



# Course Specifications

<b>Course Title:</b>	<b>Materials Behavior</b>
<b>Course Code:</b>	<b>328 AAD-3</b>
<b>Program:</b>	Bachelor in Applied arts
<b>Department:</b>	Applied arts
<b>College:</b>	Architecture and Design
<b>Institution:</b>	Jazan University

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## A. Course Identification

<b>1. Credit hours: 3hours (2 Lecture &amp; 1 Laboratory)</b>			
<b>2. Course type</b>			
a.	University <input type="checkbox"/>	College <input type="checkbox"/>	Department <input checked="" type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
<b>3. Level/year at which this course is offered: 2/3</b>			
<b>4. Pre-requisites for this course (if any): 211AAD-4</b>			
<b>5. Co-requisites for this course (if any): None</b>			

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4 hours	100%
2	Blended	0	0%
3	E-learning	0	0%
4	Correspondence	0	0%
5	Other	0	0%

### 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	0
4	Others (specify) Assessment 1 Continuous assessment (1 hour only) 1 Presentation (0.5 hour only) 1 mid-term exam (1 hour only) 1 Final exam (and Practical – 2 hours)	6.5
	<b>Total</b>	66.5
<b>Other Learning Hours*</b>		
1	<b>Study</b> Theoretical study (1 hour for 1 CH) Practical (0.5 hour for 1 CH)	30
2	<b>Assignments</b> 1 Continuous assessment for 1 CH 1 Mid- term exam for 1 CH 1 final exam(theoretical 2 hour - Practical 2 hours)	10
3	<b>Library</b> Preparation for 0.5 hour 1 CH	1.5
4	<b>Projects</b> 3 hours for 1 CH	12
5	<b>Others(specify)</b>	0
	<b>Total</b>	53.5
	<b>All total</b>	120

\*The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

### 1. Course Description

The course deals with the principles and foundations of the behavioral analysis and testing of materials by studying the relationship between material behavior, stress and internal tension (vertical forces, shear forces and bending force) and their effect on the common properties of materials behavior and the calculation of their sectors due to exposure to external loads and torque.

### 2. Course Main Objective

The aim of this course introduces students to the principles of Behaviors material. Acquires are the foundations and principles of structural analysis and the relationship of stress and emotion between different materials..Calculates are the various stresses, emotions and distortions that are generated within the material.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
<b>1</b>	<b>Knowledge:</b>	
1.1	defines the concept of stress and emotion and the relationship between them	K1
1.2	Know the mechanical tests carried out on different engineering materials..	K2
1.3	- Studying the behavior of materials. Under the influence of loads.	K3
<b>2</b>	<b>Skills :</b>	
2.1	Evaluation of structural performance of materials	S1
2.2	• Evaluate the issues that are prepared for each lecture-	S3
2.3	The extent to which students cooperate with each other	S3
<b>3</b>	<b>Competence:</b>	
3.1	The extent to which students cooperate with each other	c3
3.2	Training to assume leadership responsibilities	C4
3.3	The ability to evaluate and determine the most appropriate	C4

## C. Course Content

No	List of Topics	Contact Hours
1	Introduction	4
2	Stresses and Strain	4
3	Strength of materials	4
4	Structural load classification	4
5	Stress-Strain Diagram	4
6	Mid- term one	4
7	Bending in simple beams and diagrams	4
8	Bending in simple beams and diagrams	4
9	Shear in simple beams and diagrams	4

10	Shear in simple beams and diagrams	4
11	Moments in simple beams and diagrams	4
12	Moments in simple beams and diagrams	4
13	Mid- term two	4
14	Cross-sectional properties of structural member	4
15	Revision.	4
Total		60

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	Understand the main abstract concepts related to the fibers structure...	Lectures and discussions Brainstorming Cooperative learning Group discussion	MCQ direct method (Theoretical objective test) by Test specification table.
1.2	Classification and Lab recognize of fibers..		Indirect method
1.3	Name different theories and philosophies		course LO survey
<b>2.0</b>	<b>Skills</b>		
2.1	The extent to which students cooperate with each other	Lectures and experiments Brainstorming Cooperative learning Group discussion	direct method (Theoretical objective test) by Test specification table.
2.2	Evaluation of structural performance of materials		Indirect method
2.3	The ability to evaluate and determine the most appropriate		course LO survey
<b>3.0</b>	<b>Competence</b>		
3.1	The extent to which students cooperate with each other	Discussions and feedback, group project, research essays	direct method (Theoretical objective test) by Test specification table.
3.2	Training to assume leadership responsibilities		Indirect method
3.3	The ability to evaluate and determine the most appropriate		course LO survey

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes	periodically	10%
2	Midterm test	Week 6	10%
3	research	Week 12	5%
4	Mid-term exam	Week 8	10%
5	homework	periodically	15%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
6	Final exam	Week 16	50%
	total		100%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :**

The work of the students on the evaluation committee is always presented at the end of each study term by 20%

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	. K Alexander and Gunaskera J.S: “Strength of Materials”, Ellis Horwood Limited
<b>Essential References Materials</b>	<ul style="list-style-type: none"> <li>- Gere, Timoshenko, "Mechanics of Materials"., Third SI Edition, Chapman &amp; Hall London</li> <li>- Morton W.E.,Hearle J.W.S., (Physical Properties of Textiles Fibers, Textile Institutes Manchester, U.K.</li> <li>- Parker, G: “Materials and Methods of Architectural Construction”, John Wiley &amp; Sons</li> </ul>
<b>Electronic Materials</b>	<a href="https://rowadbusiness.com/administrative-offices">https://rowadbusiness.com/administrative-offices</a> .
<b>Other Learning Materials</b>	. M. G. Cowie, <b>Polymers: Chemistry and Physics of Modern Materials</b> , 2nd J Edition, Blackie Academic and Professional,.

### 2. Facilities Required Ghosh, **Fibre Science and Technology**, Tata McGraw-Hill Education, 2004..

Item	Resources
<b>Accommodation</b> Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Class space furnished for more than 30 students.)	Drawing studio with 25 tables and 25
<b>Technology Resources</b> Computing resources (AV, data show, Smart Board, software, etc.)	AV, data show
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods	
Effectiveness of teaching and assessment		Direct	Indirect
▪ System course evaluation	Students	Objective test by test specification	Online system course evaluation
▪ Occasional student s feedback to head of the instructor.	Course instructor and students.	Occasional student Faculty meeting	Online system course evaluation
Extent of achievement of course learning outcomes			
▪ Course evaluation.	Course instructor	Test specifications table	-Course learning outcome survey
▪ Revision of course contents and objectives every 5 years.	Program Leaders, Peer Reviewer.	-Paper questionnaire	-Objective test by test specification
Quality of learning resources			
Assessment, Extent of achievement of course learning outcomes	Program Leaders, Peer Reviewer.	-Analysis of plan	-Objective test by test specification

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

Council / Committee	Department council
Reference No.	
Date	