
59	920 Sleep/Study With Toilet or Bath		
60	935 Sleep/Study Service		
61	950, 955 Apartment		
62	970 House		
63	***Total (900) Residential Facilities (Sum of Lines 58-62)***		
	Unclassified Facilities (000)		
64	050 Inactive Area		
65	060 Alteration or Conversion Area		
66	070 Unfinished Area		
67	***Total (000) Unclassified Facilities (Sum of Lines 64-66)***		
68	***Total Assignable Area & Room Count (Sum of Lines 3,10,15,21,31,40,47,57,63 and 67)***		
	Nonassignable Area		
69	W01-W08 Circulation Areas		
70	X01-X04, Building Service Areas		
71	Y01-Y04, Mechanical Areas		
72	*Total (WWW, XXX, YYY) Nonassignable Area & Room Count (Sum of Lines 69, 70, and 71)*		

Part E — Total Campus Space, By Room Use and Functional Categories

NOTES: 1. This section can only be completed if the institution has also assessed the function of the space. Absence of this data will not affect basic institutional space reports. See appendix B, Definitions of NACUBO and OMB Circular A-21 Functional Categories.

2. In each line, Column (a) should equal the sum of Columns (b) through (k), and should agree with the specific entry from Part D.

3. Line 12, Column (a) should match the total campus assignable square feet reported in Part B, Line 1 Column (b).

				Use of Assignable Square Feet According to Functional Categories[9]				
Line No.	Room Use Category	Line No. from Part D	Total Assignable Square Feet Column (a)	1.0 Instruction Program Column (b)	2.0 Organized Research Column (c)	3.0 Public Service Column (d)	4.0 Academic Support Column (e)	5.0 Student Services Column (f)
1	100 Classroom Facilities	3						
2	200 Laboratory Facilities	10						
3	300 Office Facilities	15						
4	400 Study Facilities	21						
5	500 Special Use Facilities	31						
6	600 General Use Facilities	40						
7	700 Support Facilities	47						
8	800 Health Care Facilities	57						
9	900 Residential Facilities	63						
10	***Total Facilities in Use (Sum of Lines 1-9, Part D)***							
11	000 Unclassified Facilities	67						
12	***Total Assignable Area (Sum of Lines 10 and 11)***	68						
13	*Total Nonassignable Area*	72						

[9] Definitions for Functional Categories taken from FICM 2006, chapter 5.

Part E — Total Campus Space, By Room Use and Functional Categories—Continued

NOTES: 1. In each line, Column (a) should equal the sum of Columns (b) through (k), and should agree with the specific entry from Part B.
2. Line 12, Column (a) should match the total campus assignable square feet reported in Part B.

			Use of Assignable Square Feet According to Functional Categories[10]				
Line No.	Room Use Category	Line No. from Part B	6.0 Institutional Support Column (g)	7.0 Operation and Maintenance Column (h)	9.0 Auxiliary Enterprises Column (i)	10.0 Independent Operations Column (j)	11.0 Teaching Hospitals Column (k)
1	100 Classroom Facilities	3					
2	200 Laboratory Facilities	10					
3	300 Office Facilities	15					
4	400 Study Facilities	21					
5	500 Special Use Facilities	31					
6	600 General Use Facilities	40					
7	700 Support Facilities	47					
8	800 Health Care Facilities	57					
9	900 Residential Facilities	63					
10	***Total Facilities in Use (Sum of Lines 1-9)***						
11	000 Unclassified Facilities	67					
12	***Total Assignable Area (Sum of Lines 10 and 11)***	68					
13	Total Nonassignable Area	72					

[10] Definitions for Functional Categories taken from FICM 2006 chapter 5.

Appendix B:
Definitions of NACUBO and OMB Circular A-21 Functional Categories

This appendix provides a crosswalk between the functional categories identified by the National Association of College and University Business Officers (NACUBO) and the U.S. Office of Management and Budget (OMB) Circular A-21. These functional categories were developed for cost financial accounting purposes but are identified in the FICM as optional data elements that can be used to link space allocations to financial data or to institutional missions (e.g., the proportion of space used for public service) or to analyze and compare space allocations across institutions according to commonly used functional categories.

OMB Circular A-21 defines four primary functional categories: instruction, research, other sponsored activities, and other institutional activities. However, if the OMB Circular A-21 functional categories are to be meaningful and useful to an institution for space reporting, the "other institutional activities" (general, everything else) needs to be expanded. Section F of the OMB Circular identifies additional cost categories that can be used to expand the "other institutional activities" function. For some functional categories, NACUBO and OMB Circular A-21 include the same activities (i.e., instruction, organized/sponsored research, student services, and operations and maintenance of plant). For other functional categories, there is some overlap of activities between NACUBO and OMB Circular A-21, but there are differences as well (i.e., NACUBO's academic service and OMB's academic support and NACUBO's institutional support and OMB's institution support). For other NACUBO functional categories, there are no similar, separate OMB categories (i.e., public service, auxiliary enterprises, independent operations, and hospitals) and the activities these categories encompass are accounted for in the "other sponsored activities" or "other institutional activities" of OMB Circular A-21. In particular, for NACUBO functional categories 9.0 – auxiliary enterprises, 10.0 – independent operations, and 11.0 – hospitals, Circular A-21 combines these activities under the functional category of Other Institutional Activity (OIA). However, for identification of all institutional functional activities for space, it is important that these three activities be separately identified. As indicated in chapter 5, it is recommended that functional categories be used to link space allocations to financial data or to institutional mission. For this general purpose, the NACUBO functions may provide the best link since they are somewhat more detailed than the OMB Circular A-21 categories. If, on the other hand, institutions are seeking a Facilities and Administration (F and A) Rate for recovery of indirect costs associated with sponsored grants and contracts, it is highly recommended that the A-21 functional categories be adopted.

The following list of functional categories and table B-1 illustrate the similarities and differences between the NACUBO functional categories and OMB Circular A-21 functional categories.

1.0 **Instruction.** (NACUBO and OMB Circular A-21) This category includes all activities that are part of an institution's instructional program. Included are credit and noncredit courses for academic, vocational, and technical instruction; remedial and tutorial instruction; regular, special, and extension sessions; and community education. Includes departmental research and sponsored instruction.

2.0 **Organized/Sponsored Research.** (NACUBO and OMB Circular A-21) This category should include all activities specifically organized and separately budgeted to produce research outcomes, whether commissioned by an agency external to the institution or separately by an organizational unit within the institution.

3.0 **Public Service.** (NACUBO) (For OMB Circular A-21, these activities would be identified as Other Institutional Activity (OIA) and Other Sponsored Activity (OSA) as identified in an institution's financial accounting system.) This category includes identified activities that are established primarily to provide noninstructional services beneficial to individuals and groups external to the institution. Examples:

Community Services
Cooperative Extension Services
Public Broadcasting Services

4.0 **Academic Support.** (NACUBO) This category includes support services for the institution's primary missions: instruction, research, and public service. Examples:

Libraries
Museums and Galleries
Educational Media Services
Academic Computing Services
Ancillary Support
Academic Administration
Academic Personnel Development
Course and Curriculum Development

4.0 **Academic Service.** (Circular A-21)

4.1 Libraries—Official and organized central and branch libraries.

4.2 Departmental Administration—Includes all activities directly supporting Deans and Department Chairs.

4.3 Museums and Galleries—Usually included in a functional category of Other Institutional Activity (OIA). Check institution's financial accounting system for correct function identification.

