



FACILITIES PLANNING AND CONSTRUCTION

Illinois State University

ILLINOIS STATE UNIVERSITY DESIGN AND CONSTRUCTION GUIDELINES

Effective September 1, 2015

Revised: _____

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A. ABSTRACT

Illinois State University campus buildings and landscapes contribute directly to the quality of the experience and life and effectiveness of the work of students, faculty, and staff. The creation and maintenance of the campus is a very high priority for Illinois State University. The role that each building and landscape element plays in the composition of the total campus is just as important as the role played in meeting the specific needs identified in the project’s program requirements. These design guidelines will direct the design of campus facilities for each construction project, major repair, and renovation projects.

Separate from the University Design and Construction Standards, it is the intent of the Illinois State University Design Guidelines to be the source of guidance and information for designers and consultants to reference throughout the design process for Illinois State University design and construction projects.

B. DEFINITION OF TERMS

It is important to understand terminology when discussing or using Design and Construction Guidelines. The following are Illinois State University’s generally accepted definitions of the types of space and building areas that are relevant to application of these guidelines. These definitions are consistent with those used by the “Postsecondary Education Facilities. Inventory and Classification Manual” (FICM), published by the U.S. Department of Educational Research



and Improvement, NCES 92-165r. FICM is a standard reference document used by nearly all universities across the country, including Illinois State University.

Gross Square Feet – gsf (also called bgsf-building gross square feet) - GSF is the total area of all floors of a building. This includes the area within the outside faces of exterior walls and floor penetration areas, however insignificant. GSF also includes all building structural, mechanical and other infrastructure systems, all building circulation space, and all support space such as public toilets, lobbies, etc. Gross area also includes space located above and below grade including basements. The hatched area of Figure D-1 below defines the gsf of a building:



Figure D-1

Net Assignable Square Feet – nasf (also called nsf or asf-net square feet or assignable square feet). NASF refers to the space inside a room, as measured from interior wall to interior wall, including “nooks and crannies” which may exist in older buildings. It does not include building circulation, or areas such as restrooms, elevators and stairs. This is the space that is available for assignment to an occupant or for a specific use. These guidelines are presented in terms of “nasf.” The hatched areas of Figure D-2 below, shows the nasf of the building. Note that the corridors, restrooms, elevators, etc. are not included in the nasf.

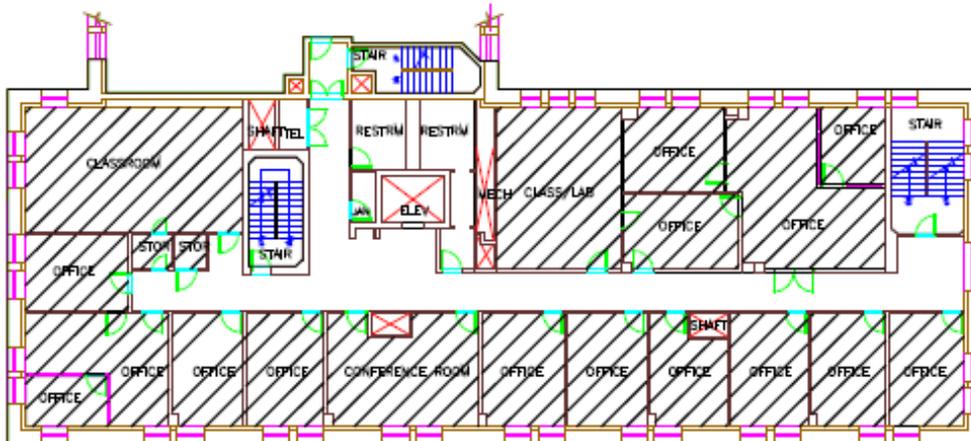


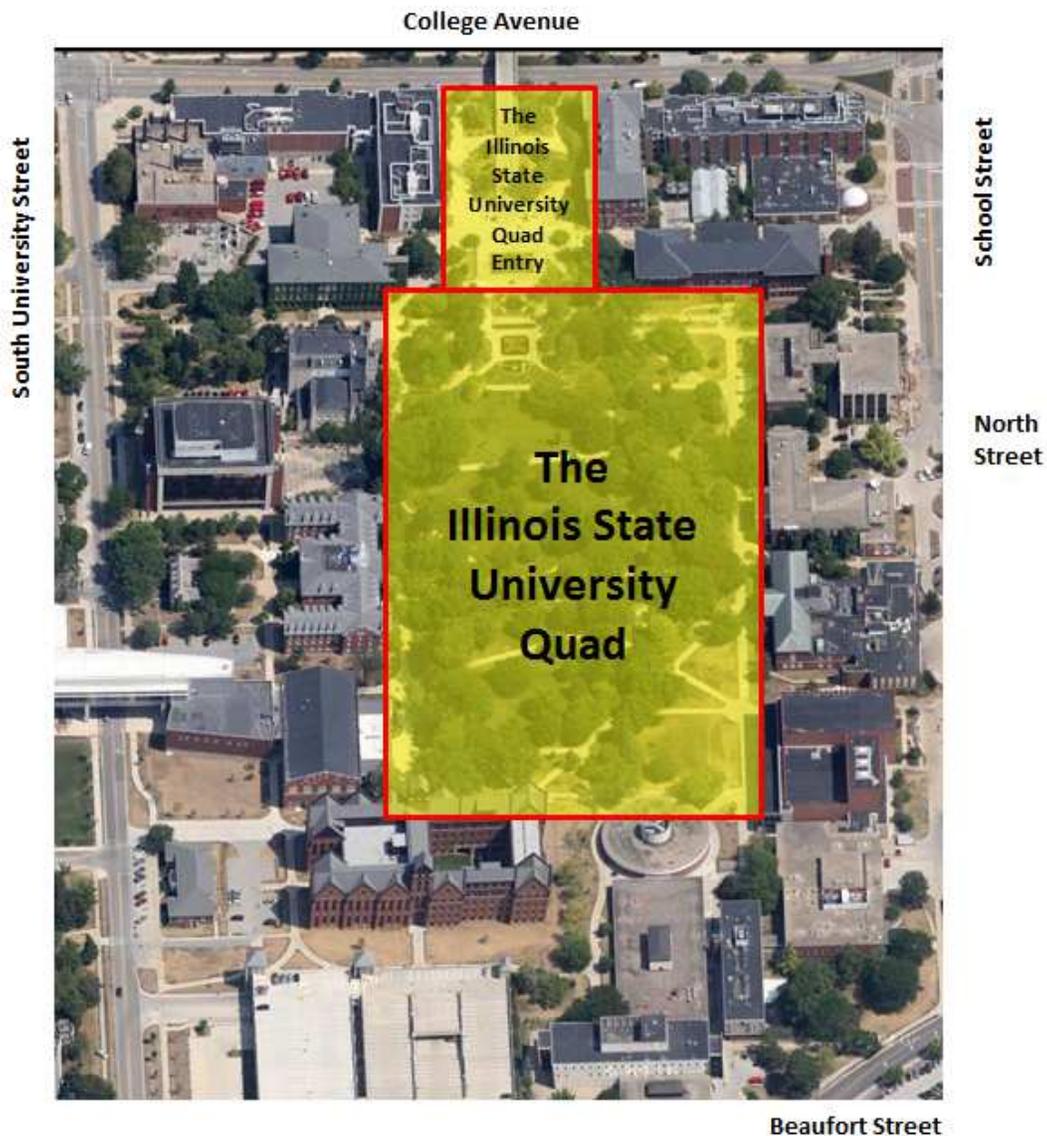


Figure D-2

C. BUILDING DESIGN

1. “Campus Architectural Quad Style”

