

Tamkang University Academic Year 109, 2nd Semester Course Syllabus

Course Title	STRENGTH OF MATERIALS	Instructor	CHIEH-HSUN WU
Course Class	TECBB4A DEPARTMENT OF CIVIL ENGINEERING-DIVISION OF CONSTRUCTION BUSINESS, 4A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	<p>SDG8 Decent work and economic growth</p> <p>SDG9 Industry, Innovation, and Infrastructure</p>		
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. Develop students' ability and knowledge of civil engineering to meet the requirements of employability and further education.</p> <p>II. Enable students to have management knowledge and literacy to meet challenges of workplace.</p> <p>III. Equip students with the information technology skills to strengthen their competitiveness.</p> <p>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.</p>			
Subject Departmental core competences			
<p>A. Civil Engineering Professional Proficiency.(ratio:75.00)</p> <p>D. Globalization and Continuous Learning.(ratio:25.00)</p>			
Subject Schoolwide essential virtues			
<p>1. A global perspective. (ratio:25.00)</p> <p>2. Information literacy. (ratio:25.00)</p> <p>5. Independent thinking. (ratio:50.00)</p>			

Course Introduction	In this course, students will learn the fundamental mechanics of materials under various external loadings. They will be able to analyze the force distribution at a cross-section of a statically-determinate structural member, i.e., the axial forces, bending & torsional moments. Under these sectional loadings, they will be able to analyze the stresses, either normal or shear directions. Understanding of these stresses in a structural member in response to external loadings is critical in the design processes.
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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	In this course, the students will (i) Know basic theories, (ii) Be able to apply them and (iii) Analyze the materials under loading under (iv) logical ways.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	AD	125	Lecture, Practicum	Testing, Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	110/02/22 ~ 110/02/28	Tension, Compression & Shear	
2	110/03/01 ~ 110/03/07	Axially loaded members	和平紀念日補 假(03/01(一))
3	110/03/08 ~ 110/03/14	Torsion	
4	110/03/15 ~ 110/03/21	Torsion	

5	110/03/22 ~ 110/03/28	Torsion/Shear forces and bending moments	Quiz 1
6	110/03/29 ~ 110/04/04	Shear forces and bending moments	教學行政觀摩日
7	110/04/05 ~ 110/04/11	Shear forces and bending moments	清明節補假(4/5(一))
8	110/04/12 ~ 110/04/18	Shear forces and bending moments	
9	110/04/19 ~ 110/04/25	Stresses in Beams (Basic Topics)	
10	110/04/26 ~ 110/05/02	Midterm Exam Week	
11	110/05/03 ~ 110/05/09	Stresses in Beams (Basic Topics)	
12	110/05/10 ~ 110/05/16	Stresses in Beams (Basic Topics)	
13	110/05/17 ~ 110/05/23	Analysis of stress and strain	
14	110/05/24 ~ 110/05/30	Analysis of stress and strain	
15	110/05/31 ~ 110/06/06	Graduate Exam Week	
16	110/06/07 ~ 110/06/13	---	
17	110/06/14 ~ 110/06/20	---	
18	110/06/21 ~ 110/06/27	---	

Requirement	把握光陰 -> 活在當下 -> 認真學習。
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	Goodno, B. J. and Gere, J. M., Mechanics of Materials. SI/Brief 2nd Edition.
References	
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	<p>◆ Attendance : % ◆ Mark of Usual : 40.0 % ◆ Midterm Exam : 20.0 %</p> <p>◆ Final Exam : 20.0 %</p> <p>◆ Other 〈實習課評量〉 : 20.0 %</p>

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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