

Issued FEB.4.2013



DESCRIPTION

Design requires a constant oscillation between 2d and 3d processes, between drawing projections and models. Digital techniques have combined these methods and have evolved them into something far beyond the digital pencil. If designers learn to grasp the precise logic behind the basics and explore the extremes of digital processes they can unleash a flurry of creative possibilities, however, if designers fail to grasp the elegance of digital modeling than the computer will feel like a constraint rather than an enabler.

Assignment 2 asks you to study design systems from a historic architectural style – the Gothic – and interpret the inherent formal, structural, and/or ornamental systems into a new 3D 'digital prototype'. You will produce:

1. A digital 3D 'module' which is based on geometric systems derived from the Gothic architectural style.
 - The module should consist of a 'surface/skin' geometry and 'structure' geometry.
 - The module should interpret some aspect of Gothic geometry.
2. The module must be capable of 'tiling' 3D space using transformations: move, rotate, mirror, scale, etc.
3. Your final product will be a prototypical module and an 'aggregation' to demonstrate systemic behavior.
4. The final submission will be 'assembly instructions' composed of 2D and 3D renderings and drawings.

Before your lab, you are to bring some initial research on the Gothic style and its geometry! Bring images and drawings that you find in the library or on the web. Make sure images are high resolution! At times the complexity inherent within the architectural style and the ambiguity presented in the open ended design problem will make modeling difficult. The real challenge will be to critically assess the architectural style and reinterpret into a new digital system with its own defined rules and behaviors.

OBJECTIVES

Upon completing this assignment students should:

- Creatively and critically assess a modeling strategy for interpreting design logic.
- Be able to translate a set of rules and ordering systems into a 3D prototype and assemblage.
- Be able to model complex geometric relationships with precision and efficiency using 3D NURBS.
- Be able to efficiently compose rule-based systems using 3D transformations such as copy, rotate, mirror, and scale.
- Be able to manage files and rework models to operate within appropriate file sizes
- Have an understanding and ability to extract two dimensional orthographies from 3D models
- Have an intermediate understanding and ability to render three dimensional models
- Have a basic understanding of raster, vector and page layout manipulations
- Have a basic understanding of graphic design principles for non-graphics majors
- Have an ability to post-process 2d output
- Have an ability to manage a collection of files into a coherent presentation

SUBMISSION REQUIREMENTS

(minimum requirements)

- **1 Digital PowerPoint presentation** at the program standard program resolution
- The slide show should consist of the following elements (**Maximum 15 slides**)
 - Introduction title slide with 1. Student name, 2. Course/Section, 3. Graphic
 - A graphic analysis diagram of the Gothic style to communicate your geometric concept.
 - A 'ghost diagram' showing the rendered component module and possible relations as hidden line.
 - 1 systematic 'exploded diagram' showing the component parts of the module.
 - 1 main rendered perspective showing the overall assembly
 - 3-4 smaller perspectives showing spatial quality at the 'eye level', 'interior', and 'detail'.
 - 2 (or more) 2D Plans of the aggregated assembly.
 - 2-4 2D Elevations of the aggregated assembly.
 - 1-2 2D Sections (with annotations / references.)
 - A 10-second animation rendering showing the final 3D model (turntable or set path)
 - Text labels on all slides

PROGRESS SUBMISSION 01

- 3 'screen captures' of your 3D Rhino Model (Shaded view!)
 - 1 Perspective
 - 1 Top view
 - 1 Side view
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder**
- Filenames:
 - ARCH223_S13_LastnameFirstname_1.jpg
 - ARCH223_S13_LastnameFirstname_2.jpg
 - ARCH223_S13_LastnameFirstname_3.jpg

PROGRESS SUBMISSION 02

- DRAFT POWERPOINT PRESENTATION showing total number of slides and draft content
- Include work-in-progress imagery of *ALL SUBMISSION REQUIREMENTS*
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname.pptx

FINAL SUBMISSION (minimum requirements)

- **1 DIGITAL POWERPOINT PRESENTATION** at the program standard program resolution (Maximum 15 slides)
- **Digital file to be uploaded to the Arch 223 Dropbox.**
- Filenames:
 - ARCH223_S13_LastnameFirstname.pptx

Questions to ask yourself before the final submission...

- *Does my 3D model concept display creative thinking?*
- *Does my 3D model show excellent technical craft and detail?*
- *Does my submission contain **ALL** required drawings?*
- *Does my layout clearly show all information with hierarchy and points of emphasis?*
- *Do my renderings look high resolution with clean lighting and color?*
- *Do my line drawings look clear and crisp on screen?*
- *Are all my drawings labeled with the appropriate font size?*