New buildings and additions on the Illinois State University Quad shall be “Collegiate Georgian” in architectural vernacular, or be approved by Illinois State University to be in a sympathetic or contextual form as represented by current examples on campus. The Quad and entry are defined by the attached plan:





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Buildings should create an external form relationship between the base, body, and roof/cornice of the building. The building should create a harmonious balance between voids (i.e. glazing) and solids (i.e. brick). The front entry should be human scaled/focused, be architecturally prominent and address and respond to pedestrian paths. Roofs should be hipped, gabled, or a combination of the two. Flat roofs, when necessary due to building size, should be hidden by use of sloped roofs or a parapet. Buildings and additions will be composed and massed to fit with the neighboring building scale and proportions. Any new building site on the Quad will respect/reinforce the existing spatial geometry and integrity of Quad entry and the Quad.

Georgian building forms and massing should be articulated with offsets, recesses and outsets to humanize the scale of the building. In general, Quad buildings should be a minimum of 3 stories in height and a maximum of 5 stories in height.

Buildings, where possible, should allow infiltration of natural light into most interior occupied spaces, except where it would not be conducive by function.

The Illinois State University campus is a certified Arboretum and teaching laboratory. Therefore, modified Quad environments settings resulting from new buildings or additions should be comfortable. However, they should not diminish or take attention away from the campus teaching and instructional elements. The campus built environment will support *Educating Illinois* and the academic mission of the University.

Proposed architectural style deviations, as a result of site issues or necessary building functions, must be approved in advance by Facilities Planning and Construction Management in writing.

2. “Campus Architectural Non-Quad Styles”

The Illinois State University campus includes other existing properties and building locations not located on the Quad. These locations contain buildings and environments of different ages, types and architectural styles. New buildings and additions in these locations shall be “contextual” and sympathetic with the existing campus and our non-campus neighbors. Facilities Planning and Construction will be the design authority for determining proposed building appropriateness and contextual fit.

Buildings should create an external form relationship with its site, surrounding environment, the street and its neighbors. The building should create a harmonious balance between voids (i.e. glazing) and solids (i.e. brick). Entries should be human scaled/focused and address and respond to and be of pedestrian scale. Buildings and additions will be composed and massed to fit with their environment and neighboring buildings scale and proportions.

Buildings, where possible, should allow infiltration of natural light into most interior occupied spaces, except where it would not be conducive by function.



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Proposed architectural style deviations, as a result of site issues or necessary building functions, must be approved in advance by Facilities Planning and Construction Management in writing.

3. Building Site Development Issues

Buildings should address minimum clearances and required access for complete campus emergency vehicle access and create pedestrian pathways and “A Pedestrian Approach.”

Buildings should be oriented for maximum solar benefits. Buildings should provide a physical and visual connection between interior and exterior. Buildings should minimize the reduction of existing green space and, wherever possible, capture green space. The campus shall have exterior spaces that provide “sun pockets” in the fall and spring and cool, shady settings in the summer to create and optimize micro-climates.

The designer shall consider the existing environment and design the project to be in harmony with the surrounding buildings and campus. In designing new structures and additions, the contextual scale and architectural style of adjacent buildings and other surroundings shall be taken into account so that the resulting building group or area shall present a unified and coordinated composition.

Illinois State University offers a broad range of learning opportunities. The Illinois State University campus is a certified Arboretum. Therefore new or modified exterior environments for group encounters and individual reflection should be coordinated with campus and Arboretum needs. Exterior “way finding” to provide direction to users of the campus will be part of all design and construction projects.

D. EMERGENCY POWER

1. Purpose

The purpose of this emergency power guideline is to establish a process for Illinois State University to evaluate and priority rank campus electricity needs, electrical circuits, appliances, components, etc. for connection to available Illinois State University emergency power systems. Further this guideline will become a reference guide to assist in the evaluation of new capital expenditure requests for emergency power systems to be installed at Illinois State University facilities.

2. Definitions

An emergency power system may include one or more of the six following sources:

1. Storage battery systems (i.e. battery powered emergency lighting units)
2. Independent Electricity Generator Sets



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3. Uninterruptible Power Supply (i.e. with reserve battery powered electricity capacity)
4. Separate Service or Source (i.e. Dual feed, Photovoltaic)
5. Fuel Cell
6. Individual equipment that provides for temporary emergency generator hook up (i.e. transfer switch emergency generator connection panel)

This guideline is primarily concerned with Emergency Power Supply Systems (EPSS) identified in items 2, 3 and 6 listed above. Emergency systems are the circuits and equipment that supply power within 10 to 120 seconds after interruption of the normal utility electrical supply. Authorities having jurisdiction, applicable codes and the National Fire Protection Agency (NFPA) stipulate the applicable and appropriate EPSS type, classification and the length of time they must run before being refueled ranging from 5 minutes to 48 hours. In addition, there may be additional needs for automatic transfer systems and uninterruptable power supplies to guarantee no valuable data and information is permanently lost or damaged on designated computer systems due to the NFPA allowed temporary 10 to 120 second electrical power outages during a transfer to emergency power systems.

A typical example of the use of emergency systems is to provide emergency lighting to safely evacuate buildings. These systems may also provide power to maintain life safety, fire detection, fire alarm, elevators, fire pumps, and public safety communications systems. These systems may also be designed to provide power to other systems to prevent life safety or health hazards that would result from a loss of normal electric utility power.

3. Emergency Power Priority Rank Classifications

Four priority level classifications have been established for emergency power systems at Illinois State University. The priority levels are listed in descending priority order. To clarify, Priority 1 needs to be satisfied before Priority 2, Priority 2 needs to be satisfied before Priority 3, Priority 3 needs to be satisfied before Priority 4. The definition of these priorities is as follows:

Priority 1 –Priority 1 systems are required where failure of the equipment to perform could result in loss of human life or serious injury. Priority 1 systems comply with NFPA Level 1 System requirements. A representative list (not intended to be all inclusive) of examples follows:

- Building Life Safety Systems
- Fire Alarm Systems
- Emergency Exit Lighting
- Fire Suppression Systems/Fire Pumps (electric and jockey)
- Air Compressors serving fire systems
- Mechanical equipment for smoke proof enclosures
- Minimum 1 elevator serving all floors of occupied high-rise buildings (i.e. greater than 75 feet above fire department vehicle access)



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- Emergency Communication Infrastructure Systems (i.e. Areas of rescue assistance phones/intercoms, two way radio infrastructure)
- University Police Department
- Emergency Operations Center
- Student Health Services Treatment Rooms and Pharmacy Medication Refrigerators

Priority 2 - Priority 2 systems are required where failure of the Emergency Power Supply System to perform could result in a major or severe negative impact to a University enterprise system, function or operation. These impacts include financial, schedule, data, information, research, and other critical University Enterprise systems. Priority 2 systems comply with NFPA Level 2 System requirements. A representative list (not intended to be all inclusive) of examples follows:

