

Tamkang University Academic Year 108, 1st Semester Course Syllabus

Course Title	ARCHITECTURAL STRUCTURAL SYS.	Instructor	JONG-DAR YAU
Course Class	TEAXB3A DEPARTMENT OF ARCHITECTURE, 3A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
D e p a r t m e n t a l A i m o f E d u c a t i o n			
<p>I . Discern and understand current society and trends of development (Knowledge accumulation).</p> <p>II. Training of professionalism (Knowledge implementation).</p> <p style="padding-left: 20px;">1. Learning of professional skills and practice.</p> <p style="padding-left: 20px;">2. Cultivation of a character attending to social justice and public interest for architectural professionalism.</p> <p style="padding-left: 20px;">3. Inspiring creative thinking in environment and architecture design discipline.</p> <p>III. Implementation of inter-disciplinary knowledge and team works (self-educating and growth).</p>			
Subject Departmental core competences			
<p>B. Competence of logical reasoning and judgment for issue discovering, information gathering, analysis and problem solutions, and integration conceptual thinking into physical forms.(ratio:20.00)</p> <p>C. Understanding and application of fundamental mathematics and science skills.(ratio:50.00)</p> <p>E. Competence in implementation of architectonics, construction, and architectural practices. (ratio:30.00)</p>			
Subject Schoolwide essential virtues			
<p>2. Information literacy. (ratio:20.00)</p> <p>5. Independent thinking. (ratio:40.00)</p> <p>7. A spirit of teamwork and dedication. (ratio:20.00)</p> <p>8. A sense of aesthetic appreciation. (ratio:20.00)</p>			

Course Introduction	Development of structural forms, Structural actions, Structural materials, Construction and form, Structural elements, complete structures: early forms, Contemporary wide-span structures, Bridges, Multi-story buildings and structures, Structural understanding and design.
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The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II. Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III. Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

No.	Teaching Objectives	objective methods
1	Students will be able to summarize building structures covered in the following concepts: (1) Development of structural forms, (2) Structural actions, (3) Structural materials and (4) Construction and form.	Affective

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	BCE	2578	Lecture, Discussion, Experience	Discussion(including classroom and online), Practicum, Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	108/09/09 ~ 108/09/15	Review of fundamentals of structures	
2	108/09/16 ~ 108/09/22	Properties of Constructional Materials	
3	108/09/23 ~ 108/09/29	Constructional Materials and Structures	

4	108/09/30 ~ 108/10/06	Two-force members and truss structures	
5	108/10/07 ~ 108/10/13	Bending members and framed structures	
6	108/10/14 ~ 108/10/20	Seismic resistance of RC structures (I) beams and columns	
7	108/10/21 ~ 108/10/27	Seismic resistance of RC structures (II) Shear wall system	
8	108/10/28 ~ 108/11/03	Seismic resistance of SC structures (I) steel beam and column	
9	108/11/04 ~ 108/11/10	Seismic resistance of SC structures (II) Bracing systems	
10	108/11/11 ~ 108/11/17	Midterm Exam Week	
11	108/11/18 ~ 108/11/24	High rise building structural systems	
12	108/11/25 ~ 108/12/01	Arch and dome structures	
13	108/12/02 ~ 108/12/08	Cables and suspension structures	
14	108/12/09 ~ 108/12/15	Membrane and membrane structures	
15	108/12/16 ~ 108/12/22	Application of ETABS to high rise buildings (I)	
16	108/12/23 ~ 108/12/29	Application of ETABS to high rise buildings (II)	
17	108/12/30 ~ 109/01/05	Discussion of term project	
18	109/01/06 ~ 109/01/12	Final Exam Week (Date:109/1/3-109/1/9)	
Requirement	For the student studying this course is absent for more than 5 times, his/her final term-project would be excluded. 修課學生缺席5次以上, 不得參加期末報告		
Teaching Facility	Computer, Projector		
Textbooks and Teaching Materials	H. Engel (1997) Structure Systems, Gerd Hatje Publishers		
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : 20.0 % ◆ Mark of Usual : 20.0 % ◆ Midterm Exam : 30.0 % ◆ Final Exam : 30.0 % ◆ Other () : %		

Note	<p>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 .</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>
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