

Slide 1

**Means of Egress**  
*A Refresher*

Presented by

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Slide 2

**Objective**

This lecture will examine the fundamental requirements of the Building and Fire Safety Codes governing means of egress for new and existing buildings, common misapplications, and significant changes in newer IBC and NFPA codes.

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Slide 3

**Agenda**

- Fundamentals
- Occupant Load
- Egress Capacity
- Egress Arrangement
- Door Locking

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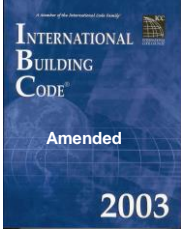
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Slide 4

**Existing Buildings**



w/o Changes

- Maintenance
- Unsafe structures/equipment
- Emergency measures
- Vacant buildings

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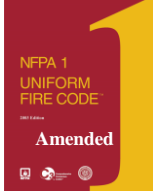
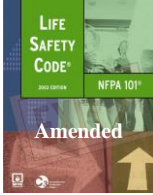
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Slide 5

**Existing Buildings**



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Slide 6

**New Construction and Alterations in Existing Buildings**  
*(non CFSC abatement)*



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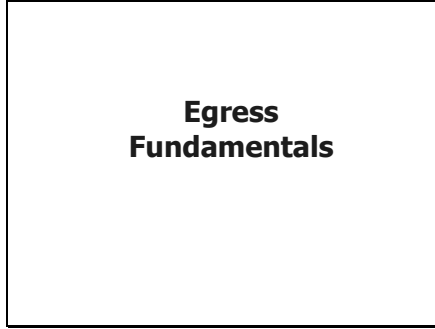
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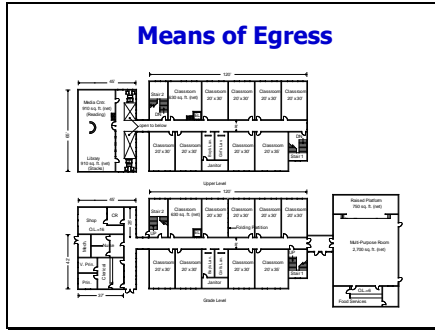
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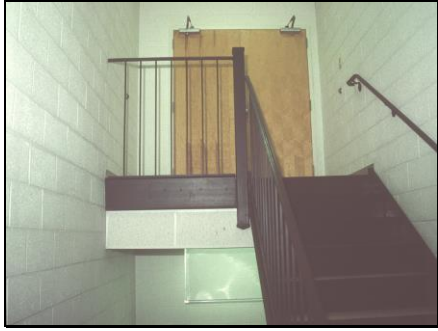
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Slide 11



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Slide 12



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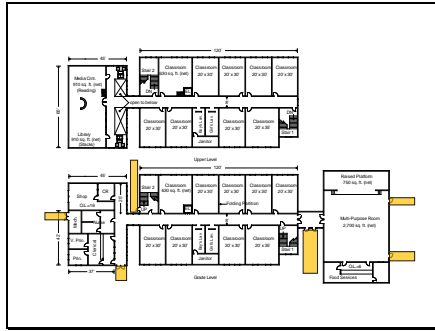
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13<sup>th</sup> Annual Design & Trades Conference  
May 29, 2014

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Slide 15



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Slide 16



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Slide 17



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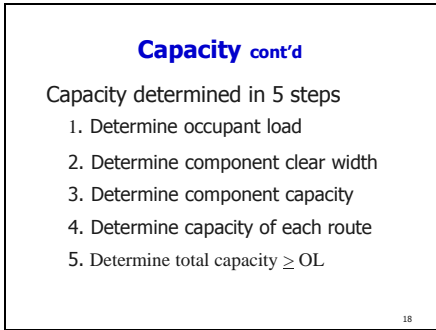
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Slide 19

**Occupant Load**

Actual maximum number of occupants,  
but not less than

$$\frac{\text{Floor area}}{\text{Occupant Load Factor}}$$

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**Occupant Load Factors**

Business	100 sq. ft. - gross
School Classroom	20 sq. ft. - net
School Shops	50 sq. ft. - net
Kitchens	100 sq. ft. - gross
Exercise Rooms	50 sq. ft. - gross
Assembly	7/15 sq. ft. - net

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**Gross Floor Area**

The diagram shows a yellow rectangular room. On the left side, there is a smaller rectangular area labeled 'Office' and two smaller rectangular areas labeled 'Toilet'. Dimension lines indicate the overall length of the room as 'L' and the overall width as 'W'.