- Data Centers
- Telecom Closets and dedicated HVAC systems
- VOIP Telephone Systems
- Science Laboratory Research Projects with Continuous Power Requirements
- Environmentally Sensitive Biological Research
- Live Biological Research Specimens
- Vivarium environments

Priority 3 - Priority 3 systems are required for University asset protection and safety and security concerns. Priority 3 systems are required where failure of the Emergency Power Supply System to perform will result in damage to University physical plant assets or cause University asset, building, facility security or operational concerns for students, faculty, staff or visitors. A representative list (not intended to be all inclusive) of examples follows:

- Flood Protection Sump Pumps
- Domestic Hot Water Circulating Pumps
- Steam System Delivery Pumps and Electrical Components
- Security Systems
- Electronic Door Lock Systems that Default to “Locked” in a Prolonged Outage

Priority 4 - Priority 4 systems are required for special University operations or functions. Priority 4 systems are required where failure of the Emergency Power Supply System to perform will result in a defined targeted negative impact to a specific University Enterprise function or operation. Priority 4 systems require justification and approval on a case-by-case basis, and will only be approved when all Priority 1, 2 and 3 needs have been adequately met. A representative list (not intended to be all inclusive) of examples follows:

- Special Dining Services operational needs



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All Illinois State University Emergency Power Systems shall be in compliance with the latest edition of NFPA 110: Standard for Emergency and Standby Power Systems, latest published edition.

4. Existing Emergency Power Sources and Allocations

Illinois State University maintains an inventory of existing emergency generator locations and allocation of emergency power entitled “Illinois State University Emergency Generator Inventory Summary”.

5. Emergency Power Service Connection Request Process

The request process for connection to Illinois State University’s emergency power system is defined as follows:

1. If a University Department believes it has a system, piece of equipment, or other need for an emergency electrical power connection, the Dean/Director/Department Head shall complete the Request for Emergency Power Connection Form, and provide any necessary support documents, justifications and business cases.
2. The Request for Emergency Power Connection Form and support documents will be forwarded to Facilities Planning & Construction Management through the service request section of the Facilities Planning & Construction Management web site located at: http://facilities.illinoisstate.edu/facilities_planning/request/
3. The Director of Facilities Planning & Construction Management will then schedule a meeting of the University Emergency Power Review Committee and invite the requesting Dean/Director/Department Head to present his case to the University Emergency Power Review Committee.
4. The University Emergency Power Review Committee will review the request based on:
 1. Available power capacity in existing emergency power systems
 2. The priority system established in this guideline
 3. The merits of the submission
 4. Costs and available funds to implement the request
5. The University Emergency Power Review Committee will review the submission and the Chairman will advise the committee’s decision in writing to the requestor within 2 weeks.
6. In the event that the request is not approved, the Dean/Director/Department Head may make a second request appeal submission to the University Emergency Power Review Committee to present additional or new supporting justifications.

6. Emergency Power Service Review Committee

The University Emergency Power Review Committee will be comprised of the following individuals:



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- Provost Office Designate
- Student Affairs Office Designate
- Senior Associate Vice President for Finance and Planning
- Director of Facilities Planning and Construction Management
- Executive Director, Facilities Management
- Director, Office of Energy Management

E. INTERIOR DESIGN

These Interior Design Guidelines are to guide the design process for construction and renovation projects at Illinois State University. These guidelines apply to all interior design elements including furniture. They are intended to achieve a consistent level of furniture and finish quality across the entire Illinois State University campus. One goal of these guidelines is to simplify and reduce the long term maintenance costs for Illinois State University. This will be done by reducing required campus replacement attic stock and limiting maintenance inventory for repair and touch up materials such as paint.

1. General Principles

- Each individual building will have its own furniture and finish standards to support the design intent of the original building. The intent of these Guidelines is to achieve and maintain a consistency of furniture products and finishes within each building.
- Interior Design Guidelines have been carefully made to support the design aesthetic and use of each campus building.
 - Finishes: Finishes include resilient and hard surface flooring, paint, wallcovering, and ceilings. These products are evaluated for performance, durability, and design.
 - Furniture: Guidelines apply to both workstations and free-standing furniture. The furniture is evaluated for many factors including durability, depth of product lines, ease of re-configuration, and design. This evaluation takes into account past experience with various furniture manufacturers including the actual product, warranty issues, and the past service experienced from local vendors.
 - Upholstery: Upholstery must meet or exceed specific application testing for all public seating areas. Upholstery must include high performance fabrics for all public seating areas and other areas which receive high usage.
 - Products: Refer to the separate companion document “Illinois State University Design and Construction Standards” for the latest specific applicable Interior Design Illinois State University product standards



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- Project designs should consider the functions of the spaces and coordinate those spaces between adjacent existing spaces where applicable. The spaces should be designed to assist first time users through clarity of "way finding," towards defined destinations.
- Psychological impact of colors should be considered in the design process. Colors should be chosen to coordinate with existing established building and campus standards, except where emphasis of elements is needed. Finishes and materials should be comfortable and durable to accommodate both lounge and classroom settings.

Every design and construction project is important to Illinois State University. Consistency and quality are valued across our campus for what they add and contribute to the "Illinois State University Experience". These guidelines are designed to be flexible enough to allow for innovation and creativity. We strongly urge you to contact Illinois State University Facilities Planning and Construction Management for help with your campus project as soon as possible. Please contact us at:

http://facilities.illinoisstate.edu/facilities_planning/request/

The following section provides guidelines for selection of standard materials for typical specific campus uses and applications. These lists are not intended to be exhaustive or include all spaces in future projects, but are provided here as a reference for standard Illinois State University spaces.

2. Basic Interior Design Standard Building Elements
 - a. Ceilings
 - i. Public (Classrooms, Labs, Hallways, restrooms, work rooms, etc.)
 1. Gypsum Board (painted)
 - a. 2' x 2' acoustical ceiling tile
 - i. Highly durable
 - ii. Easily cleaned
 2. Non-public (Offices, Conference Rooms)
 - a. Gypsum Board (painted)
 - b. 2' x 2' acoustical ceiling tile
 - ii. Classrooms and Computer Labs
 1. Carpet tile
 - iii. Labs
 1. Vinyl Composition Tile



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2. Luxury Vinyl Tile
- iv. Kitchens and Dish Rooms
 1. Quarry Tile
- v. Non-public (Offices, Conference Rooms)
 1. Carpet Tile
- c. Walls
 1. Public
 - a. Tile
 - b. Burnished Block
 2. Non-public
 - a. Gypsum Board (painted)
- d. Furnishings
 - i. Classrooms
 1. Classrooms shall have tablet arm chairs or tables & chairs.
 2. Classrooms shall have as much whiteboard space as is practical.
 - ii. Offices
 1. Offices shall have a desk, task chair, at least one guest chair, and at least one 2-drawer file cabinet or bookcase.
 - iii. Laboratories
 1. Laboratories shall have all equipment necessary for proper lab function, including lab tables and stools for student use.
 - iv. Libraries
 1. Libraries shall include tables & chairs as well as lounge furniture for different areas.
 2. Furnishings shall include power capabilities when appropriate.
 - v. Residence halls
 1. Residence halls shall have lounge furniture in public areas.
 2. Student rooms shall include a bed, desk, and a desk chair per occupant.
 - vi. Public spaces
 1. Indoor public spaces shall have lounge furniture and/or benches.
 2. Upholstered furniture in non-sprinkled areas must comply with CAL 133.
- e. Window Treatments
 - i. All new window treatments shall be aluminum blinds or roller shades.
 - ii. Windows may be treated with film, solar film, or security film.