5.0 Student Services. (NACUBO and Circular A-21) This category should include admissions and registrar offices and those activities whose primary purpose is to contribute to the student's emotional and physical well-being and to his or her intellectual, cultural, and social development outside the context of the formal instructional program. Examples:

Student Services Administration
Social and Cultural Development
Counseling and Career Guidance
Financial Aid Administration
Student Admissions
Student Records
Student Health Services

6.0 Institutional Support. (NACUBO) This category includes 1) central executive-level activities concerned with management and long-range planning of the entire institution, such as the governing board, planning and programming, and legal services; 2) fiscal operations, including the investment office; 3) administrative data processing; 4) employee personnel and records; 5) logistical activities that provide procurement, storerooms, printing, and transportation services to the institution; 6) support services to faculty and staff that are not operated as auxiliary enterprises; and 7) activities concerned with community and alumni relations, including development and fundraising. Examples:

Executive Management
Fiscal Operations
General Administration and Logistical Services
Administrative Computing Services
Public Relations/Development

6.0 Institution Support. (Circular A-21)

6.1 General Administration

Executive Management
Fiscal Operations
General Administration and Logistical Services
Administrative Computing Services

6.2 Public Relations/Development/Alumni Affairs
(Usually included in Other Institutional Activity (OIA))

6.3 Sponsored Projects Administration

Grants and Contracts Administration
Grants and Contracts Accounting
Research Compliance Office
Check institution's financial accounting system for other units identified as sponsored projects administration

7.0 Operation and Maintenance of Plant. (NACUBO and Circular A-21) This category should include the operation and maintenance of physical plants for all institutional activities, including auxiliary enterprises and independent operations. Examples:

Physical Plant Administration
Building Maintenance
Custodial Services
Safety
Security
Space Management
Occupational Health
Utilities
Landscape and Grounds
Major Repairs and Renovation

8.0 This category includes Scholarships and Fellowships but is not used in facilities. (NACUBO)

9.0 Auxiliary Enterprises. (NACUBO) An auxiliary enterprise is an entity that exists to furnish goods or services to students, faculty, or staff, and that charges a fee directly related to, although not necessarily equal to, the cost of the goods or services. This also includes Division I Intercollegiate Athletics.

10.0 Independent Operations. (NACUBO) This category includes those operations that are independent of, or unrelated to, the primary missions of the institution but that may enhance these activities. This category is generally limited to major federally funded research and development centers such as the Johns Hopkins Applied Physics Laboratory.

11.0 Hospitals. (NACUBO) This category includes patient care operations of the separately organized and budgeted hospital, including nursing and other professional services, general services, administrative services, fiscal services, etc., that are included within the organized hospital.

12.0 Service Center. (Circular A-21) An operation that provides a service or product or a group of services or products for a fee to users principally within the institutional community. The services may range from highly specialized to typical or necessary functions. Often they could not be provided as effectively or efficiently if provided by external sources. A service center develops a rate for the service activity based on actual incurred costs and charges users based on actual usage.

13.0 Unoccupied Space. (Supplemental Category) Space that at the time of the inventory is either vacant (not assigned to any faculty or staff members) or under renovation.

NOTE: OMB Circular A-21 requires the long form (detailed information) to be completed for institutions receiving over $10 million from the federal government for grants and contracts and requires such institutions to apply for a Facilities and Administration Rate.

Table B-1 compares the NACUBO and OMB Circular A-21 functional categories codes.

Table B-1. Comparison between NACUBO and OMB Circular A-21 functional categories

	NACUBO	**A-21**
Major function	**Subcategory**	**Subcategory**
❖ **Instruction**	• General academic instruction • Vocational/technical instruction • Special session instruction • Community education • Preparatory/remedial instruction	• All teaching and training (except research training) • Vocational teaching • Technical teaching • Departmental research • Sponsored instruction and training
❖ **Research**	• Institutes and research centers • Individual and project research	• Sponsored research • Research training • University research
❖ **Public service**	• Community services • Cooperative extension • Public broadcasting	
❖ **Academic service/ support**	• Libraries • Museums and galleries • Educational media services • Academic computing services • Ancillary support • Academic administration • Academic personnel development • Course and curriculum development	• Libraries • Departmental administration
❖ **Student services**	• Student services administration • Social and cultural development • Counseling and career guidance • Financial aid administration • Student admissions • Student records • Student health services	• Student services administration • Social and cultural development • Counseling and career guidance • Financial aid administration • Student admissions • Student records • Student health services
❖ **Institutional support**	• Executive management • Fiscal operations • General administrative and logistical services • Administrative computing services • Public relations/development	• Executive management • Fiscal operations • General administrative and logistical services • Administrative computing services • Sponsored projects administration
❖ **Operation and maintenance of plant**	• Physical plant administration • Building maintenance • Custodial services • Utilities • Landscaper and grounds • Major repairs and renovations	• Physical plant administration • Building maintenance • Custodial services • Utilities • Landscaper and grounds • Major repairs and renovations

Table B-1. Comparison between NACUBO and A-21 functional codes—Continued

	NACUBO	*A-21*
Major category	**Subcategory**	**Subcategory**
❖ **Other sponsored activities**		• Sponsored health service • Sponsored community service programs

❖ **Other institutional activities**		• All activities except:
		  • Instruction, departmental research, organized research, other sponsored activities
		  • F&A cost activities
		  • Specialized service facilities
		• Residence halls
		• Dining halls
		• Hospitals and clinics
		• Student union
		• Intercollegiate athletics
		• Bookstores
		• Faculty housing, student apartments, guest houses
		• Chapels
		• Theaters
		• Public museums
		• Other similar auxiliary enterprises

❖ **Scholarships and Fellowships (not used in facilities inventory)**		
❖ **Auxiliary enterprises**	• Provides goods and services for a fee to students, faculty, and staff • Intercollegiate athletics	
❖ **Hospitals**	• Patient care operations of a separately organized and budgeted hospital	
❖ **Service Centers**		• An operation that provides services or products for a fee to users principally within the institutional community

Appendix C:
Coding for Academic Disciplines
(Classification of Instructional Programs)

This manual recommends that assignable space be coded according to the academic units or discipline structure appropriate to the institution or institutions. While there is no national standard for academic units or discipline structures, the National Center for Education Statistics does publish the Classification of Instructional Programs (CIP). While the CIP structure may not be as appropriate for facilities coding as a discipline-based structure for many institutional uses, for external reporting of facilities data, this manual recommends that all academic unit or discipline codes be presented in a crosswalk to the CIP program structure at the two-digit level or even at the more detailed four- or six-digit levels.

A listing of the two-digit level program codes published by NCES in 2002 and implemented for data collection by NCES in 2004 is provided. For definitions and more detailed descriptions and codes, consult the *Classification of Instructional Programs: 2000 Edition*, published by the U.S. Department of Education, National Center for Education Statistics and available at (http://nces.ed.gov/pubs2002/2002165_2.pdf).