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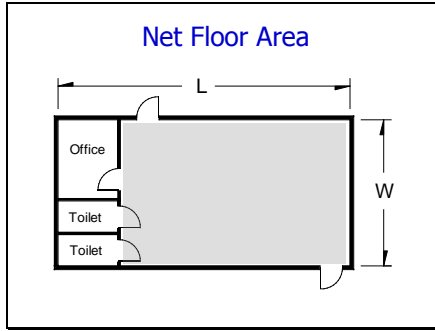
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**Occupant Load Increases**

- Occupant load may be increased from calculated occupant load if all requirements of the Code are met
- Occupant load of each story considered individually

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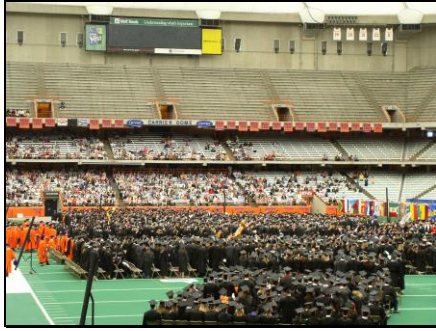
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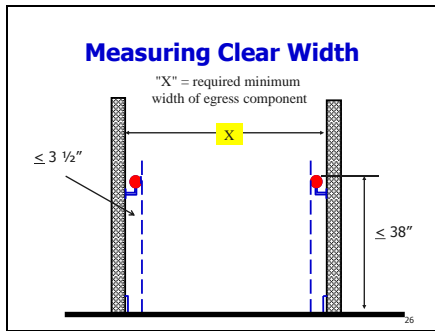
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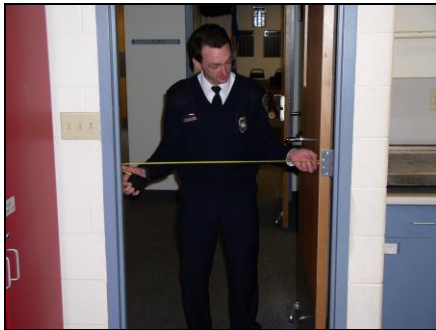
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Slide 28

**Calculating Capacity**

Determine egress capacity of each component

$$\frac{\text{Clear width}}{\text{Capacity factor}}$$

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Slide 29

**Calculating Capacity**

<u>Capacity Factors</u>	<u>Stairs</u>	<u>Level</u>
High Hazard	0.7	0.4
All Others	0.3	0.2

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**Calculating Capacity**

- Determine Egress Capacity of Each Egress Route
- The most restrictive capacity of a component determines capacity of system