F. LANDSCAPE & SITE DESIGN

1. Concept Information and Guidelines

Illinois State University takes great pride in its exterior campus environments. Further, Illinois State University contains a certified Arboretum – *The Fell Arboretum*. Subsequently, the



University continues to strive towards a goal of providing a diversified group of trees and shrubs on our campus. Specific plant species are chosen for their hardiness to this region, growth habits, and interesting characteristics. This diversification in plant material allows us to meet one of the main objectives of the Fell Arboretum- the creation of a complete, living laboratory for instructors, students and visitors. The selection and planting of additional plant species, onto the campus of Illinois State University, should be done with the Fell Arboretum objectives in mind. Further, Illinois State University has the following additional campus landscape design goals:

- Serve as an educational tool/classroom
- Encourage learning, both formal and informal
- Provide spaces for study and meditation
- Provide a campus organization reflecting the heritage and traditions of the University
- Offer historical continuity of plant life
- Present a harmonious balance of campus unity and diversity
- Establish an identity for major disciplines and activities
- Provide pedestrians the priority of use on campus
- Develop campus boundaries that serve the overlapping interests and needs of the university and the surrounding community

2. Exterior Plants

The following list is provided as the primary plant list that should be considered when selecting/designing exterior plants for Illinois State University campus landscape improvements:

1. Trees
 1. White Fir/ *Abies concolor*
 2. Red Maple / *A. rubrum*
 3. October Glory Red Maple / *A. rubrum* ‘October Glory’
 4. Red Sunset Maple / *A. rubrum* ‘Red Sunset’
 5. Autumn Flame Maple / *A. rubrum* ‘Autumn Flame’
 6. Bowhall or Armstrong or Karpick Maples (upright, conical varieties)
 7. Sugar Maple Group (*Acer saccharum* spp.)
 8. Species Sugar Maple / *A. saccharum*
 9. Green Mountain Sugar Maple / *A. saccharum* ‘Green Mountain’
 10. Legacy Sugar Maple / *A. saccharum* ‘Legacy’
 11. Commemoration Maple / *A. saccharum* ‘Commemoration’
 12. Norway Maple / *A. platanoides* (and columnar variety – ‘Columnare’)
 13. Hedge Maple / *A. campestre*
 14. Paperback Maple / *A. griseum*
 15. Trident Maple / *A. buergeranum*
 16. Japanese Maple / *A. palmatum* varieties
 17. Bottlebrush buckeye / *A. parviflora* (natural settings)



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18. Serviceberry / *A. Canadensis*
19. Autumn Brilliance Serviceberry/ *A. x grandiflora* ‘Autumn Brilliance’
20. Pawpaw (*Asimina triloba*)
21. Species River Birch / *B. nigra*
22. Heritage River Birch / *B. nigra* ‘Heritage’
23. Gray Birch/*B. populifolia*
24. American Hornbeam / *C. caroliniana*
25. European Hornbeam / *C. betulus* (and varieties – ‘pendula’ or ‘fastigiata’)
26. Hop Hornbeam/ *Ostrya virginiana*
27. Shagbark Hickory/ *C. ovata*
28. Shellbark Hickory/ *C. laciniosa*
29. Mockernut Hickory/ *C. tormentosa*
30. Yellowbud (Bitternut) Hickory/*C. cordiformis*
31. Catalpa (*Catalpa speciosa*)
32. Katsura Tree (*Cercidiphyllum japonica*)
33. Species Redbud / *C. Canadensis*
34. Forest Pansy Redbud / *C. canadensis* ‘Forest Pansy’
35. White Redbud / *C. canadensis* ‘alba’
36. White Fringe Tree (*Chionanthus virginicus*)
37. American Yellow-wood (*Cladrastis lutea*)
38. Species Flowering Dogwood / *C. florida*
39. Cherokee Princess Dogwood / *C. florida* ‘Cherokee Princess’
40. Kousa Dogwood / *C. kousa*
41. Pagoda Dogwood/*C. alternifolia*
42. Gray Dogwood/ *C. racemosa*
43. Smoketree (*Cotinus coggyria*)
44. Washington Hawthorne / *C. phaenopyrum*
45. Lavalley Hawthorne / *C. x lavalleyi*
46. Common Persimmon/ *Disopyros virginiana*
47. American Beech / *F. grandifolia*
48. European Contorted Beech / *F. sylvatica* ‘contorta’
49. Ginkgo (*Ginkgo biloba* – male trees only)
50. Kentucky Coffee Tree (*Gymnocladus dioicus*)
51. Carolina Silverbell (*Halesia carolina*)
52. Common Witchhazel / *H. virginiana*
53. Vernal Witchhazel / *H. vernalis*
54. Common Winterberry/ *Ilex verticillata*
55. Butternut/ *Juglans cinerea*
56. Golden Rain Tree (*Koelreuteria paniculata*)
57. Tamarack(American Larch)/ *Larix laricina*
58. European Larch/ *Larix deciduas*
59. Cucumber Magnolia / *M. acuminata*
60. Saucer Magnolia / *M. soulangeana*



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61. Star Magnolia / *M. stellate*
62. Crabapple: Prairie Fire, Red Jade, Snowdrift, Zumi, and others.
63. Iowa Crab/ *M. coronaria*
64. Dawn Redwood (*Metasequoia glyptostroboides*)
65. Black Gum (*Nyssa sylvatica*)
66. Water Tupelo/ *Nyssa aquatic*
67. Norway Spruce / *P. abies*
68. White Spruce / *P. glauca*
69. Colorado Blue Spruce / *P. pungens*
70. Japanese Black Pine / *P. thunbergi*
71. Eastern White Pine / *P. strobus*
72. Lacebark Pine/ *P.bungeana*
73. Limber Pine/ *P. flexilis*
74. Red Pine/ *P. resinosa*
75. Shortleaf Pine/ *P. echinata*
76. Big Tooth Aspen/ *Populus grandidentata*
77. Cottonwood/ *Populus deltoids*
78. London Plane Tree (*Platanus x acerifolia* ‘Bloodgood’)
79. American Plum/ *Prunus Americana*
80. Douglas Fir (*Pseudotsuga taxifolia*)
81. Swamp White Oak / *Q. bicolor*
82. White Oak / *Q. alba*
83. Bur Oak / *Q. macrocarpa*
84. Scarlet Oak / *Q. coccinea*
85. Chinquapin Oak / *Q. muhlenbergii*
86. Northern Red Oak / *Q. borealis (rubra)*
87. Red Oak/ *Q. rubra*
88. Post Oak/ *Q. stellate*
89. Black Oak/ *Q. velutina*
90. Japanese Pagoda Tree (*Sophora japonica*)
91. Japanese Tree Lilac (*Syringa reticulata*)
92. Bald Cypress (*Taxodium distichum*)
93. Greenspire Littleleaf Linden / *T. cordata* ‘Greenspire’
94. Basswood/ *T. Americana*
95. Hemlock (*Tsuga canadensis*)
96. Lacebark Elm (*Ulmus parvifolia*)
97. Elm/ *Ulmus seratina*, Other *Ulmus* hybrids
98. Sassafras / *Sassafras albidum*
99. Red Sassafras/ *S. albidum var. molle*
100. Numerous other varieties: *coccinioides, collina, corusca, crus-galli, engelmannii, hannibalensis, Holmesiana, macrosperma, margaretta, marshalli, neobushii, Pedicellata, permixta, pruinosa, punctata, succulenta, tortilis, viridis, And faxonii.*



