

NATIONALLY HARMONISED B.Sc. CHEMICAL ENGINEERING PROGRAM				
Course Code	ChEg4131			
Course Name	Engineering 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 (per semester)	Lecture	Tutorial	Laboratory or Practice	Home study
	48	0	0	32
Mode of delivery	Parallel (per semester)			
Course Objectives & Competences to be Acquired	The course will covers Physical, mechanical, electrical and chemical properties of metals, semiconductors, ceramics, polymers and composites, with an emphasis on understanding fundamental issues. Relationships between the processing, micro and macro structure of materials with their properties. At the end the students have the above knowledge.			
Course Description/Course Contents	Introduction, Atomic Structure and Inter-atomic Bonding, Structures of Metals and Ceramics, Polymer structures, Imperfections in Solids, Diffusion, Mechanical Properties, mechanism of deformations in crystalline materials, Deformation and Strengthening Mechanisms, Failure, Phase Diagram, Phase Transformations, Corrosion and Degradation, Electrical Properties of Materials, Thermal			

	Properties, Magnetic Properties, Optical Properties, selection of engineering materials
Pre-requisites	None
Semester	Year IV, Semester II
Status of Course	Compulsory
Teaching & Learning Methods	Lectures, Group discussion, 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: William D. Callister, Jr. Fundamentals of Materials Science and Engineering; An Integrated Approach, 2nd. Ed., Reference Books J. F. Shackelford, Introduction to Materials science for Engineers, 4th Ed. Prentice Hal International, Inc., 1998 Lawrence H. Van Vlack Materials for Engineering,

Approval Section

Module team/ course chair