## **GE101A BIM – Engineering Graphics and Design**

## Spring Semester 2017

Lecturer:		Jim Leake	309 T	ransportation	244-0401	jmleake@illinois.edu	
Те	aching assistants:	Kaushik Krishnan, Mike Baumgartner, Marigold Bays-Muchmore					
Course structure: (Credit & contact hours)		Credit hours Lecture Modeling Lab Sketching Lab		three twice a week for one-hour period once a week for two-hour period once a week for one-hour period			
Text:		<i>Engineering Design Graphics: Sketching, Modeling, and Visualization,</i> 2 <sup>nd</sup> edition, Leake and Borgerson <i>BIM Handbook,</i> 2 <sup>nd</sup> edition, Chuck Eastman et al. (reference) <i>Building Construction Illustrated,</i> Francis D.K. Ching (reference)					
Web:		Illinois Compass ( <u>http://compass.illinois.edu</u> ) <u>Autodesk Education Community</u> <u>Revit Architecture 2017 Essential Training</u> , Paul Aubin, Lynda.com <u>Revit Structure 2017 Essential Training</u> , Eric Wing, Lynda.com					
Supplies:		Portable storage device (USB flash device or portable HD) Mechanical pencils - 0.5, 0.7 mm					
Software:		Autodesk Revit 2017, PlanGrid					
Hardware:		Dimension SST 1200 3D printer iPad Air tablets Creaform handheld laser scanner David SLS-2 structured light scanner Wacom Cintiq 21ux interactive pen display HP T1100ps 44" DesignJet Printer					
Grading:		<ul> <li>30% 2 Written exams</li> <li>20% 2 Modeling exams</li> <li>20% Design project</li> <li>18% Lab assignments (modeling, sketching)</li> <li>12% Miscellaneous (sketch portfolio, quizzes, assignments)</li> </ul>					
Co	urse Goals.	1 2 70 IVIIS	cenaneou	s (sketch portio	ono, quizzes, as	ssignments)	
1	To develop spatial visual	zation and	easoning	skills			
1. 2	To gain familiarity with the standards and conventions of engineering design graphics						
∠. 3	To use building informati	Iding information modeling (BIM) software as a design visualization and information extraction					
5.	tool Emphasis placed upon learning BIM concepts and techniques						
4.	o gain exposure to other BIM tools (e.g., for concept design, field work, analysis) commonly used in the						
••	uilding modeling process.						
5	To develop sketching skills using pencil and paper, and digital tablets						

- To develop <u>sketching skills</u> using pencil and paper, and digital tablets.
   To introduce <u>engineering design methodology</u>, and to demonstrate the role of graphics in the engineering design process.
- 7. To provide insight into the product design process, in particular as it relates to the architecture and functionality of the product.