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2. Shrubs
 1. False Indigo/ *Amorpha fruticosa*
 2. Chokeberry
 3. *Aronia melanocarpa* “Viking”
 4. *Aronia arbutifolia*
 5. New Jersey Tea/ *Ceanothus americanus*
 6. Buttonbush/ *Cephalanthus occidentalis*, or var. *pubescens*
 7. Clethra
 8. *Clethra alnifolia* “Hummingbird”
 9. American Filber/ *Corylus Americana*
 10. Cotoneaster – All Species
 11. Fothergilla/ *Fothergilla gardenia*
 12. *Hydrangea quercifolia*
 13. *Hydrangea arborescens* “Annabelle”
 14. *Hydrangea Pink Beauty*
 15. *Hydrangea arborescens*
 16. Hollies/ *Ilex* spp.
 17. Spicebush/ *Lindera benzoin*
 18. Pussywillow/ *Salix discolor*
 19. Silky Willow/ *Salix sericea*
 20. Bladdernut/ *Staphylea trifolia*
 21. Farkleberry/ *Vaccinium arboretum*
 22. *Viburnum* – Most Species

3. Site Design

The following site design items provided as the primary plant list that should be considered when selecting/designing exterior plants for Illinois State University campus landscape improvements:

1. Hardscape
 - a. Major sidewalks will be no less than 10’ wide, 5’x5’ picture frame tooling.
 - b. Minor sidewalks will be 5’ wide, picture frame tooling.
2. Greenscape
 - a. The University expects to develop green spaces associated with construction projects. Likewise, the University may endeavor to specifically develop separate green space projects. Landforms, berms and other landscaping elements are encouraged in appropriate locations to build upon the existing campus arboretum to provide spaces for reflection, study or meditation. New greenscape should provide visual cues for moving from one space or building to another and assist with wayfinding on campus.
3. Outdoor furnishings
 - a. Outdoor lighting



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- i. Light poles shall be consistent throughout campus.
- ii. In-ground fixtures must be flush with concrete or landscaping to avoid damage by mowers and/or snow plows.
- b. Outdoor seating
 - i. Outdoor public spaces shall have permanently installed outdoor benches and tables. Freestanding furnishings are not permitted on campus.
 - ii. Fixed benches
 - iii. Fixed tables
 - iv. Landscape Forms

G. SIGNAGE & WAYFINDING

All design and construction projects should include a wayfinding component. Illinois State University's Signage and Wayfinding program should be implemented for all Illinois State University's facilities. Exterior "way finding" should provide direction to users of the campus and will be part of renovation and construction projects. This program addresses a hierarchical, coordinated and systematic wayfinding program with signage components including, but not limited to:

1. Exterior signage and wayfinding elements:
 - a. Campus wayfinding through both signage and sense of place (landmarks, walkways, landscaping, etc.)
 - b. Campus boundary definition or identification
 - c. Campus entry or gateway designation
 - d. Non-illuminated and illuminated sign types
 - e. Building identification
 - f. Electronic signage and media
 - g. Donor recognition
 - h. ADA compliance
2. Interior signage and wayfinding elements:
 - a. Comprehensive and effective building interior signage and wayfinding system
 - b. Recommendations for both non-illuminated and illuminated sign types
 - c. Electronic signage and media
 - d. Donor recognition
 - e. ADA compliance
3. Room Number Signage – All door numbering signage shall be located on the side of the door frame, and never on the door itself. The signage shall be attached by the use of a double-sided tape to the drywall or other wall surface, at a height of 54" from the finished floor to the center of the sign. All doors shall be numbered with the Room Number as the base. Where a room or space has multiple doors, use a letter suffix added to the room



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number. Always use a dash (-) to separate the base (Room) number from the suffix.
(Example: Door 219, 219-A)

H. SUSTAINABLE DESIGN REQUIREMENTS

LEED™ (Leadership in Energy and Environmental Design) Green Building Rating System® is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. The University supports the ideals and intentions of this program. The University expects incorporation into the project of any facet of this program that benefits sustainability, the proposed building, the environment, and the University. Along with design and construction efforts, the University expects that designers will provide clear direction to contractors to recycle from the construction site in accordance with the intent and requirements of this program to help reduce landfill consumption. The University expects as a final project deliverable – concise, simple and straightforward documentation of these efforts and achievements.

While the University reserves the decision to seek LEED certification for any building or project, each designer shall endeavor to incorporate LEED ideals and applications as warranted by project type or potential. Illinois State University, as an institution, is committed to acting as a responsible steward of our environment. Therefore the construction and/or renovation of buildings must serve the University for a very long time.

Illinois State University High Performance Building Guidelines are hereby constituted by adopting the principles and requirements of the latest version of Leadership in Energy and Environmental Design (LEED) Green Building Guidelines and Rating System. These principles and requirements are intended to provide direction to designers for the sustainable planning, design, construction and commissioning of new building and major renovation projects at Illinois State University.

These Illinois State University High Performance Building Guidelines apply to all new design and construction projects that use energy, air, water, and other natural resources. The objective is to use resources effectively and efficiently. This will improve the comfort, health, and safety of occupants and visitors and limit detrimental effects to the environment. All these factors contribute to Illinois State University high-performance buildings lower total life cycle costs.

I. SPACE REQUIREMENTS

1. Offices

The following guidelines define the sizes and layouts for the various types of offices at Illinois State University. During the design process it is important to incorporate the following where possible:



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- Application of a modular planning approach, to preserve flexibility of office use over time. For example, co-locating offices of similar sizes and types to accommodate future needs and changes in academic programs and administrative functions.
- Placement of offices in the building core rather than along the windowed side of buildings, in order to create the flexibility as well as to promote air movement and air quality and to maximize light penetration for all building occupants.
- Where required, offices may be configured into suites or along hallways. However, consideration should always be given to providing “open office” arrangements where possible.
- Arrange for, when possible, diffuse natural lighting into the building to supplement artificial lighting for workspace lighting.

The sample plans that follow in these space guidelines are representative only. They are provided to demonstrate sample diagrammatic office layouts, for the purpose of visualizing office spaces and possible furniture layouts for the applicable spaces at Illinois State University. This list is not intended to be exhaustive or include all spaces in future projects, but be provided for reference and comparison purposes.

1.1 PRESIDENT / VICE PRESIDENT / ASSOCIATE OR ASSISTANT VICE PRESIDENT

Upper level administrative offices (President/Provost/Vice President/Assistant Vice-President/Associate Vice-President) shall be uniquely designed and sized to best serve the function of that office function.

