Subject Description Form

Subject Code	**CSE2701/IC2701**
Subject Title	Construction Drawing and Modelling
Credit Value	3 Training Credits
Level	2
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims to equip students with techniques to communicate engineering design using drawings and Building Information Modeling (BIM) data. This subject also provides students with knowledge to assist the management of BIM projects.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. create construction drawings manually & by CAD software; b. create building information models to international conventions and standards; c. explain the concepts, definitions, scope, standards and guidelines of BIM in Hong Kong and global contexts; and d. assist the management of BIM projects.
Subject Synopsis/ Indicative Syllabus	1. Manual and CAD Drawings Introduction of drawing instruments and CAD software; industry recognized drawing conventions and standards such as views, line type, size and scale, grid lines, annotations; techniques for manual and CAD drawings. 2. BIM Basic Introduction of the basic features of BIM and BIM software; creating building information models; basic model documentation practices; presenting building information models. 3. BIM Structure Creating structural BIM Models; structural model documentation practices; model design, review and Coordination. ~~**One of the followings as decided by hosting programme**~~ ~~4. Advanced Operation for BIM Coordinator~~ ~~BIM initiation, software and technologies; administration of construction projects as BIM coordinator; execution of BIM Uses for single and multi-disciplinary coordination in BIM projects; assisting in BIM related meetings.~~ ~~5~~4. Advanced Operation for BIM Manager BIM initiation, software and technologies; client BIM strategic stage; client pre-tender project stage; definition & design stage; construction stage; handover stage; operation & maintenance stage.

Learning Methodology

The subject will be delivered through the following learning methods:

a. Mini-lectures – Lectures and demonstrations are used to introduce and explain key concept, definition and application of construction drawing and modelling. Multi-media illustrations are used for students to appreciate the good practices of drawing and modelling skills, case studies and small group discussions are used to relate these knowledge with real-life practices;
b. Hands-on drawing and modelling activities - Students are arranged to have in-class hands-on activities to practice construction drawing and modelling techniques;
c. Assignments - Individual assignments are arranged to sharpen students' drawing and modelling skills and deepen their knowledge on BIM operation; and
d. Self-learning - Independent on-line learning materials are provided for students to broaden their knowledge of BIM technology and applications.

Assessment Methods in Alignment with Intended Learning Outcomes

Assessment Method	Weighting (%)	Intended Subject Learning Outcomes Assessed			
		a	b	c	d
Assignments	70	✓	✓	✓	✓
Tests	30	✓	✓		
Total	100				

Assignments – Students' performance are assessed continuously by assignments in the form of drawings, modelling, and group project if deem appropriate.

Tests – Individual drawing and modelling tests are used to assess students on their drawing and modelling skills.

Student Study Effort Required

Class Contact	
Mini lecture and demonstration	39 Hrs
Hands-on practice and test	51 Hrs
Other Study Effort	
Assignment	6 Hrs
Self-learning	9 Hrs
Total Study Effort:	**105 Hrs**

Reading List and References	**Reading Materials:** • Construction Industry Council BIM Publications (https://www.bim.cic.hk/en/resources/publications) **References:** • British Standards Institution Construction Drawing Practice (BS1192: Part 1, 2, 3, 4, 5). • Giesecke, Frederick E. Modern Graphics Communications. Fifth ed. Boston: Prentice Hall, 2018. • Kim, Marcus, Lance Kirby, and Eddy Krygiel. Mastering Autodesk® Revit® 2018. Indianapolis, Indiana: Sybex, a Wiley Brand, 2017. • Hamad, Munir M. Autodesk Revit 2019 Architecture. Dulles, Virginia: Mercury Learning and Information, 2018.