

NATIONALLY HARMONISED B.Sc. CHEMICAL ENGINEERING PROGRAM				
Course Code	CEng1101			
Course Name	Strength of Materials			
Degree Program	B.Sc. in Chemical Engineering			
Module Name	Strength and Engineering Materials			
Module Coordinator	N.N.			
Lecturer	N.N.			
Instructor's Contact Information	Office: Phone: Email: Office hour:			
ECTS Credits	3 CP			
Contact hours (per week)	Lecture	Tutorial	Laboratory or Practice	Home study
	3	0	0	2
Student workload (hr per semester)	48	0	0	32
Mode of delivery	Parallel (per semester)			
Course Objectives & Competences to be Acquired	This course is intended to introduce students to : • Basic concepts in mechanics of materials; • Strength and deformation calculations of loaded members; • Stability criteria of compression members; • Design methods of simple machine members.			
Course Description/Course Contents	Simple stress and strain in tension and compression members; Deformation; Shear and bending moment diagrams; Bending stresses in beams, the flexure formula; Slope and deflection of beams; Shearing stresses in beams, ✓ Simple Stress and Strain: Method of sections; Tension and Compression members; Stress and Deformation; ✓ Hooke"s law; Stress-strain diagram; ✓ Shear force and bending moment diagram			

	✓ Application of method of sections; Shear force and bending moment equations; Shear force and bending moment diagrams. ✓ Bending Stresses in Beams: The flexure formula; beams of two materials. ✓ Slope and Deflection of Beams: Strain-curvature and moment curvature relations; ✓ Governing differential equations for deflection, solution by direct integration; Moment area method. ✓ Torsion of Circular Shafts: Torsion formula; Angle of twist; Shearing stresses and deformation of circular shafts
Pre-requisites	None
Semester	Year IV, Semester II
Status of Course	Compulsory
Teaching & Learning Methods	Lectures, Group discussion, Project work, Home study
Assessment/Evaluation	Continuous Assessment.....50% Quizzes (at least three).....15 Assignment (at least three).....15 Tests (at least two)10 Presentation (at least two)10 Final exam.....50%
Course Policy	Attendance: As per harmonized academic policy Assessments: students are supposed to handle all assessments on time. Cheating/plagiarism: it is strictly forbidden and any misconduct is accountable as per the students' code of conduct. Note: do not chew gum, eat, listen to recorders or CD players, wear sunglasses, or talk about personal problems. Please be sure to turn off pagers and cell phones before class and exam sessions

Literature	Text Book: Beer , Ferdinand P. and Johnston E. R.I , Mechanics of Materials, Reference Books 1. Hearn, E.S., Mechanics of Materials 2. Popov, Mechanics of Materials 3. Singer, Strength of Materials 4. Nash, W.A., Strength of Materials (Schaum"s Outline Series)
Approval Section	Module Team/ course team