1.2 DEAN / DIRECTOR / CHAIR

Dean/Director/Chair office's should be a single, private office intended to accommodate a desk, files, bookshelf and a meeting area for an additional 4-6 people. Administrative offices should be large enough to enable the occupant to perform their functional responsibilities. Dean/Director/Chair offices at Illinois State University range from 200-250 square feet and should be approximately 240 nasf. Sample office layouts are illustrated in Figures 1A & 1B on the next page:

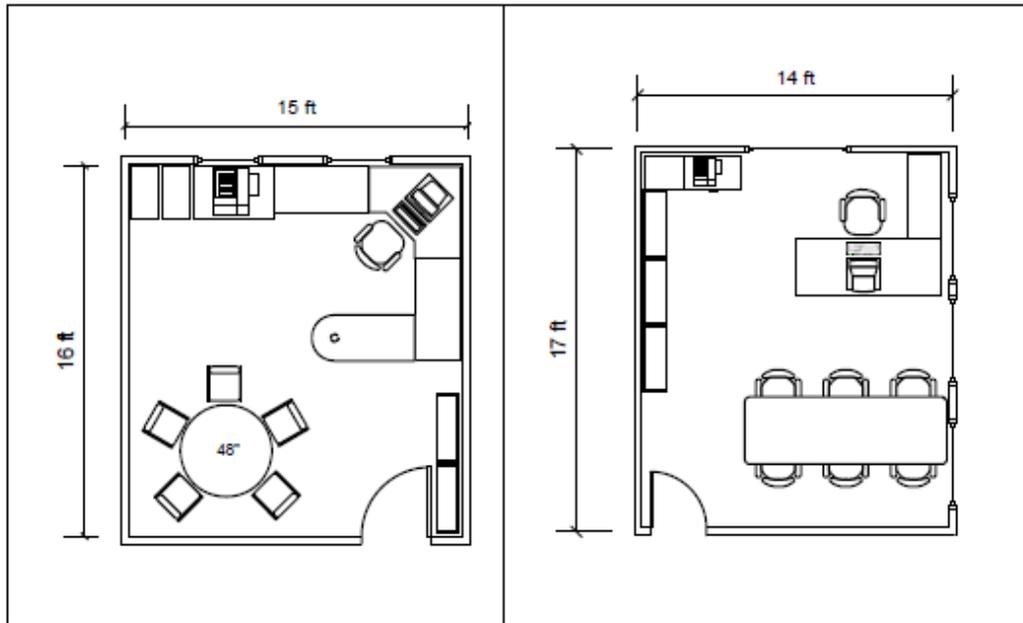


Figure 1A

Figure 1B

1.3 ASSISTANTS / ASSOCIATES / FACULTY

Faculty offices should allow for faculty members to perform their office functions and be able to meet with two additional persons. Approximately 80 lineal feet of shelving should be included in all faculty offices. Faculty offices at Illinois State University range from 120-130 square feet and be approximately 125 nasf. Sample office layouts are illustrated in Figures 2A & 2B below:

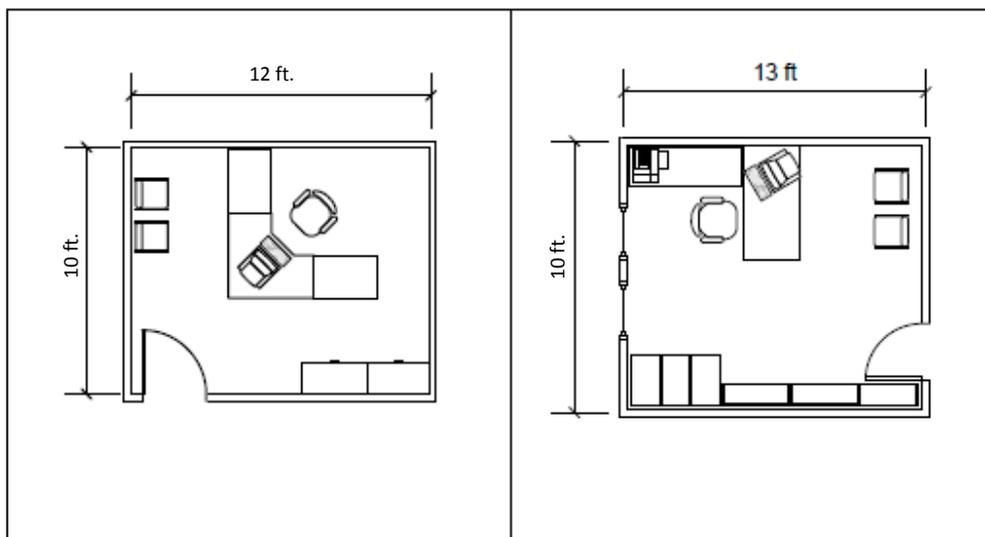


Figure 2A

Figure 2B



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The Illinois State University guideline for staff office space ranges from 64-125 nasf/per person. This space may be cubicle space, a shared office, or a private office, depending upon the nature of the work. Part-time staff should be located in shared spaces or cubicles at the smaller end of the range. The following chart illustrates recommended space allocations by employee:

Group	Employee	Office Type	Recommended NASF
Dean	Dean	Office	240
	Assistant Dean	Office	125
	Associate Dean	Office	125
Faculty	Tenure Track - Full Time	Office	125
	Tenure Track - Part Time	Shared Office or Cubicle	80
	Non-Tenure Track - Full Time	Office	125
	Non-Tenure Track - Part Time	Shared Office or Cubicle	80
Emeriti	Active	Office	125
	Non-Active	Shared Office or Cubicle	80
Other Teaching	Lecturers	Shared Office or Cubicle	80
	Sr. Lecturers	Shared Office or Cubicle	80
	Consulting Faculty	Shared Office or Cubicle	80
	Visiting Faculty	Shared Office or Cubicle	80
Others	Affiliates	Shared Office or Cubicle	80
	Visiting Scholars	Shared Office or Cubicle	80
	Fellows	Shared Office or Cubicle	80
	Research Associates	Cubicle	80
Staff	Program Directors	Office	125
	Directors	Shared Office or Cubicle	100
	Assistant Directors	Cubicle	100
	Managers	Cubicle	80
	Supervisors	Cubicle	80
	Full Time	Cubicle	64-100
	Casual	Cubicle	64-100
	Temporary	Cubicle	64-100
	Part Time	Cubicle	64-100
	Research Associates	Shared Office or Cubicle	80
	Student Workers	Cubicle	36-64
Students	RA's	Cubicle	30-64
	TA's	Cubicle	30-64
	Grad Students	Cubicle	30-48



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One of the most challenging aspects of allocating office space for staff at Illinois State University has to do with determining which staff members should have a private office and which should have a cubicle or open office environment. Many staff will automatically resist cubicles or open office settings, despite the fact that such settings have specific merits and are commonplace in universities and college environments in this country.