Two-Digit CIP

Academic and Vocational Programs

01. Agriculture, Agriculture Operations, and Related Sciences
03. Natural Resources and Conservation
04. Architecture and Related Services
05. Area, Ethnic, Cultural, and Gender Studies
09. Communication, Journalism, and Related Programs
10. Communications Technologies/Technicians and Support Services
11. Computer and Information Sciences and Support Services
12. Personal and Culinary Services
13. Education
14. Engineering
15. Engineering Technologies/Technicians
16. Foreign Languages, Literatures, and Linguistics
19. Family and Consumer Sciences/Human Sciences
22. Legal Professions and Studies
23. English Language and Literature/Letters
24. Liberal Arts and Sciences, General Studies, and Humanities
25. Library Science
26. Biological and Biomedical Sciences
27. Mathematics and Statistics
29. Military Technologies
30. Multi/Interdisciplinary Studies
31. Parks, Recreation, Leisure and Fitness Studies
38. Philosophy and Religious Studies
39. Theology and Religious Vocations
40. Physical Sciences
41. Science Technologies/Technicians
42. Psychology
43. Security and Protective Services
44. Public Administration and Social Service Professions
45. Social Sciences
46. Construction Trades
47. Mechanic and Repair Technologies/Technicians
48. Precision Production
49. Transportation and Materials Moving
50. Visual and Performing Arts
51. Health Professions and Related Clinical Sciences
52. Business, Management, Marketing, and Related Support Services
54. History
60. Residency Programs

Technology Education/Industrial Arts Programs

21. Technology Education/Industrial Arts

Reserve Officer Training Corps (JROTC, ROTC) Programs

28. Reserve Officer Training Corps (JROTC, ROTC)

Personal Improvement and Leisure Programs

32. Basic Skills
33. Citizenship Activities
34. Health-Related Knowledge and Skills
35. Interpersonal and Social Skills
36. Leisure and Recreational Activities
37. Personal Awareness and Self-Improvement

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Appendix D:
Suggested Infrastructure Classification Identifiers

This appendix suggests a way of organizing an inventory of infrastructure assets that categorizes infrastructure into nine basic grouping. Planners are encouraged to customize this listing to suit the particular needs of each institution. In general, the nomenclature for infrastructure classification provided in this appendix is similar to the format for coding nonassignable space in that it uses letters to categorize the infrastructure into nine basic groupings. Appendix F contains a coding system for assignable apace coding including room use coding, nonassignable space coding and infrastructure classification that makes use of numeric codes only. Appendix F also contains a table that translates the assignable and nonassignable space coding schemes used in the 1994 FICM and maintained in the body of the 2006 FICM into the unified numeric coding scheme to accommodate legacy systems.

Infrastructure Classifications Identifiers

Athletics – Outdoor

AAA01	Arenas - Open Air
AAA02	Baseball Fields
AAA03	Basketball Courts
AAA04	Bleachers
AAA05	Circuit Training Courses
AAA06	Climbing Walls
AAA07	Dugouts
AAA08	Field Light Poles
AAA09	Grass Playing Fields
AAA10	Hard Playing Surfaces
AAA11	Press Boxes
AAA12	Ropes Course Elements
AAA13	Running Tracks
AAA14	Scoreboards
AAA15	Shooting Ranges
AAA16	Ski Lifts
AAA17	Softball Fields
AAA18	Stadiums
AAA19	Swimming Pools - Open Air
AAA20	Synthetic Fields
AAA21	Tennis Courts
AAA22	Volleyball Courts
AAA23	Other Miscellaneous and Not Defined Athletic - Outdoor

LLL Land and Land Elements (land assets that are not already part of another support system)

LLL01	Pastures
LLL02	Preserve Areas (designated areas to protect flora, fauna, or geographic features)
LLL03	Undeveloped Property
LLL04	Water Bodies (ponds and lakes)
LLL05	Other Miscellaneous and Not Defined Land and Land Elements

Miscellaneous Structures (structures that do not have a building envelope)

MMM01	Amphitheaters
MMM02	Bridges – Pedestrian
MMM03	Bridges – Vehicular
MMMO4	Bus Shelter
MMMO5	Fences & Gates
MMM06	Flagpoles
MMM07	Hazardous Waste Collection/Storage Sheds
MMM08	Memorial/Donated Structures
MMM09	Retaining Walls
MMM10	Solid Waste Transfer Stations
MMM11	Statues
MMM12	Tanks - Fuel
MMM13	Tanks - Water
MMM14	Towers - Free Standing & Guy Supported
MMM15	Waterfront Piers/Docks
MMM16	Other Miscellaneous and Not Defined Miscellaneous Structures

Equipment (cannot travel on public roads)

EEE01	Attachments
EEE02	Hand-held/Worn
EEE03	Mobile Carts - Drivable
EEE04	Riding
EEE05	Walk Behind
EEE06	Other Miscellaneous and Not Defined Equipment

GGG	Grounds (grounds items that grow)
GGG01	Arboretums
GGG02	Fairways
GGG03	Flower Beds
GGG04	Hedges
GGG05	Putting Greens
GGG06	Shrub Beds
GGG07	Trees - General
GGG08	Trees - Forest Preserve
GGG09	Turf - General
GGG10	Woody Shrubs
GGG11	Other Miscellaneous and Not Defined Grounds

Retired, Demolished Infrastructure

RRR01	Name of 1st element retired
RRR02	Name of 2nd element retired, etc.

Site Furnishings (grounds items that do not grow)

SSS01	Ash Receptacles
SSS02	Benches
SSS03	Bike Racks
SSS04	Bollards
SSS05	Cemeteries
SSS06	Drinking Fountains
SSS07	Grills - Outdoor
SSS08	Hardscape - Walkways
SSS09	Parking Lots
SSS10	Parking Meters
SSS11	Picnic Tables
SSS12	Plaques & Monuments
SSS13	Ramps
SSS14	Recycling Receptacles
SSS15	Hardscape - Roadways
SSS16	Signage - Exterior
SSS17	Trash Receptacles
SSS18	Other Miscellaneous and Not Defined Site Furnishings

Utilities Distribution Systems

UUU01	Cable TV
UUU02	Data
UUU03	Electric - High Voltage
UUU04	Electric - Low Voltage
UUU05	Electric - Secondary
UUU06	Energy Management
UUU07	Fire Alarm
UUU08	Fuel Distribution
UUU09	Fuel Storage
UUU10	Lighting - Pedestrian
UUU11	Lighting - Streets
UUU12	Natural Gas
UUU13	Sanitary Sewer
UUU14	Security
UUU15	Steam
UUU16	Storm Water
UUU17	Telephone - Campus
UUU18	Telephone - Emergency
UUU19	Telephone - Public
UUU20	Water - Chilled
UUU21	Water - Fire Protection
UUU22	Water - Heating
UUU23	Water - Irrigation
UUU24	Water - Potable
UUU25	Other Miscellaneous and Not Defined Utility Distribution Systems

Vehicles (can travel on public roads)

VVV01	Athletics Department
VVV02	Campus General Use
VVV03	Central Services (mailroom, shipping & receiving, etc.)
VVV04	Physical Plant/Facilities Department
VVV05	Other Miscellaneous and Not Defined Vehicles

This organizational format was contributed by Eric Ness.

Appendix E:
Maintenance Condition Matrix

As facilities inventories age, institutional planners are devoting increasing attention, priority, and budget to maintenance. To help planners organize their maintenance efforts, chapter 5 of this manual includes a suggested classification system for both overall building and individual room conditions. Section 6.3 outlines a general approach to developing a set of equipment maintenance and space refurbishment identifiers and classifications. The following maintenance condition matrix provides a more detailed description of the actual conditions and levels of effort required for each of five levels of maintenance ranging from maintaining showpiece facilities to maintaining facilities in a crisis response mode.