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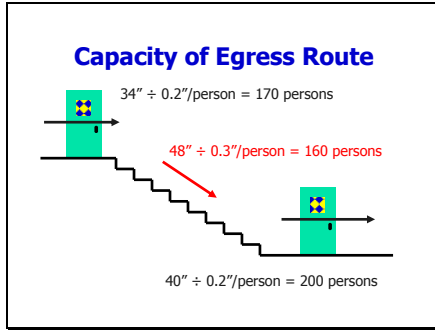
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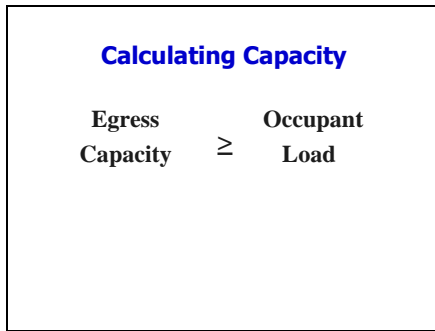
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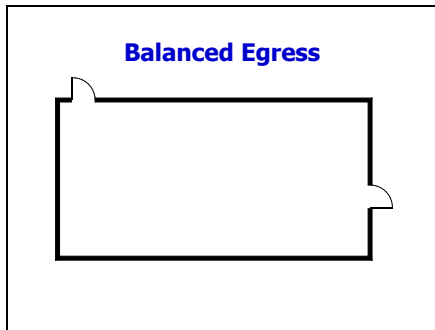
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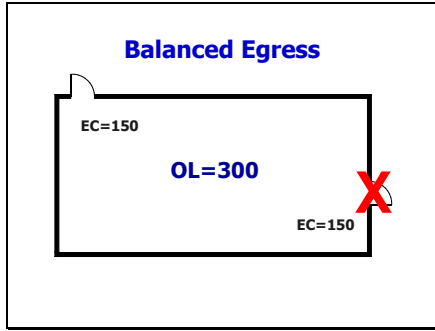
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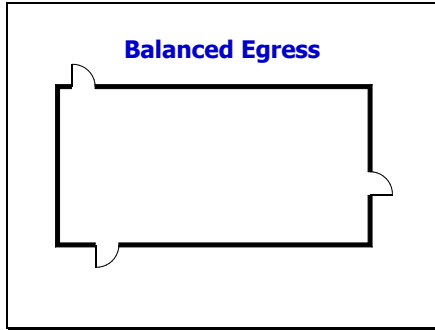
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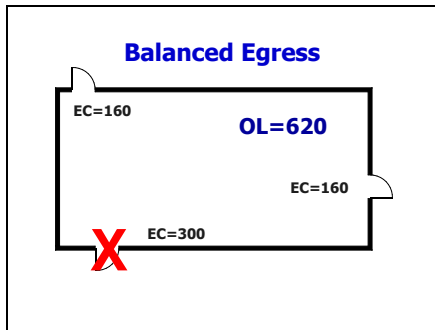
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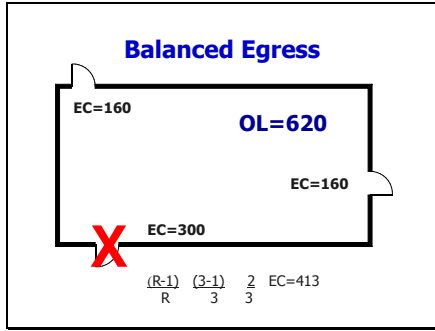
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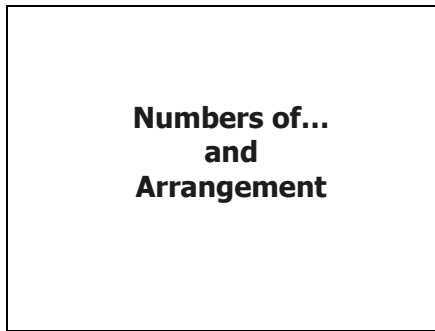
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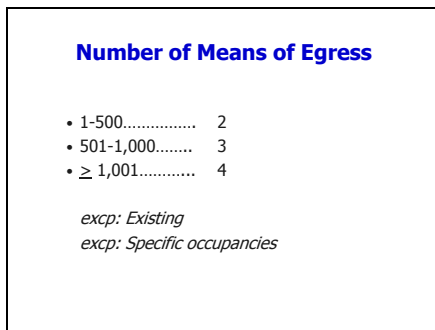
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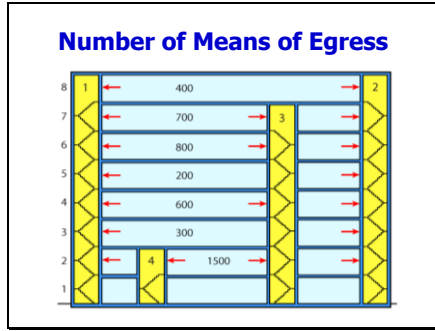
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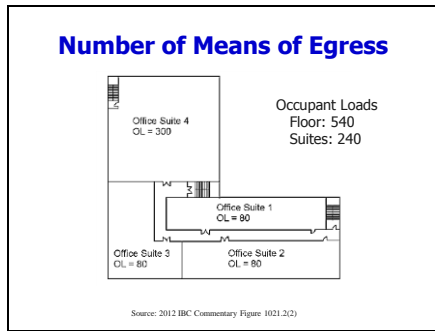
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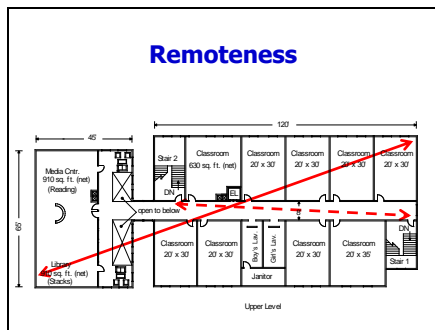
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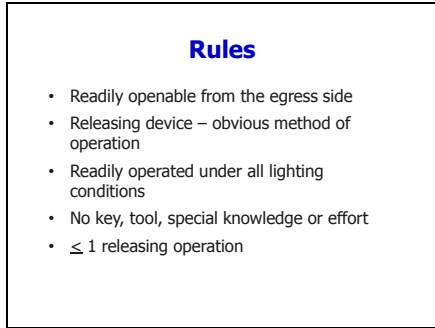
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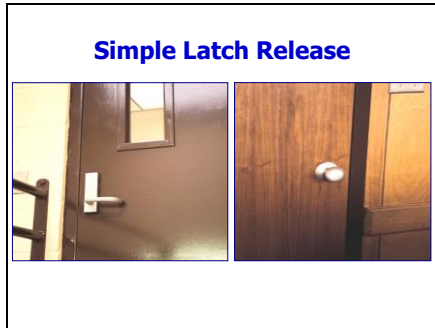
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Slide 54



