ARCH 6426 3D MODELING _ INTRODUCTION TO AUTODESK REVIT ARCHITECTURE
School of Architecture, College of Architecture
Georgia Institute of Technology
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Summer 2012 /Meeting Days: MWF 9.30am – 12.00pm, Summer 2012 – May 14 – June 20

Course Objectives/Student Learning Outcomes
The course 3D MODELING introduces the software REVIT and concepts of Building Information Modeling (BIM), which have been defined by the National Institute of Building Science in the following way:

"Building Information Modeling (BIM) is a digital representation of physical and functional characteristics of a facility. A BIM is a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition. A basic premise of BIM is collaboration by different stakeholders at different phases of the life cycle of a facility to insert, extract, update or modify information in the BIM to support and reflect the roles of that stakeholder."

Revit can certainly be used to develop design in 2d and 3d with intelligent building components, but it can also store information that is linked to the performance and construction of a building (4d cad). The final project of this course will explore responsive facades linked to one or multiple performance criteria in 2d, 3d and 4d.

Lectures will include the following topics:
Interface and Sketching, Core Concepts, Objects, Editing Tools ,Families and Nested Families, Parameters, Rooms, Representations (Plans, Sections, Elevations and Perspective Views), Views, Visibility, and Sheets, Design Constraints, Design Information Organization, Domain-Specific Knowledge, Roofs, Specificity, Massing, Component Design, Propagation of Constraints, Interdependencies, Unique Form, Annotations and Detailing Techniques , SmartWorkflows, Sequence, Formulas, Databases, Worksets, Nongraphic Data-Schedules, Tags and Legends, Variation.

Course Procedure and Organization
The technical skills will be implemented through lectures and exercises (2/3 of the overall course time). Conceptual understanding and implications for the design process will be explored through in-class work sessions (1/3).

Course Requirements
Requirements for the course are successful completion of assignments and of the final project.