



**ARCH 2330 BUILDING TECHNOLOGY III**

**Assignment Number/Name: Stair Studies**

**Computer Program(s): AutoCAD, Revit, Web Browser and Blackboard**

**Student Learning Objectives:**

*Upon successful completion of this assignment, the student will:*

1. Construct accurate scaled plans, sections and elevations of stairs cores.
2. Understand issues of egress that relate to stairs.
3. Understand relevant ADA code for railings and stair nosing's, etc.

**Student Skills Learning Objectives: (AutoCAD)**

*Upon successful completion, in addition to skills required by previous lessons the student will:*

1. Be able to externally reference files and images
2. Be able to add annotation and dimensions

**Assessment:**

*To evaluate the student's achievement of the learning objectives, the professor will do the following:*

1. Evaluate the student's stair drawings.
2. Evaluate annotations including titles, notes and dimensions.
3. Drawing will be evaluated on its own and as part of the AutoCAD drawing set submission.

**Project Description:**

Students will develop stair core plans, sections and details that can accommodate three different floor to floor heights (12' 14' and 16'). All stairs must be developed to appropriate codes. Studies should include a straight run, an L-shaped run and a u-shaped stair. Stair plans should show alternate locations for doors. All studies must include dimensions plans and sections. Include hand rails / guard rails and comply with ADA codes. Isometric studies are also valuable to consider. Site all relevant code sections.

For this semesters project at least one stair must exit directly to the street and one must exit onto the roof of the laboratory/research facility. Additionally you must provide an access solution to the roof of the atrium and the roof of the gymnasium.

**Process:**

1. Develop an efficient layout for each configuration using the shortest floor to floor (12').
2. Next attempt to repeat the stair study restricting yourself to the same minimum plan area but accommodating the greater floor to floor requirements of 14' and 16'. This may require you to consider adding intermediate landings and to reposition entrance/exit doors.
3. Draw all required plans, sections and details.
4. Show core wall types and key these from your partitions sheet.
5. Key relevant ADA details from your accessibility sheet.
6. All configurations must confirm to code.
7. Post completed sheet as a pdf and as a drawing file by the assigned deadline & add description.

**References:**

1. Chapter 10 - Means of Egress  
[http://www2.iccsafe.org/states/newyorkcity/Building/PDFs/Chapter%2010\\_Means%20of%20Egress.pdf](http://www2.iccsafe.org/states/newyorkcity/Building/PDFs/Chapter%2010_Means%20of%20Egress.pdf)