The campus average Facilities Condition Index (FCI) of the five levels of maintenance described here correspond approximately to the first five categories of building condition described in section 5.5.4, Building Condition.

Level	1	2	3	4	5
Description	**Showpiece Facility**	**Comprehensive Stewardship**	**Managed Care**	**Reactive Management**	**Crisis Response**
Customer Service and Response Time	Able to respond to virtually any type of service, immediate response.	Response to most service needs, including limited nonmaintenance activities, is typically in a week or less.	Services available only by reducing maintenance, with response times of 1 month or less.	Services available only by reducing maintenance, with response times of 1 year or less.	Services not available unless directed from top administration; none provided except emergencies.
Customer Satisfaction	Proud of facilities, have a high level of trust for the facilities organization.	Satisfied with facilities related services, usually complimentary of facilities staff.	Accustomed to basic level of facilities care. Generally able to perform mission duties. Lack of pride in physical environment.	Generally critical of cost, responsiveness, and quality of facilities services.	Consistent customer ridicule, mistrust of facilities services.
Preventive vs. Corrective Maintenance	100%	75-99%	50-74%	25-49%	<25%
Maintenance Mix	All recommended PMs are scheduled and performed on time. Reactive maintenance (e.g., spot relamping and adjusting door closers) is minimized to the unavoidable or economical. Emergencies (e.g., storms or power outages) are very infrequent and handled efficiently.	A well-developed PM program: most required PMs are done at a frequency slightly less than per defined schedule. Appreciable reactive maintenance required due to systems wearing out prematurely and high number of lamps burning out. Occasional emergencies caused by pump failures, cooling system failures, etc.	Reactive maintenance predominates due to systems failing to perform, especially during harsh seasonal peaks. An effort still made at PM: priority to schedule as time and manpower permit. The high number of emergencies (e.g., pump failures, heating and cooling system failures) causes reports to upper administration.	Worn out systems require manpower to be scheduled to react to systems that are performing poorly or not at all. Significant time spent procuring parts and services due to the high number of emergency situations with weekly reporting. PM work possible consists of simple tasks and is done inconsistently, e.g., filter changing, greasing and fan belt replacement, etc.	No PM performed due to more pressing problems. Reactive maintenance is a necessity due to worn out systems (e.g. doors won't lock, fans lock up, HVAC systems fail). Good emergency response because of skills gained in reacting to frequent system failures (no status reporting, upper administration is tired of reading the reports).
Aesthetics, Interior	Like new finishes.	Clean/crisp finishes.	Average finishes.	Dingy finishes.	Neglected finishes.
Aesthetics, Exterior	Windows, doors, trim, exterior walls are like new.	Watertight, good appearance of exterior cleaners.	Minor leaks and blemishes, average exterior appearance.	Somewhat drafty and leaky, rough looking exterior, extra painting necessary.	Inoperable windows, leaky windows, unpainted, cracked panes, significant air and water penetration, poor appearance overall.

Level	1	2	3	4	5
Description	**Showpiece Facility**	**Comprehensive Stewardship**	**Managed Care**	**Reactive Management**	**Crisis Response**
Aesthetics, Lighting	Bright and clean, attractive lighting.	Bright and clean, attractive lighting.	Small percentage of lights out, generally well lit and clean.	Numerous lights out, some missing diffusers, secondary areas dark.	Dark, lots of shadows, bulbs and diffusers missing, cave-like, damaged, hardware missing.
Service Efficiency	Maintenance activities appear highly organized and focused. Typically, equipment and building components are fully functional and in excellent operating condition. Service and maintenance calls are responded to immediately. Buildings and equipment are routinely and regularly upgraded keeping them current with modern standards and usage.	Maintenance activities appear organized with direction. Equipment and building components are usually functional and in operating condition. Service and maintenance calls are responded to in a timely manner. Buildings and equipment are regularly upgraded keeping them current with modern standards and usage.	Maintenance activities appear to be somewhat organized, but remain people dependent. Equipment and building components are mostly functional, but suffer occasional breakdowns. Service and maintenance call response times are variable and sporadic, without apparent cause. Buildings and equipment are periodically upgraded to current standards and use, but not enough to control the effects of normal usage and deterioration.	Maintenance activities appear somewhat chaotic and are people dependent. Equipment and building components are frequently broken and inoperative. Service and maintenance calls are typically not responded to in a timely manner. Normal usage and deterioration continues unabated, making buildings and equipment inadequate to meet present use needs.	Maintenance activities appear chaotic and without direction. Equipment and building components are routinely broken and inoperative. Service and maintenance calls are never responded to in a timely manner. Normal usage and deterioration continues unabated, making buildings and equipment inadequate to meet present use needs.
Building Systems' Reliability	Breakdown maintenance is rare and limited to vandalism and abuse repairs.	Breakdown maintenance is limited to system components short of mean time between failures (MTBF).	Building and systems components periodically or often fail.	Many systems unreliable. Constant need for repair. Backlog of repair needs exceeds resources.	Many systems nonfunctional. Repair only instituted for life safety issues.
Facility Maintenance Operating Budget as % of CRV	> 4.0	3.5 - 4.0	3.0 - 3.4	2.5 – 2.9	<2.5
Campus Average FCI	<0.05	0.05 - 0.15	0.16 - 0.29	0.30 - 0.49	≥0.50

PM = preventive maintenance.
CRV = current replacement value.
FCI is a standard measure of renovation cost as a percent of building replacement cost. It is used throughout the country and is recommended by both the National Association of College Business Officers (NACUBO) and the Association of Higher Education Facility Officers (APPA).

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Appendix F:
An Integrated Numeric Coding Structure for Assignable and Nonassignable Space and Infrastructure

Table F-1 provides a numeric coding structure that is consistent for all facets of a facilities inventory—assignable space, nonassignable space, and infrastructure. Institutions that already have a facilities inventory that uses the codes for assignable and nonassignable space that were presented in the 1994 FICM and continued in the main body of the 2006 FICM may not wish to, or be able to, change their systems. On the other hand, institutions that are just beginning a facilities inventory system or that are upgrading their facilities inventory system, might consider using the numeric, integrated coding structure presented here.