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Slide 58



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Slide 59



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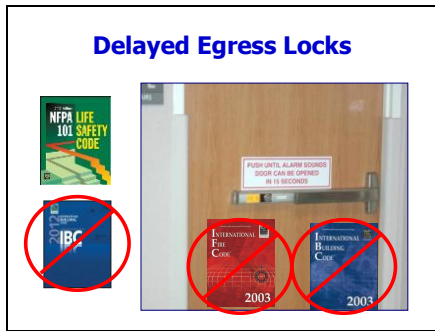
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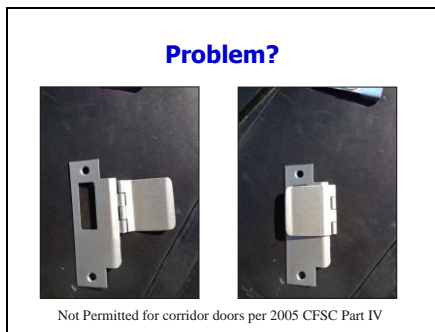
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**Corridor Walls**



- 2005 CFSC Part IV
- w/o AS – ½ hour fire barrier
- w/ AS – 0 hour smoke partition
- 2005 CSBC & CFSC Part III
- w/o AS – 1 hour fire barrier
- w/ AS – 0 hour – no other requirements

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**Fire Drills**  
Emergency Egress & Relocation Drills



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**Rules**

- 2 per first month
- 1 per month thereafter
- NR during severe weather, but 4 required prior to severe weather
- Use the fire alarm system
- Everyone participates
- *Change it up*

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**Definitions**

**Emergency Evacuation Drill**

- Exercise performed to train staff and occupants; and to evaluate their effectiveness and efficiency in carrying out evacuation procedures

**Lockdown**

- Emergency situation requiring occupants to be sheltered & secured in place in the building, when evacuation puts occupants at risk



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**Rules**

**Fire Evacuation Plans**

- Egress routes
- Procedures for assisted rescue
- Accounting procedures
- Medical aid personnel
- Reporting means
- Contact persons



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**Rules**

**Fire Safety Plans**

- Reporting methods
- Evacuation/relocation strategies
- Site plans
- Floor plans
- List of fire hazards
- Personnel and duties



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**Rules**

**Lockdown Plans**

- Procedure for reporting an incident that requires lockdown
- Occupant accountability
- Signal to return to normal activities
- 2-way communication between central location and secured area(s)
- Drills are separate from evacuation drills



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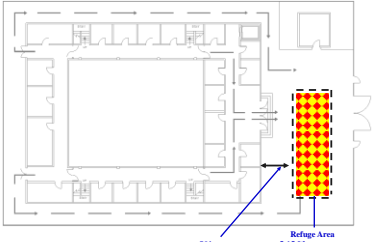
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**Refuge Areas**



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Slide 72

**Lock-up Facilities**



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Slide 73



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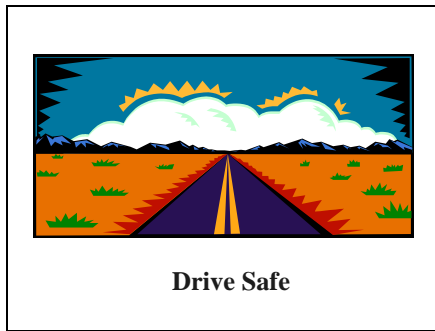
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