The following guidelines for staff cubicle/office/teaming spaces will be the basis guideline for allocating office spaces on campus. The decision to allocate an office or a cubicle or a teaming environment to Illinois State University staff members should be made on the basis of the type of work an individual performs. The following factors will be used to determine workspace assignments:

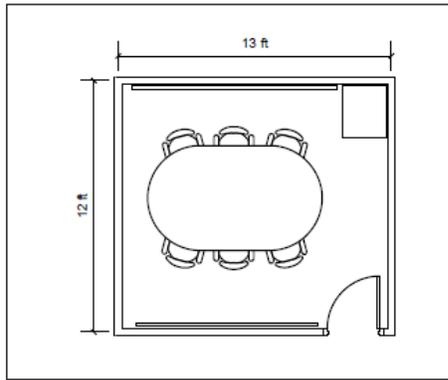
- Job position, rank, and classification
- Time appointment (full-time versus part-time, seasonal versus year-round, job share versus more traditional job arrangements)
- Supervisory and/or managerial role
- Nature/frequency of interaction with internal or external client groups
- Nature/frequency of confidential communication in person or on the telephone
- Nature/frequency of working with other members of a team pursuing similar tasks
- Nature/frequency of processing confidential data
- Nature/frequency of handling equipment/material that requires secure space
- Volume of noise associated with departmental activity or individual job role
- Degree of isolation required for focus and completion of routine job duties

STAFF SUPPORT SPACES

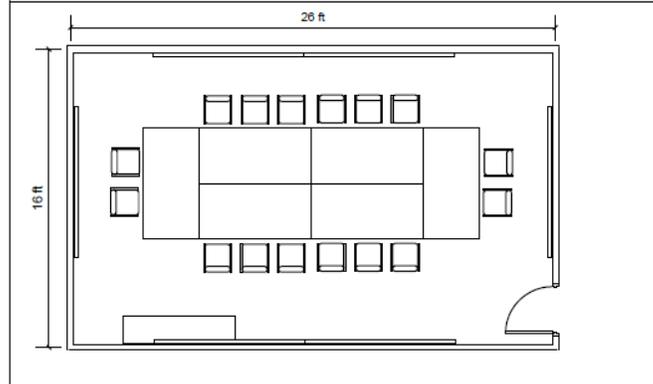
Staff areas are often larger, open spaces that accommodate a variety of functions such as secretarial, clerical, filing, reception and other support functions. Separate, but adjacent, workroom, mailroom and storage room functions may be a part of these areas. Employee work areas space allocations should be per the above chart. In addition, appropriate space should be allocated for required work equipment and furniture with appropriate dedicated work areas, aisles and clearances.

CONFERENCE ROOMS

Conference rooms range from small to large based on program requirements. Area requirement for conference rooms should be calculated at 20-30 square feet per person. For all but the very largest of rooms the recommended technology setup is for a large monitor sitting on top of a cabinet/credenza with the computer in the cabinet and control done via a wireless keyboard/mouse. It is also recommended that any new conference room have at least one power outlet below the table and one empty conduit running from under the table to a junction box in the wall (behind where the credenza would go) and continuing up to the ceiling space to support wiring for a projector and audio system if needed. Examples of small and large conference rooms are illustrated in Figures 3A & 3B on the next page:



3A Small Conference Room



3B Large Conference Room

2. Classroom sizes

Allocation of classroom space will be determined by the following factors:

- *Classroom Space Assignment and Use Analysis*
Provide an adequate number and size of classrooms in the appropriate locations to serve academic needs.
 - How many large or medium-sized classrooms are needed?
 - How many smaller seminar rooms are needed?
 - What additional classrooms will be available in what buildings at what times?
- *Classroom Space per Seat*
Provide correctly sized spaces *per seat* within any given classroom.
 - Are classrooms intended for 100 students sized to seat 100 students with appropriate furniture?
- *Classroom Technology Support*
Provide required program technology.
 - Is the classroom capable of supporting the teaching needs of the faculty?
 - Is the room large enough?
 - Is the technology in the right place?
 - Is the technology available at the right time?
 - Is the technology fixed or moveable?
 - Does it provide the appropriate space per student seat?
 - What are the technology requirements?
- *Classroom Acoustics*
Provide required acoustics to support teaching and technology.
 - Are classrooms separated acoustically from hallways, equipment rooms or other classrooms?
 - Are classrooms finished appropriately to reduce reverberation of the spoken/presented word to enhance intelligibility?



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- *Classroom Geometry*

Provide the required geometry to support teaching and technology.

- Ceiling height and viewing distance to the display must be considered when planning a new classroom. The minimum acceptable viewing distance for any display is 6 times the height of the display and in some cases depending on the purpose of the room should not exceed 4 times the height. The bottom of any display should not be lower than 48" AFF. In an 8' ceiling environment then the distance to the farthest viewer should not exceed 24'.

- *Flexibility of Classroom Space*

Provide the required flexibility.

- The configuration of the room and furniture layout should have the ability to change as the pedagogy evolves.

As these factors demonstrate, defining and allocating classroom space is a complex undertaking. These guidelines will help estimate the actual size of classrooms needed for new construction or for renovation projects for proposed changes to existing classroom space. They also help to assess the efficiency of existing classroom space concerning the adequacy of existing rooms to accommodate assigned numbers of students and the technology required.

These factors and issues are addressed on a regular basis by the Office of the Registrar, which schedules most of Illinois State University's classroom space. Learning Spaces and Audio/Visual Technologies will be involved with designing and outfitting classrooms with technology. The Office of the Registrar, working with Facilities Planning and Construction Management, weighs these issues and works with schools and departments in the design of new classrooms and the renovation of existing rooms. The involvement of the Registrar and Learning Spaces and Audio/Visual Technologies are key success factors, because of the need to coordinate classroom uses and functions across the campus in order to meet Illinois State University's academic needs. Facilities Planning and Construction Management will help by advising about key issues such as grouping classrooms, clustering classroom support, and providing formal and informal breakout spaces. All of these can affect classroom design.

Classrooms

The following table presents a range of guidelines for different types of classroom spaces. Actual space per seat, in a classroom may vary depending on existing room configuration as well as type of furniture and seating used (fixed versus movable, tablet arms of varying sizes, tables, or theater-type seating). Classrooms are increasingly outfitted to accommodate sophisticated audiovisual equipment, streaming video, etc. Subsequently the size of the rooms may need to be increased to accommodate this equipment and its support. In general, basic technology needs to include the ability to display instructional content to all students (through large display, projectors, etc.), writing surfaces for instructional use, network connectivity (wired and wireless) for both instructor stations and students and suitable AV systems to support instruction. Ensure that lighting is appropriately placed to enhance projected images. The guidelines below



accommodate these types of needs. Recommendations for seminar rooms for 25 or fewer persons are also applicable to these guidelines for conference rooms.

Classroom Space Guidelines						
Room Category	Room Capacity (No. of Stations)	Moveable Chairs w/Tablet Arm Chairs (15-20" Tablet Arms) NASF**	Fixed Pedestal or Riser Mounted Seating w/Tablet Arm Chairs NASF**	Auditorium Seating NASF**	Moveable Table and Chairs NASF**	Fixed Pedestal Table and Chairs NASF**
Seminar/Conference Rooms	0-25	17-24	17	NA	16-26	20-22
Small Classrooms	0-25	17-24	17	NA	16-26	20-22
Small Classrooms*	26-49	16-18	17	NA	16-26	18-20
Medium Classrooms/Lecture Hall*	50-99	14-16	13	14-17	16-22	18-20
Medium Classrooms/Lecture Hall*	100-149	NA	12-14	NA	16-22	18-20
Large Classrooms/Lecture Hall*	150-299	NA	NA	10-14	16-22	17-19
Large Classrooms/Lecture Hall*	300+	NA	NA	10-14	16-22	16-18
Notes Legend						
*	Fire codes require two exits for rooms with occupant load exceeding 49					
**	Table assumes flat/non sloping floors					

Classrooms shall be sized to accommodate the program requirements. Classroom geometry and layout will be carefully planned for the program and to provide future flexibility.