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
01 ASSIGNABLE AREA	**ASSIGNABLE AREA**
01.100 Classroom Facilities	**100 Classroom Facilities**
01.100.10 Classroom	110 Classroom Facilities
01.100.15 Classroom Service	115 Classroom Service
01.200 Laboratory Facilities	**200 Laboratories**
01.200.10 Class Laboratory	210 Class Laboratory
01.200.15 Class Laboratory Service	215 Class Laboratory Service
01.200.20 Open Laboratory	220 Open Laboratory
01.200.25 Open Laboratory Service	225 Open Laboratory Service
01.200.50 Research/non-class Laboratory	250 Research/non-class Laboratory
01.200.55 Research/non-class Laboratory Service	255 Research/non-class Laboratory Service
01.300 Office Facilities	**300 Office Facilities**
01.300.10 Office	310 Office
01.300.15 Office Service	315 Office Service
01.300.50 Conference Room	350 Conference Room
01.300.55 Conference Room Service	355 Conference Room Service
01.400 Study Facilities	**400 Study Facilities**
01.400.10 Study Room	410 Study Room
01.400.20 Stack	420 Stack
01.400.30 Open-Stack Study Room	430 Open-Stack Study Room
01.400.40 Processing Room	440 Processing Room
01.400.55 Study Service	455 Study Service
01.500 Special Use Facilities	**500 Special Use Facilities**
01.500.10 Armory	510 Armory
01.500.15 Armory Service	515 Armory Service
01.500.20 Athletic or Physical Education	520 Athletic or Physical Education
01.500.23 Athletic Facilities Spectator Seating	523 Athletic Facilities Spectator Seating
01.500.25 Athletic or Physical Education Service	525 Athletic or Physical Education Service
01.500.30 Media Production	530 Media Production
01.500.35 Media Production Service	535 Media Production Service

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
01.500.40 Clinic	540 Clinic
01.500.45 Clinic Service	545 Clinic Service
01.500.50 Demonstration	550 Demonstration
01.500.55 Demonstration Service	555 Demonstration Service
01.500.60 Field Building	560 Field Building
01.500.70 Animal Facilities	570 Animal Facilities
01.500.75Animal Facilities Service	575 Animal Facilities Service
01.500.80 Greenhouse	580 Greenhouse
01.500.85 Greenhouse Service	585 Greenhouse Service
01.500.90 Other (All Purpose)	590 Other (All Purpose)
01.600 General Use Facilities	**600 General Use Facilities**
01.600.10 Assembly	610 Assembly
01.600.15 Assembly Service	615Assembly Service
01.600.20 Exhibition	620 Exhibition
01.600.25 Exhibition Service	625 Exhibition Service
01.600.30 Food Facility	630 Food Facility
01.600.35 Food Facility Service	635 Food Facility Service
01.600.40 Day Care	640 Day Care
01.600.45 Day Care Service	645 Day Care Service
01.600.50 Lounge	650 Lounge
01.600.55 Lounge Service	655 Lounge Service
01.600.60 Merchandising	660 Merchandising
01.600.65 Merchandising Service	665 Merchandising Service
01.600.70 Recreation	670 Recreation
01.600.75 Recreation Service	675 Recreation Service
01.600.80 Meeting Room	680 Meeting Room
01.600.85 Meeting Room Service	685 Meeting Room Service
01.700 Support Facilities	
01.700.10 Central Computer or Telecommunications	710 Central Computer or Telecommunications
01.700.15 Central Computer or Telecommunications Service	715 Central Computer or Telecommunications Service
01.700.20 Shop	720 Shop
01.700.25 Shop Service	725 Shop Service
01.700.30 Central Storage	730 Central Storage
01.700.35 Central Storage Service	735 Central Storage Service
01.700.40 Vehicle Storage	740 Vehicle Storage
01.700.45 Vehicle Storage Service	745 Vehicle Storage Service
01.700.50 Central Service	750 Central Service
01.700.55 Central Service Support	755 Central Service Support
01.700.60 Hazardous Materials Storage	760 Hazardous Materials Storage
01.700.70 Hazardous Waste Storage	770 Hazardous Waste Storage
01.700.75 Hazardous Waste Service	775 Hazardous Waste Service
01.700.80 Unit Storage	780 Unit Storage
01.800 Health Care Facilities	**800 Health Care Facilities**
01.800.10 Patient Bedroom	810 Patient Bedroom
01.800.15 Patient Bedroom Service	815 Patient Bedroom Service
01.800.20 Patient Bath	820 Patient Bath
01.800.30 Nurse Station	830 Nurse Station

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
01.800.35 Nurse Station Service	835 Nurse Station Service
01.800.40 Surgery	840 Surgery
01.800.45 Surgery Service	845 Surgery Service
01.800.50 Treatment/Examination Clinic	850 Treatment/Examination Clinic
01.800.55 Treatment/Examination Clinic Service	855 Treatment/Examination Clinic Service
01.800.60 Diagnostic Service Laboratory	860 Diagnostic Service Laboratory
01.800.65 Diagnostic Service Laboratory Support	865 Diagnostic Service Laboratory Support
01.800.70 Central Supplies	870 Central Supplies
01.800.80 Public Waiting	880 Public Waiting
01.800.90 Staff On-Call Facility	890 Staff On-Call Facility
01.800.95 Staff On-Call Facility Service	895 Staff On-Call Facility Service
01.900 Residential Facilities	**900 Residential Facilities**
01.900.10 Sleep/Study Without Toilet or Bath	910 Sleep/Study Without Toilet or Bath
01.900.19 Toilet or Bath	919 Toilet or Bath
01.900.20 Sleep/Study With Toilet or Bath	920 Sleep/Study With Toilet or Bath
01.900.35 Sleep/Study Service	935 Sleep/Study Service
01.900.50 Apartment	950 Apartment
01.900.55 Apartment Service	955 Apartment Service
01.900.70 House	970 House
01.000 Unclassified Facilities	**000 Unclassified Facilities**
01.000.50 Inactive Area	050 Inactive Area
01.000.60 Alteration or Conversion Area	060 Alteration or Conversion Area
01.000.70 Unfinished Area	070 Unfinished Area
02 NONASSIGNABLE AREA	**NONASSIGNABLE AREA**
02.100 Circulation Area	**WWW Circulation Area**
02.100.01 Bridge/Tunnel	W01 Bridge/Tunnel
02.100.02 Elevator	W02 Elevator
02.100.03 Escalator	W03 Escalator
02.100.04 Loading Dock	W04 Loading Dock
02.100.05 Lobby	W05 Lobby
02.100.06 Public Corridor	W06 Public Corridor
02.100.07 Stairway	W07 Stairway
02.200 Building Service Area	**XXX Building Service Area**
02.200.01 Custodial Supply Closet	X01 Custodial Supply Closet
02.200.02 Janitor Room	X02 Janitor Room
02.200.03 Public Rest Room	X03 Public Rest Room
02.200.04 Trash Room	X04 Trash Room
02.300 Mechanical Area	**YYY Mechanical Area**
02.300.01 Central Utility Plant	Y01 Central Utility Plant
02.300.02 Fuel Room	Y02 Fuel Room
02.300.03 Shaft	Y03 Shaft
02.300.04 Utility/Mechanical Space	Y04 Utility/Mechanical Space

