Tamkang University Academic Year 105, 2nd Semester Course Syllabus

Course Title	BUILDING INFORMATION MODELING AND CONSTRUCTION MANAGEMENT SYSTEM	Instructor	FAN, SU-LING
Course Class	TECBB3A DEPARTMENT OF CIVIL ENGINEERING-DIVISION OF CONSTRUCTION BUSINESS, 3A	Details	◆ Selective ◆ One Semester ◆ 3 Credits

Departmental Aim of Education

Ⅰ. Develop students' ability and knowledge of civil engineering to meet the requirements of employability and further education.

Ⅱ. Enable students to have management knowledge and literacy to meet challenges of workplace.

Ⅲ. Equip students with the information technology skills to strengthen their competitiveness.

IV. Develop students' literacy of Literature, Art, Language, History, Society, Politics, Futurology, International Situation, Religious Law, Nature and such general courses to have the understanding of humanity emotions and to proceed on-going development.

Departmental core competences

A. Civil Engineering Professional Proficiency.

B. Implementation and Information Processing Ability.

C. Team collaboration and Knowledge Integration Ability.

D. Globalization and Continuous Learning.

Course Introduction	In this course, students will learn Building Information Model's (BIM) use in the architecture, engineering and construction (AEC) industry, building information, quantities and properties of building components, and understand the benefit and improvement areas BIM process offers and the legal aspects of application of BIM

The Relevance among Teaching Objectives, Objective Levels and Departmental core competences

I.Objective Levels (select applicable ones) :

(i) Cognitive Domain : C1-Remembering, C2-Understanding, C3-Applying, C4-Analyzing, C5-Evaluating, C6-Creating

(ii) Psychomotor Domain : P1-Imitation, P2-Mechanism, P3-Independent Operation, P4-Linked Operation, P5-Automation, P6-Origination

(iii) Affective Domain : A1-Receiving, A2-Responding, A3-Valuing, A4-Organizing, A5-Charaterizing, A6-Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Departmental core competences :

(i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.

(ii) If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3,C5,and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)

(iii) Determine the Departmental core competences that correspond to each teaching objective. Each objective may correspond to one or more Departmental core competences at a time. (For example, if one objective corresponds to three Departmental core competences: A,AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Departmental core competences
1	Students will be able to use Revit to design a building project.	P3	ABC
2	Students improve their vocabulary and English speak ability and list at least 50 content-obligatory vocabulary and 50 content-compatible vocabulary .	C4	AC
3	Students will be able to develop learn skills such as identifying, comparing and contrast, evaluation and cooperative learning.	P3	AC

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Students will be able to use Revit to design a building project.	Lecture, Discussion	Report, Participation
2	Students improve their vocabulary and English speak ability and list at least 50 content-obligatory vocabulary and 50 content-compatible vocabulary .	Lecture, Discussion	Report, Participation
3	Students will be able to develop learn skills such as identifying, comparing and contrast, evaluation and cooperative learning.	Lecture, Discussion	Report, Participation

This course has been designed to cultivate the following essential qualities in TKU students

Essential Qualities of TKU Students	Description
◇ A global perspective	Helping students develop a broader perspective from which to understand international affairs and global development.
◇ Information literacy	Becoming adept at using information technology and learning the proper way to process information.
◆ A vision for the future	Understanding self-growth, social change, and technological development so as to gain the skills necessary to bring about one's future vision.
◇ Moral integrity	Learning how to interact with others, practicing empathy and caring for others, and constructing moral principles with which to solve ethical problems.
◇ Independent thinking	Encouraging students to keenly observe and seek out the source of their problems, and to think logically and critically.
◇ A cheerful attitude and healthy lifestyle	Raising an awareness of the fine balance between one's body and soul and the environment; helping students live a meaningful life.
◆ A spirit of teamwork and dedication	Improving one's ability to communicate and cooperate so as to integrate resources, collaborate with others, and solve problems.
◇ A sense of aesthetic appreciation	Equipping students with the ability to sense and appreciate aesthetic beauty, to express themselves clearly, and to enjoy the creative process.

Course Schedule

Week	Date	Subject/Topics	Note
1	106/02/13 ~ 106/02/19	COURSE INTRODUCTION BIM INTRODUCTION What is BIM ? Why is BIM important? Benefits and Challenges of BIM.	
2	106/02/20 ~ 106/02/26	Revit：Interface/ Building elements walls, doors, windows, floors, roofs	
3	106/02/27 ~ 106/03/05	Revit：Structural systems I	
4	106/03/06 ~ 106/03/12	Revit：Structural systems II	
5	106/03/13 ~ 106/03/19	BIM Protocol	
6	106/03/20 ~ 106/03/26	BIM Execution Plan	
7	106/03/27 ~ 106/04/02	BIM Quantity Take Off	
8	106/04/03 ~ 106/04/09	Team Presentation	
9	106/04/10 ~ 106/04/16	Team Presentation	
10	106/04/17 ~ 106/04/23	Midterm Exam Week	
11	106/04/24 ~ 106/04/30	Revit: MEP Systems I	

12	106/05/01 ~ 106/05/07	Revit: MEP Systems II	
13	106/05/08 ~ 106/05/14	4D and 5D	
14	106/05/15 ~ 106/05/21	Green BIM	
15	106/05/22 ~ 106/05/28	BIM Legal Aspects	
16	106/05/29 ~ 106/06/04	Team Presentation	
17	106/06/05 ~ 106/06/11	Team Presentation	
18	106/06/12 ~ 106/06/18	Final Exam Week	

Requirement	Attendance +Class Participation： 100 %
Teaching Facility	Computer, Projector
Textbook(s)	
Reference(s)	Revit Wiki On-line Help – http://wikihelp.autodesk.com/Revit/enu/2013 Revit City – http://www.revitcity.com/index.php AUGI (Autodesk User Grouproup International) – http://forums.augi.com (navigate to AEC Revit) Club Revit – http://clubrevit.com The Revit Kid – http://therevitkid.blogspot.com BIM Boom/ Revit 3D – http://bimboom.blogspot.com Tips and Tricks Series by AECbytes – http://www.aecbytes.com/tipsandtricks.html
Number of Assignment(s)	**5** (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： % ◆ Mark of Usual： % ◆ Midterm Exam： % ◆ Final Exam： % ◆ Other〈Participation〉：100.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php . **※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**