



ARCH 2330

BUILDING TECHNOLOGY III

IV

Assignment Name:

Stair Studies (SK-102)

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. Evaluate layout and format of sheet and clarity and completeness of information represented.
4. 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. All studies must include coordinated dimensioned plans and sections. Include wall thicknesses, hand rails / guard rails and comply and site relevant building and ADA codes. Isometric studies are also valuable to consider.

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

Process:

1. Develop plan and section layout for the straight run and L-shaped configurations for 12', 14' and 16' floor to floor. Show all relevant dimensions and notes.
2. For the U-shaped stair students should first layout a stair footprint for 12' and then figure out how to accommodate a 14' and 16' floor to floor within the same plan enclosure. Consider additional landings and alternative locations for doors to solve this problem.
3. U-shaped stairs must show conditions exiting to the street, intermediate floor and exit to the roof.
4. 14' and 16' U-shaped stairs may require additional plans.
5. 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