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
03 INFRASTRUCTURE	
03.100 Athletics - Outdoor	
03.100.01 Arenas - Open Air	AAA01 Arenas - Open Air
03.100.02 Baseball Fields	AAA02 Baseball Fields
03.100.03 Basketball Courts	AAA03 Basketball Courts
03.100.04 Bleachers	AAA04 Bleachers
03.100.05 Circuit Training Courses	AAA05 Circuit Training Courses
03.100.06 Climbing Walls	AAA06 Climbing Walls
03.100.07 Dugouts	AAA07 Dugouts
03.100.08 Field Light Poles	AAA08 Field Light Poles
03.100.09 Grass Playing Fields	AAA09 Grass Playing Fields
03.100.10 Hard Playing Surfaces	AAA10 Hard Playing Surfaces
03.100.11 Press Boxes	AAA11 Press Boxes
03.100.12 Ropes Course Elements	AAA12 Rope Course Elements
03.100.13 Running Tracks	AAA13 Running Tracks
03.100.14 Scoreboards	AAA14 Scoreboards
03.100.15 Shooting Ranges	AAA15 Shooting Ranges
03.100.16 Ski Lifts	AAA16 Ski Lifts
03.100.17 Softball Fields	AAA17 Softball Fields
03.100.18 Stadiums	AAA18 Stadiums
03.100.19 Swimming Pools - Open Air	AAA19 Swimming Pools – Open Air
03.100.20 Synthetic Fields	AAA20 Synthetic Fields
03.100.21Tennis Courts	AAA21 Tennis Courts
03.100.22Volleyball Courts	AAA22 Volleyball Courts
03.100.23 Other Miscellaneous and Not Defined Athletic - Outdoor	AAA23 Other Miscellaneous and Not Defined Athletic - Outdoor
03.200 Land and Land Elements (land assets that are not already part of another support system)	
03.200.01 Pastures	LLL01 Pastures
03.200.02 Preserve Areas (designated areas to protect flora, fauna, or geographic features)	LLL02 Preserve Areas (designated areas to protect flora, fauna, or geographic features)
03.200.03 Undeveloped Property	LLL03 Undeveloped Property
03.200.04 Water Bodies (ponds and lakes)	LLL04 Water Bodies (ponds and lakes)
03.200.05 Other Miscellaneous and Not Defined Land and Land Elements	LLL05 Other Miscellaneous and Not Defined Land and Land Elements

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
03.300 Miscellaneous Structures (structures that do not have a building envelope)	
03.300.01 Amphitheaters	MMM01 Amphitheaters
03.300.02 Bridges – Pedestrian	MMM02 Bridges – Pedestrian
03.300.03 Bridges – Vehicular	MMM03 Bridges Vehicular
03.300.04 Bus Shelter	MMMO4 Bus Shelter
03.300.05 Fences & Gates	MMMO5 Fences and Gates
03.300.06 Flagpoles	MMM06 Flagpoles
03.300.07 Hazardous Waste Collection/Storage Sheds	MMM07 Hazardous Waste Collection/Storage Sheds
03.300.08 Memorial/Donated Structures	MMM08 Memorial/Donated Structures
03.300.09 Retaining Walls	MMM09 Retaining Walls
03.300.10 Solid Waste Transfer Stations	MMM10 Solid Waste Transfer Stations
03.300.11 Statues	MMM11 Statues
03.300.12 Tanks - Fuel	MMM12 Tanks – Fuel
03.300.13 Tanks - Water	MMM13 Tanks – Water
03.300.14 Hazardous Waste Collection/Storage Sheds	MMM14 Hazardous Waste Collection/Storage Sheds
03.300.15 Waterfront Piers/Docks	MMM15 Waterfront Piers/Docks
03.300.16 Other Miscellaneous and Not Defined Miscellaneous Structures	MMM16 Other Miscellaneous and Not Defined Miscellaneous Structures
03.400 Equipment (cannot travel on public roads)	
03.400.01 Attachments	EEE01 Attachments
03.400.02 Hand-held/worn	EEE02 Hand-held/worn
03.400.03 Mobile Carts - Driveable	EEE03 Mobile Carts – Driveable
03.400.04 Riding	EEE04 Riding
03.400.05 Walk Behind	EEE05 Walk Behind
03.400.06 Other Miscellaneous and Not Defined Equipment	EEE06 Other Miscellaneous and Not Defined Equipment
03.500 Grounds (grounds items that grow)	
03.500.01 Arboretums	GGG01 Arboretums
03.500.02 Fairways	GGG02 Fairways
03.500.03 Flower Beds	GGG03 Flower Beds
03.500.04 Hedges	GGG04 Hedges
03.500.05 Putting Greens	GGG05 Putting Greens
03.500.06 Shrub Beds	GGG06 Shrub Beds
03.500.07 Trees - General	GGG07 Trees – General
03.500.08 Trees - Forest Preserve	GGG08 Trees - Forest Preserve
03.500.09 Turf - General	GGG09 Turf – General
03.500.10 Woody Shrubs	GGG10 Woody Shrubs
03.500.11 Other Miscellaneous and Not Defined Grounds	GGG11 Other Miscellaneous and Not Defined Grounds

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
03.600 Site Furnishings (grounds items that do not grow)	
03.600.01 Ash Receptacles	SSS01 Ash Receptacles
03.600.02 Benches	SSS02 Benches
03.600.03 Bike Racks	SSS03 Bike Racks
03.600.04 Bollards	SSS04 Bollards
03.600.05 Cemeteries	SSS05 Cemeteries
03.600.06 Drinking Fountains	SSS06 Drinking Fountains
03.600.07 Grills - Outdoor	SSS07 Grills – Outdoor
03.600.08 Hardscape - Walkways	SSS08 Hardscape – Walkways
03.600.09 Parking Lots	SSS09 Parking Lots
03.600.10 Parking Meters	SSS10 Parking Meters
03.600.11 Picnic Tables	SSS11 Picnic Tables
03.600.12 Plaques & Monuments	SSS12 Plaques & Monuments
03.600.13 Ramps	SSS13 Ramps
03.600.14 Recycling Receptacles	SSS14 Recycling Receptacles
03.600.15 Hardscape - Roadways	SSS15 Hardscape – Roadways
03.600.16 Signage - Exterior	SSS16 Signage – Exterior
03.600.17 Trash Receptacles	SSS17 Trash Receptacles
03.600.18 Other Miscellaneous and Not Defined	SSS18 Other Miscellaneous and Not Defined
03.700 Utilities Distribution Systems	
03.700.01 Cable TV	UUU01 Cable TV
03.700.02 Data	UUU02 Data
03.700.03 Electric - High Voltage	UUU03 Electric – High Voltage
03.700.04 Electric - Low Voltage	UUU04 Electric – Low Voltage
03.700.05 Electric - Secondary	UUU05 Electric – Secondary
03.700.06 Energy Management	UUU06 Energy Management
03.700.07 Fire Alarm	UUU07 Fire Alarm
03.700.08 Fuel Distribution	UUU08 Fuel Distribution
03.700.09 Fuel Storage	UUU09 Fuel Storage
03.700.10 Lighting - Pedestrian	UUU10 Lighting Pedestrian
03.700.11 Lighting - Streets	UUU11 Lighting Streets
03.700.12 Natural Gas	UUU12 Natural Gas
03.700.13 Sanitary Sewer	UUU13 Sanitary Sewer
03.700.14 Security	UUU14 Security
03.700.15 Steam	UUU15 Steam
03.700.16 Storm Water	UUU16 Storm Water
03.700.17 Telephone - Campus	UUU17 Telephone – Campus
03.700.18 Telephone – Emergency	UUU18 Telephone Emergency
03.700.19 Telephone - Public	UUU19 Telephone – Public
03.700.20 Water - Chilled	UUU20 Water – Chilled
03.700.21 Water - Fire Protection	UUU21 Water – Fire Protection
03.700.22 Water - Heating	UUU22 Water – Heating
03.700.23 Water - Irrigation	UUU23 Water – Irrigation
03.700.24 Water – Potable	UUU24 Water – Potable
03.700.25 Other Miscellaneous and Not Defined Utility Distribution Systems	UUU25 Other Miscellaneous and Not Defined Utility Distribution Systems

Table F-1. Integrated space use and infrastructure numeric coding structure and crosswalk to 1994 FICM coding structure—Continued

NUMERIC CODING STRUCTURE	1994 CODING STRUCTURE
03.800 Vehicles (can travel on public roads)	
03.800.01 Athletics Department	VVV01 Athletics Department
03.800.02 Campus General Use	VVV02 Campus General Use
03.800.03 Central Services (mailroom, shipping & receiving, etc.)	VVV03 Central Services (mailroom, shipping & receiving, etc.)
03.800.04 Physical Plant/Facilities Department	VVV04 Physical Plant/Facilities Department
03.800.05 Other Miscellaneous and Not Defined Vehicles	VVV05 Other Miscellaneous and Not Defined Vehicles
03.900 Retired, Demolished Infrastructure	
03.900.01 Name of 1st element retired	RRR01 Name of 1st element retired
03.900.02 Name of 2nd element retired, etc.	RRR02 Name of 2nd element retired, etc

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Appendix G:
Glossary

The definitions and explanations of building measurement terms, room use categories, functional codes, and other basic components of a facilities inventory data system are contained in the appropriately identified sections of this manual. Users are referred to the Table of Contents for sections and page locations.