J. ROOM NUMBERING

These guidelines outline the procedures and rules for assigning room numbers to all spaces in the Illinois State University campus. They are provided for use by Architectural and Engineering consultants for projects including all renovation projects and new construction. The guidelines apply to all recreational, academic, administrative buildings, residence halls and any leased properties.

The campus room number system provides for a unique identifier for every building space on campus. This identifier is used for way-finding within buildings and to consistently identify each room in University data systems, including the Facilities Planning and Construction Management space management system (Archibus), the Computer Aided Drawing programs (AutoCAD / REVIT) and the Facilities Management work order system (WebTMA).

1. General Procedures

Facilities Planning and Construction Management is responsible for the review and assignment of room numbers in all University buildings monitored by the University Space Management database system (Archibus) and any dependent software packages. This review procedure ensures that:

- a. Room numbers are uniquely assigned within a building
- b. Room assignment conventions follows University rules and good way-finding practices.



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- c. Changes in room numbering are recorded in the Archibus database and on the CAD / REVIT floor plans
- d. All changes are reported to other dependent University data systems and university stakeholders in a timely fashion.

2. Room Number Assignment Guidelines

General:

All spaces in University buildings are uniquely identified by the combination of the Building Number (or Abbreviation), Floor Designation and Room Number. This information is centrally maintained and distributed from the University space management database (Archibus).

All spaces in a building must have a room number designation, including all building circulation and service areas (corridors, restrooms, mechanical rooms, closets, etc.) as well as shafts and air spaces.

Generally, even room numbers are to be maintained on one side of a corridor and odd numbers on the opposite side. Number all spaces on a particular floor that can be directly accessed from that floor such as corridors, vestibules, and stairwells.

Floors:

Floors are numbered using a 2-digit standard commencing with '01' for the first floor and continuing for every floor (i.e. 02 = second floor, 03 = third floor, etc.). The exceptions will be Basement and Sub-Basement levels, they will use the letters, B and SB respectively.

Rooms:

Rooms will be numbered with a standard three digit numbering schema whenever possible with the first digit always referring to the floor. Four digit room numbers will be used in buildings that are more than 9 floors, as noted below:

<u>Floor</u>	<u>Range</u>
Sub-Basement	SB01 - SB99
Basement	B01 - B99
First Floor	101 - 199
Second Floor	201 - 299
Third thru Ninth	X01 - X99
Tenth Floor	1001 - 1099

Lobbies / Main Entrance:



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The main lobby / entrance can be numbered '100' if on the first floor. Offices and other spaces should be numbered starting with '101' to the left of the main lobby and continuing in a clockwise manner. If a building has more than one entrance, the main entrance is considered that entrance associated with the official building address.

Corridors:

All corridors are numbered X00 where X = floor level designation. The main corridor number is the first number (i.e. 2nd floor corridor = 200) for that floor's room numbering sequence.

Continuous corridors, regardless of length or configurations will carry one room number. However if a corridor is "sectioned" by doors, then each sectioned length of corridor is assigned a letter suffix (i.e. corridor 200 is sectioned into three parts by two doors; the corridors are numbered 200, 200A and 200B).

Rooms:

In a building with only one dividing corridor (double loaded corridor), room numbers should flow in ascending order from one end of the building to the other, starting from the main entrance with even numbers on one side of the corridor and odd numbers on the other side of the corridor.

In a complex building with a more complex corridor system, room numbers should follow in ascending order in a clockwise direction from the main entrance ensuring a standard that is easy to follow for way-finding.

Suites:

Suites and Sub-Rooms: Suites are identified as having one entrance and are generally numbered using the 3-digit standard (i.e. 203). Depending on the area layout, rooms inside a large suite-like room that has more than one entrance may or may not be numbered using the sub-room standard. The room or entry area entered from the main corridor receives the suite's room number without a letter (i.e. enter Room 203). Rooms within a suite (sub-rooms) are numbered with the entrance room plus a letter suffix (i.e. 203A, 203B, 203C, etc.) beginning with the room closest to the main entrance of the suite and proceeding in a clockwise fashion.

Closets or Alcoves:

Closets or other smaller spaces with permanent (i.e. built-in, installed) floor to ceiling partitions or case work, with or without a door, should be counted as rooms and assigned a room number also.



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Cubicles / Workstations:

Cubicles or workstations with modular partitions within a larger room or Reception area are usually NOT numbered given their portable nature. The department or unit may independently assign room numbers but they will NOT be tracked in the space inventory,

Stairs, Elevators, Ducts, etc.:

All stairs and elevators will use the room numbers X90 thru X99, where X = floor designation. Other vertical penetrations (i.e. shafts, pipe ducts, etc.) will have the same room last two digits, with the first digit being the floor. For example: 145, 245, 345, etc.

K. IMPLEMENTATION

This latest iteration of these guidelines was developed from the last published Illinois State University Design Guidelines document. This document has been split into two separate documents as follows:

- Illinois State University Design and Construction Guidelines
- Illinois State University Design and Construction Standards

These two documents are intended to be complementary and used together during the project design phase. These two documents supersede all past documents and are the Illinois State University design and construction authority as of the effective date of this document, subject to any later revision date. Illinois State University provides these documents as design guidance tools for projects at Illinois State University and expects conformance with both documents. However these design and construction guidelines are written in a more open framework so as to not discourage or prohibit creativity.

In the event that during a project's design development, a proposed design solution is recommended that varies from, deviates from or does not comply with these Design and Construction Guidelines, the project designer shall propose such recommendations and justifications in writing to the Facilities Planning and Construction Management department. The project designer shall include graphic presentations/representations of the proposed design solution for review and appropriate action by Facilities Planning and Construction Management. Depending on the scope and importance of the project, the Facilities Planning and Construction Management department may request the designer present the recommendations and justification in person.

This document has been developed by the Illinois State University Facilities Planning and Construction Management department in consultation with other Illinois State University stakeholders. The Illinois State University Facilities Planning and Construction Management department conducts an annual review of this document. This is done through a defined process with a schedule for submitting proposed changes to either document. Anyone interested in



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submitting a proposed revision to either document should follow the process on the Facilities Planning and Construction Management web site:

http://facilities.illinoisstate.edu/facilities_planning/request/

L. ACKNOWLEDGEMENTS

To update these guidelines we consulted, contacted and reviewed a number of other universities and obtained, investigated and reviewed several documents and models of space guidelines and their respective documents. Subsequently, these Guidelines are an adaptation and modification from various sources, including Stanford University; Bowdoin College; the University of Minnesota; University of New Hampshire, and the Leadership in Energy and Environmental Design (LEED) Green Building Guidelines and Rating System.