Spring 2020

ARCH 337-002: Building Information Modeling (Revised for Remote Learning)

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NJIT SPRING 2020
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ARCH 337
B.I.M.
REVISED FOR REMOTE LEARNING
T 8:30AM-11:20AM   Weston Lab W-140

- **Course Overview**:

This course will introduce students to the principles and practice of Building Information Modeling. Course exercises and projects are designed to enrich the students' understanding of the potential of this emerging technology on both a practical and theoretical level. The principal software that we will be using for this course is Autodesk Revit Building. To a lesser degree, we may also explore interactions of the core program with Autodesk Revit Structure, Revit Systems and Autodesk Building Systems. Additionally, Autodesk 3ds Max and Google SketchUp will be employed for conceptual design massing development as well as for presentation graphics. Many of the terms and concepts covered will be common to other commercial products characterized as Building Information Modelers.

- **Learning Objectives**:

Upon satisfactory completion of the course, students will be prepared for Architectural office-level BIM implementation or for advanced studies in computer modeling systems.

- **Course Requirements:**

Each class will begin with the computer on and the student actively applying the course material. Lectures will be interspersed with the practical application of the covered topic and each topic should be well practiced in off-class time. Quizzes will be given near the midpoint of the class meetings so that the instructor may gauge student progress. Because of the large volume of course information, quizzes will be open-book/open-notes. Therefore, note recording is strongly recommended. Also, participation is mandatory; the intensive schedule of the course cannot accommodate absentee students. Make up for necessary absences by practicing with the software and review with willing classmates.

Uploading of all assignments to the Kepler Online coursework review system is mandatory.

- **Grading Criteria**

The final grades are broken down as follows:

Participation	20%	Submission of screen shots of weekly work reviewed in video lectures will provide proof that video lecture has been viewed
Semester Project	40%	
Quiz 1	10%	Quiz emailed to student & returned
Quiz 2	10%	Quiz emailed to student & returned
Final Exam	20%	

Building Information Modeling assignments must be completed using Autodesk Revit. Credit will not be extended for assignments using other software. **Credit and grading will not be given to assignments not properly posted on the Kepler Online coursework review system.**

- **Reference**

DESIGN INTEGRATION USING AUTODESK REVIT 2020
Daniel John Stine
SDC PUBLICATIONS – WWW.SDCPUBLICATIONS.COM

COMMERCIAL DESIGN USING AUTODESK REVIT 2020
Daniel John Stine
SDC PUBLICATIONS – WWW.SDCPUBLICATIONS.COM

REVIT ARCHITECTURE 2020 BASICS - FROM THE GROUND UP
Elise Moss
SDC PUBLICATIONS – WWW.SDCPUBLICATIONS.COM

- **Week-by-Week Schedule -** classes after March 23 will be via online recorded video lessons using Canvas

CLASS 1 & 2	Introduction / BIM Theory Revit Interface / Sketching / Walls, Floors and Ceilings
CLASS 3 & 4	Parametrics / Windows and Doors / Families and Nested Families / Reducing Drawing Redundancy / Editing Types
CLASS 5 & 6	Surface vs Solid Modeling / Dimensioning / Representation Views, Viewports and Sheets / Model Exporting
CLASS 7 & 8	Modeling Constraints / Advanced Massing Tools / Site Levels, Reference Planes and Grids / Space Planning
CLASS 9 & 10	Design Development / Information Organization / Building Elements / Roofs / Construction Documentation / Tags and Schedules
CLASS 11 & 12	Design Tools and Utilities Layout Drafting and Linework
CLASS 13 & 14	Self-Directed Completion of Semester Project
TBA	Final Project Due / Last day to upload all projects to Kepler

ACADEMIC INTEGRITY:

Academic integrity and honesty are of paramount importance. Cheating and plagiarism will not be tolerated. The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students. All students are responsible for upholding the integrity of NJIT by reporting any violation of academic integrity to the Office of the Dean of Students (www.njit.edu/doss). The identity of the student filing the report will remain anonymous.

All students are expected to adhere to the University Code on Academic Integrity (*http://www.njit.edu/academics/pdf/academic-integrity-code.pdf*) and to the Code of Student Conduct (*http://www.njit.edu/doss/policies/conductcode/*). Please take the time to read and understand both of these documents.

KEPLER POSTING:

You will receive more information regarding how many files to post on Kepler. All files must be resized and renamed. Please fill out all of the metadata information. The maximum size is 2000 x 2000 pixels. Images must retain their original proportions without being enlarged. In cases where the width to height ration exceeds 3:1 you may resize the short dimension to 2000 pixels. To distinguish PROCESS documents from FINAL documents, be sure to enter labeling information in the pull down metadata section built into each Kepler file. The filename should be saved according to the following naming convention: <Lastname, Firstname ##.jpg>. You must login into the NJSOA network to fulfill this portion of the assignment. The guidelines described here, are in place to promote economical representations of student work and to ensure the sustainability of the Kepler system. Grossly oversized images will be deleted without notice and will not be considered for grading purposes. All PowerPoint projects must be submitted on your Kepler DVD only. You cannot post PowerPoint to Kepler You must submit your slides as jpgs. compiling PowerPoint files your slide images should be no larger than 960 x 720 pixels (330k). It is good practice to keep the images at 72 dpi. At this size a 20 slide (.jpg) PowerPoint file should be roughly 6.5Mb. You will not receive your final grade until you submit your Kepler DVD. Consult Kepler's FAQ for further details.

STUDENTS WITH DISABILITIES:

Students with disabilities who will be taking this course and may need disability-related accommodations are encouraged to make an appointment to see me as soon as possible.