In addition, this glossary contains brief definitions of generic terms related to facilities inventory data and explanations of the acronyms and abbreviations of terms or organizations referred to in this manual. Also included are definitions for terms related to institutional identification, enrollments, and faculty that may be useful in relation to the use of facilities data.

A-21: Circular A-21, Principles for Determining Costs Applicable to Grants, Contracts, and Other Agreements with Educational Institutions, published by the U.S. Office of Management and Budget (OMB) (http://www.whitehouse.gov/omb/circulars/a021/a21_2004.html).

AAALAC: American Association for Accreditation of Laboratory Animal Care.

Academic Discipline (Coding): A listing of the two-digit level program codes published by the National Center for Education Statistics (NCES) in 2002 and implemented for data collection by NCES in 2004. For definitions and more detailed descriptions and codes, consult the Classification of Instructional Programs: 2000 Edition, published by the U.S. Department of Education, National Center for Education Statistics, and available at (http://nces.ed.gov/pubs2002/2002165_2.pdf). See Coding for Academic Disciplines, appendix C.

Academic Program: An instructional program leading toward an associate's, bachelor's, master's, doctor's, or first-professional degree or other formal award or resulting in credits that can be applied to one of these degrees.

Academic Year: The period of time generally extending from September to June; usually equated to two semesters or trimesters, three quarters, or the period covered by a 4-1-4 calendar system.

Administratively Equal Institution: Separately organized, or independently administered site or campus with its own full administration and records system within an institutional system. This institution may report to a system office but does not report to any other institution.

APPA: The Association of Higher Education Facilities Officers. APPA is the commonly used acronym from the original name of this association, the Association of Physical Plant Administrators.

As-built Drawings: Architectural and engineering drawings that record the *current* locations of primary building features, walls, primary building equipment, mechanical system outlets, and equipment.

Branch Institution (Campus): A campus or site of an educational institution that is not temporary, is located in a community beyond a reasonable commuting distance from its parent institution, and offers full programs of study, not just courses.

BOMA: Building Owners and Managers Association.

BOMI: Building Owners and Managers Institute.

Building: A roofed structure for permanent or temporary shelter of persons, animals, plants, materials, or equipment. A *building* is a) attached to a foundation; b) roofed; c) serviced by a utility, exclusive of lighting; and d) a source of significant repair and maintenance activities. See section 2.3, What to Include in a Building Inventory, for inclusions and exclusions.

Building Condition: The physical status of the building at the time of the inventory or facility audit, based on the best judgment of those persons familiar with the physical characteristics and condition of the campus. See section 5.5, Building and Space Optional Data Element.

Building Data: Descriptive characteristics of a building, such as gross area, assignable area, condition, ownership, estimated replacement cost, and year of construction. See section 5.2, Required Data Elements, section 5.3, Optional Data Elements, and section 3.2, Definitions of Building Areas.

Building Ownership Status: The type of ownership and the relation of title holder to the institution. See definitions in section 5.3, Optional Data Elements.

Building Service Area: The sum of all areas on all floors of a building used for custodial supplies, sink rooms, janitorial closets, and public rest rooms. See section 3.2, Definitions of Building Areas.

CAD: Computer-aided design software systems primarily used to develop design and construction drawings for new construction or renovations. With additional efforts, such systems can be used to generate and store space inventory information.

CAFM: Computer-aided facilities management systems. CAFM systems offer one or more solutions, often differing in nature, of these facilities management activities: call center work, design and construction drawings including specifications, equipment and furniture inventories, hoteling, lease management, real property portfolio tracking, preventive maintainence, project management, safety, security, space management, utilization studies, wire and cabling, and more.

Central Office or System Office: The administrative body or component responsible for supervision of a multi-institutional system.

Circulation Area: The sum of all areas on all floors of a building required for physical access to some subdivision of space, whether physically bounded by partitions or not. See section 3.2, Definitions of Building Areas.

Classification of Instruction Programs (CIP): A taxonomic scheme for secondary and postsecondary instructional programs. It is intended to facilitate the organization, collection, and reporting of program data using classifications that capture the majority of reportable data. The CIP is the accepted federal government statistical standard on instructional program classifications and is used in a variety of education information surveys and databases. See appendix C, Coding for Academic Disciplines (CIP System). The full text is available at (http://nces.ed.gov/pubs2002/2002165_2.pdf).

CMMS: Computerized maintenance management system. A computerized database and tracking system for managing requests for facilities management, planning, and maintenance tasks. Also called a work order system.

Contact Hour: A unit of measure that represents an hour of scheduled instruction given to students. Also referred to as *clock hour*.

Credit Hour: A unit of measure representing the equivalent of an hour (50 minutes) of instruction per week over the entire term. It is applied toward the total number of hours needed for completing the requirements of a degree, diploma, certificate, or other formal award.

Core Factor: In commercial space measurement systems, the percentage of the rentable area of each floor that is not part of a tenant's own space.

Cost of Latest Major Renovation: The dollar value of the latest renovation that cost in excess of 25 percent of the estimated replacement cost of the structure and that significantly extended its useful life.

Correspondence: A method of instruction with students receiving structured units of information and accompanying material completely through the mail.

Data Element: An individual item of data related to a particular *space.*

Data Field: A location of specific data elements that make up a data record. Example: A space record requires a minimum of these four data fields—a unique space number, area, space use, and organizational assignment.

Data Record: A collection of all fields pertaining to a single data element.

Estimated Replacement Cost: The estimated cost to replace the building at the time of inventory.

Facilities: Any physical structure or space required by the institution for the performance of its programs and related activities.

Facilities Inventory: A database containing statistical information on buildings, including both building and room/space data as defined in this glossary.

FICE: Federal Interagency Committee on Education. A 6-digit identification code originally created by the Federal Interagency Committee on Education (FICE). The code was used to identify all schools doing business with the Office of Education during the early sixties. This code is no longer used in IPEDS; it has been replaced by the IPEDS unit ID.

Fixed Equipment: Permanently attached appurtenances such as elevators, fire protection systems, lighting, plumbing, heating, ventilation, and built-in air conditioning systems (excluding window or console air conditioning units that require no duct work or cooling towers).

