Standards for Building Measurement
Facilities Services / Space Information Management Services

Purpose:

The University of Chicago is required to follow the building measurement procedures and coding structures for building data elements defined by the U.S. Department of Education, Postsecondary Education and Facilities Inventory and Classification Manual, or FICM (ISBN 0-16-043165-4, 11/92). These standards are sometimes referred to by their earlier designation, HEGIS, Higher Education General Information Survey.

The FICM guidelines provide a common framework and coding structure to be used in collecting and reporting inventory data on college and university "buildings" and on the space within those structures, primarily "rooms." The University of Chicago Room Types spreadsheet provides the FICM based coding for room use. This document lists and defines the categories of building area measurement.

The University space database, SIMS, maintains information on Gross, Assignable and Non-Assignable square footage. This information is compiled for campus and hospital buildings from polylined CAD floor plans or building survey information.

Differences From Other Measurement Systems:

The FICM standard differs from the BOMA standard for measurement that is widely used for commercial properties and real estate. BOMA allocates structural space (defined below) differently. Specifically, BOMA measures space from the centerline of walls and includes in its room measurement the thicknesses of walls. FICM requires measurements to be made within the interior walls of rooms, allocating wall thickness to the structural space category.

Summary Definitions

Gross Area   The floor area of a structure within the outside faces of the exterior walls.

Assignable Space (Useable Space/SpUArea in SIMS): Space used for programs measured inner wall to inner wall surface.

Non-Assignable Space (Rental Space/SpRArea in SIMS): Building service, circulation, and mechanical spaces required for the operation of the building. It is also measured inner wall to inner wall surface.

Net Useable Area (Net Square Feet/SpUArea + SpRArea in SIMS): The aggregate interior area of the building that can be occupied measured inner wall to inner wall. This number is the sum of Assignable and Non-Assignable Space.

Structural Area   The difference between the Gross Area and the Net Useable Area of the building. This is space that cannot be occupied or used because of building structural features.

Detailed Descriptions

(1) Gross Area

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

> 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. which extend beyond the wall faces.

> Measured in terms of gross square feet (GSF),
> Gross Area = Net Useable Area + Structural Area.

> Description: In addition to all the internal floor spaces obviously covered above, gross area should include the following: excavated basement areas; mezzanines, penthouses, and attics; garages, enclosed porches, inner or outer balconies whether walled or not, if they are utilized for operational functions; and corridors whether walled or not, provided they are within the outside face lines of the building, to the extent of the roof drip line. The footprints of stairways, elevator shafts, ducts, and portions of upper floors eliminated by rooms or lobbies that rise above single-floor ceiling height are to be counted as gross area on each floor through which they pass.

> Limitations: Exclude open areas such as parking lots, playing fields, courts, light wells, and internal courtyards or spaces outside of the exterior walls.

> Exception: Include top, unroofed floor of parking structures where parking is available.

(2) Assignable Area (Net Assignable Square Feet – NASF, or Useable Square Feet – SpUArea)

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

> Basis for Measurement: Assignable area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas.

> Measured in terms of net square feet (NSF).

Description: Included should be space used to accomplish the institution's mission including classrooms, labs, offices, study facilities, special use, general use, support, health care, residential, and unclassified.

Limitations: Deductions should not be made for necessary building columns and projections. Areas defined as building service, circulation, mechanical, and structural should not be included.

(3) Non-Assignable Area

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 the building.

Basis for Measurement: Non-Assignable Area is computed by physically measuring or scaling measurements from the inside faces of surfaces that form the boundaries of the designated areas.

Measured in terms of net square feet (NSF).

Description: Included should be non-assignable room use categories for building service, circulation, and mechanical – uses that support the building's general operation.

Building Service Areas – Included should be janitor closets or similarly small cleanup spaces, maintenance material storage areas, trash rooms exclusively devoted to the storage of non-hazardous waste created by building occupants as a whole, and public toilets and restrooms.

Circulation Area: Included should be, but is not limited to, public corridors, fire towers, elevator lobbies, tunnels, bridges, and each floor's footprint of elevator shafts, escalators, and stairways. 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 the gross building area. Also include are corridors, whether walled or not, provided they are within the outside face lines of the buildings to the extent of the roof drop line.

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

Limitations: Deductions should not be made for necessary building columns and projections.

(4) Net Useable Area (Total Net Square Feet)

Definition: The sum of all areas of 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.

Basis of Measurement: summing the assignable and the non-assignable area compute net useable area.

Measured in terms of net square feet,
Net Useable Area = Assignable Area + Non-Assignable Area.

Description: Included should be all room use categories of assignable and non-assignable space.

Limitations: Deductions should not be made for necessary building columns and projections. Areas defined as structural should not be included.

(5) Structural Area

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.

Basis for Measurement: Precise computation by direct measurement is not possible under these definitions. 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 Useable Area.

Description: Examples of building features normally classified as structural areas include exterior walls, fire walls, permanent partitions, unexcavated basements, unusable areas in attics or basements, and interior air spaces or atriums.