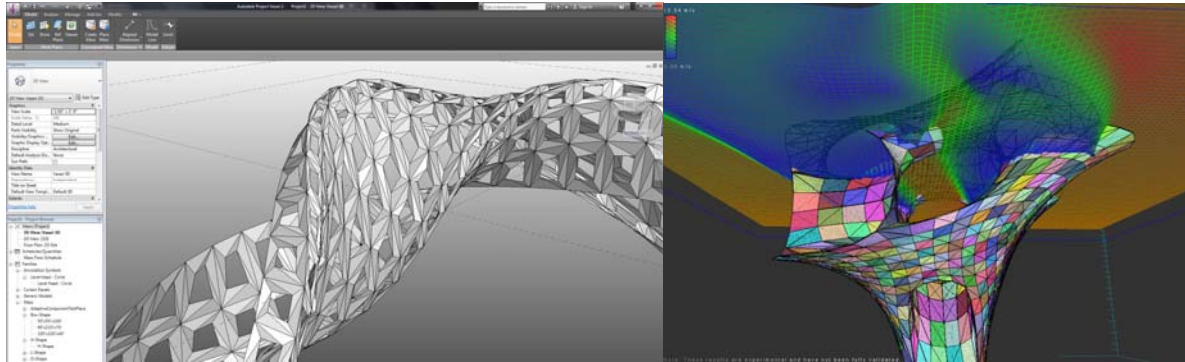


Issued MARCH.2013



DESCRIPTION

Parametric and information-based modeling is the current evolution in design and construction documentation processes. We have only recently switched from teaching conventional 2d CAD and 3d modeling in favor of teaching Building Information Modeling, rapid analysis, and data extraction methodologies. This is rapidly changing (both enlightening and challenging) the design professions and has a far greater impact than the advent of CAD alone. A designer is able to easily navigate the complexities of building, establish performance-based evaluation systems, and develop designs with greater speed and efficiency. More importantly, integrated modeling systems put the designer back into the three dimensional medium and offers a highly collaborative and multidisciplinary environment for design and project delivery.

Assignment 3 asks you to construct and document an intelligent parametric assembly within a Building Information Modeling environment. You are asked to design a pedestrian bridge which spans the Missouri river and connects downtown Omaha with Council Bluffs:

1. **Concept:** Use Rhino to create an initial bridge concept using basic modeling techniques. *Use curves and surfaces to define an overall form.*
2. **Design:** Within Revit or Vasari's conceptual massing environment import Rhino Geometry and develop the design using custom *Adaptive Component Families and Pattern-Based Curtain Systems.*
3. **Analyze:** Produce analytical visualizations for studying environmental conditions using Autodesk Vasari's conceptual analysis tools (solar and wind)
4. **Document:** After you have composed the assembly, you will create a document set within Revit composed of orthographic line drawings, 3D hidden line drawings, and perspective renders. You will also create schedules which communicate the parametric information embedded within the custom Revit Family components. All documentation should occur within the Revit environment and be communicated on sheets.

OBJECTIVES

Upon completing this assignment students should:

- Convert critical geometry between Rhino and Revit/Vasari for design development.
- Have a basic to intermediate understanding of creating parametric assemblies using within a BIM environment.
- Be able to extract relevant representational information and extract parametric data.
- Be able to manage files and rework models to operate within appropriate file sizes
- Be able to produce legible 2D documentation from 3D parametric information
- Be able to produced basic information tables from three dimensional models
- Utilize environmental analysis tools.
- Compose and organize a digital documentation "sheet set" (DWF)
- Submit digital models as part of design deliverables.

SUBMISSION REQUIREMENTS

(Minimum Requirements)

- **Digital 3D DWF Documentation** Sheet Set with Placed Views and Annotation:
 - 3D View for viewing and navigating the model.
 - 1 cover sheet showing a perspective rendering of the project.
 - 1 sheet showing 4 perspective renders.
 - 1 sheet for site plans showing orientation and annotation.
 - 1 sheet containing analysis information for sun and wind (screen captures from Vasari)
 - 2 sheets for elevation drawings showing North, South, East, and West views
 - 1 sheet for East/West and North/South sections with annotations and references
 - 1 or more sheets for family schedules.
 - 1 sheet for parametric diagrams and detail drawings.

REVIT TUTORIAL SUBMISSION

- 3D DWF file showing completed in-class Revit tutorial.
- The DWF Should include...
 - 3D model view
 - 2D Sheet set
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname-TUTORIAL.dwf

PROGRESS SUBMISSION 01

- In-Progress 3D DWF file
- The DWF should include...
 - **In-Progress 3D model view**
 - **'Cartoon' Documentation Set** with all views and annotation placed
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname-1.dwf

PROGRESS SUBMISSION 02

- In-Progress 3D DWF file
- The DWF should include...
 - **In-Progress 3D model view**
 - **'50%' Documentation Set** with all views and annotation placed
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname-2.dwf

PROGRESS SUBMISSION 03

- In-Progress 3D DWF file
- The DWF Should include...
 - **In-Progress 3D model view**
 - **'90%' Documentation Set** with all views and annotation completed
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname-3.dwf

FINAL SUBMISSION

- FINAL 3D DWF file
- The DWF should include...
 - **FINAL 3D model view**
- **COMPLETE Documentation Set** with all views and annotation completed
- **Digital files to be uploaded to Arch 223 shared Dropbox Folder.**
- Filenames:
 - ARCH223_S13_LastnameFirstname-FINAL.dwf

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 with line weights and types?*
- *Are all my drawings labeled with the appropriate font size?*