Functional Categories and Codes: A set of categories or codes to allocate space across functional categories (e.g., instruction, research, public service, academic support). This is used primarily to link space allocations to financial data or to institutional missions (e.g., the proportion of space used for public service) or to analyze and compare space allocations across institutions according to commonly used functional categories. See section 5.5.8 of Building and Space Optional Data Element Discussion; for a detailed description of functional categories, see appendix B.

GASB: The Governmental Accounting Standards Board (GASB) establishes accounting standards for local and state entities including governmental colleges and universities.

Gross Area: Gross Area is the sum of all areas on all floors of a building included within the outside faces of its exterior walls, including *all* vertical penetration areas, for circulation and shaft areas that connect one floor to another. See section 3.2, Definitions of Building Areas.

GSA: The U.S. General Services Administration.

GWCAR: The Greater Washington Commercial Association of Realtors.

HEGIS: The Higher Education General Information Survey (HEGIS) system was conducted by the NCES between 1966 and 1985. This system comprised several surveys of institutions that were accredited at the college level by an agency recognized by the Secretary, U.S. Department of Education. These surveys collected institution-level data on such topics as institutional characteristics, enrollment, degrees conferred, salaries, employees, financial statistics, libraries, and others. HEGIS surveys were sent to approximately 3,400 accredited institutions of higher education. HEGIS surveys were incorporated into IPEDS after 1985 (see IPEDS).

HVAC: Heating, ventilation, and air conditioning systems.

IFMA: International Facility Management Association.

Infrastructure: Physical assets with a long useful life that are normally stationary in nature and can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems.

Institutional System: Two or more postsecondary institutions under the control or supervision of a single administrative body.

IPEDS: The Integrated Postsecondary Education Data System, comprising a series of annual and regular periodic institutional surveys of all postsecondary institutions in the United States and its territories that have a Program Participation Agreement with the Office of Postsecondary Education in the U.S. Department of Education. It is administered by the National Center for Education Statistics (NCES). Each postsecondary institution may be identified by its unique IPEDS unit ID. This ID replaces the FICE number that was formerly used.

Interface: A specialized software protocol that enables the transfer of data or programs between two different software programs.

Mechanical Area: The sum of all areas on all floors of a building designed to house mechanical equipment, utility services, and shaft areas. See section 3.2, Definitions of Building Areas.

Multi-Institution System: An institution that has either 1) two or more sites or campuses responsible to one administration which may or may not be located on one of the sites or campuses, or 2) a primary site or main campus with one or more branches attached to it.

NACUBO: The National Association of College and University Business Officers.

Net Assignable Area: Net Assignable Area is the sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant or specific use. See section 3.2, Definitions of Building Areas.

Net Usable Area: Net Usable Area is the sum of all areas on all floors of a building either assigned to, or available for assignment to, an occupant or specific use, or necessary for the general operation of a building. See section 3.2, Definitions of Building Areas.

Nonassignable Area: The sum of all areas on all floors of a building not available for assignment to an occupant or for specific use, but necessary for the general operation of a building. See section 3.2, Definitions of Building Areas.

Off-Campus Centers: Sites outside the confines of the parent institution where courses are offered that are part of an organized program at the parent institution. The sites are not considered to be temporary but may be rented or made available to the institution at no cost by another institution or an organization, agency, or firm.

Off-Campus Facility: A facility located some distance away from the educational institution which operates it.

Optional Data: Additional data (besides *required* data) in a facilities inventory system that increases the overall value of the database to the institution and enhances reporting and organizing data, both internally (intra-institutional) and externally (interinstitutional). See section 5.2, Required Data Elements.

Organizational Unit: The basic component of the organizational structure of a postsecondary institution. Usually referred to as a department, but including both academic units (e.g., English Department, Physics Department, School of Law, etc.) and administrative units (e.g., Office of the President, Registrar, Physical Plant, etc.).

Original Building Cost: The total original project cost of a facility, in actual dollars, to an institution.

Parent Institution: The administrative unit or institution in a multi-institutional system through which all the system's institutions, branches, and programs are linked. This institution generally reports data for another institution known as the child institution.

Parking Structures: See discussion of options in Parking Structures in section 3.2, Definitions of Building Areas.

Plenum: A duct created to direct the flow of air either into or out of a building. Plenums are generally made of sheet metal but may be constructed of any material and be of any shape. They may also be insulated and have devices in them to regulate their flow of air.

Postsecondary Education: The provision of a formal instructional program whose curriculum is designed primarily for students who are beyond the compulsory age for high school. This includes programs whose purpose is academic, vocational, and continuing professional education, and excludes avocational and adult basic education programs.

Postsecondary Education Institution: An institution that has the provision of postsecondary education as its sole purpose or one of its primary missions.

Preventive maintenance: An approach to maintaining facilities, infrastructure, and equipment, involving planned inspection, diagnostics, testing and servicing at regular intervals, to prolong the useful life of operating equipment, such as heating, ventilation, and air conditioning systems, as well as tasks to preserve the building itself, such as repointing brickwork, caulking windows, and swimming pool whitecoating.

Privatization: The process of developing facilities, such as student housing, through public/private funding partnerships with private organizations legally separate from an institution's organization.

REBNY: The Real Estate Board of New York.

Replacement Cost: The dollar value for replacing an existing facility if it were rebuilt today.

Required Data: The minimum data elements necessary to provide unique identification to a given room or space: a unique space or room identifier; the organizational unit to which it is assigned; its assignable or nonassignable square-foot area; and its room or space use category. This is the minimum data needed to establish a facilities inventory system. (See also *Optional Data.*)

Room: A covered contiguous area enclosed on all sides by walls, or imaginary boundary lines (referred to as "phantom walls") where a wall does not exist; it may consist of one or more *spaces* (see *Space*). Covered play areas, covered patios, and covered walkways are exceptions to the enclosure criterion.

Room or Space Condition: The need for a room to be repaired, upgraded, or renovated based solely on its physical condition; see also *Room Suitability*.

Room Data: Descriptive characteristics of assignable interior spaces of a building, including standard room use categories, institutional organizational units, academic discipline and functional codes, assignable floor areas and, in some instances, numbers of stations. See section 5.2, Required Data Elements, and section 5.3, Optional Data Elements.

Room or Space Suitability: An evaluation of the functionality of the room for its assigned use and function at the time of the inventory, based on the design, configuration, and fixed equipment in the room.

SCUP: The Society for College and University Planning.

SHEEO: State Higher Education Executive Officers.

Single Institution: A postsecondary institution that operates independently from other institutions. The institution may offer instruction at more than one geographic site, but all administration and governance and recordkeeping are at one site.

Space: A covered contiguous area enclosed on all sides by walls or imaginary boundary lines (referred to as "phantom walls") where a wall does not exist, that accommodates a single use; the smallest discrete spatial unit or data element used, tracked and analyzed in an institution's space inventory. A *space* may be part of a *room*, and a *room* may contain several *spaces.*

Space Measurement System: A codified system of classifying various categories for physical space, defining their boundaries, and measurement techniques.

Structural Area: The sum of all areas on all floors of a building that cannot be occupied or put to use because of structural building features; the *Gross Area minus Net Usable Area.* See section 3.2, Definitions of Building Areas.

Unique Space Identifier: A means, such as an alpha-numeric code, to identify each individual *space* in a facilities inventory database.

Unit ID: Unique identification number assigned to postsecondary institutions surveyed through the Integrated Postsecondary Education Data System (see *IPEDS*).

Work Order System: See *CMMS*.

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