Instructor

Course Description

Aloysius Lian

Teaching Assistants

Zayar Lin Denise Lee Building Information Modeling (BIM) provides rich, machine-readable representations of proposed building designs. With BIM, it becomes practical to embed into computational tools the accumulated knowledge regarding good design and construction practices. This subject is designed to provide students with fundamental knowledge and basic practical skills of the planning and execution of Building Information Models.

It is also aimed to offer opportunities for students to establish a basic understanding of those elements that impact the generation of a Building Information Model, including methods of communication, data creation, social, and economic factors between trades. Building models will be challenged with analysis software to test for various performance criteria. Learning occurs through design cases of building over 4 stories and wide span structures as a way to learn behaviors of all building systems. Students will also use visual programming skills to design parametric schematics. Term 5



Figure 01: Schematic Diagram Project by Song Ting Xuan, Naomi Bachtiar, Nurul Nabilah Izzati, Paris Lau, Wang Meng Cheng



Figure 02: Axonometric Project by Song Ting Xuan, Naomi Bachtiar, Nurul Nabilah Izzati, Paris Lau, Wang Meng Cheng



Term 5



Course Integration

This course is integrated with 20.203 Architectural Energy Systems where students develop the BIM model around the design as advanced in 20.203. Classes and workload are balanced between these two courses.

Learning Objectives

 An understanding of the critical elements affecting the physical and spatial form of a building

• Building an extensive knowledge base of design and construction planning

Challenge building behavior with

analysis software

• Training in operational skills and tools required to develop solutions and evaluate building models

Measurable Outcomes

Conduct team based designs of

buildings including most building systemsRecognition and methods to design elements of a building model for

performance based evaluation

• Propose detailed components of a building design

Prerequisites

20.211 Introduction to Design Computation 20.212 Digital Design and Fabrication

Figure 03: Automated Construction Detail Sheet Project by Tan Jee Khang Benedict, Thet Naung Oo @ Chi Jia Cai, Nidhi Hegde, Samson Sim, Wesley Koh Zhi Peng