Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

University: Diyala

College: Engineering

Department: Chemical

Stage: First

Lecturer name: Anees A. Khadom

Qualification: PhD

Place of work: Diyala University

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Course Instructor	Anees A. Khadom				
E-mail	aneesdr@yahoo.com				
Title	**Principles of Chemical Engineering (I)**				
Course Coordinator	Annually				
Course Objective	This course is intended to serve as an introduction to the principles and basics of material balance and how to deal with materials changes.				
Course Description	١. Introduce the principles and calculation of material balance. ٢. Assist in methods of problems solving. ٣. Review certain principles of applied physical chemistry. ٤. Study the behavior of gases, liquids, and solids. ٥. Units and dimensions.				
Textbook	Himmelblau David M. "Basic Principles and Calculations in Chemical Engineering". ٧th Ed. ٢٠٠٣.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	٣٠٪	٠	١٠٪	-	٦٠٪
General Notes	This subject is very important in understanding the principles and calculations of chemical engineering.				

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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
١	١٧ and ١٨, Nov. ٢٠١٤	General review of material balance, Dimensions, Units, and Their Conversion		
٢	٢٤ and ٢٥, Nov. ٢٠١٤	Moles, Density, and Concentration, Choosing a Basis.		
٣	٠١ and ٠٢, Dec. ٢٠١٤	Temperature, Pressure.		
٤	٠٨ and ٠٩, Dec. ٢٠١٤	Introduction to Material Balance		
٥	١٥ and ١٦, Dec. ٢٠١٤	General Strategy for Solving Material Balance Problems.		
٦	٢٢ and ٢٣, Dec. ٢٠١٤	Solving Material Balance Problems for Single Units without Reaction,		
٧	٢٩ and ٣٠, Dec. ٢٠١٤	The Chemical Equation and Stoichiometry.		
٨	٠٥ and ٠٦, Jun. ٢٠١٤	Material Balances for Processes Involving Reaction.		
٩				
١٠				
١١				
١٢				
١٣				
١٤				
١٥				
١٦				
Half – year break				

١٧	١٦ and ١٧, Feb. ٢٠١٥	Material Balance Problems Involving Multiple Units.		
١٨	٢٣ and ٢٤, Feb. ٢٠١٥	Material Balance Problems Involving Multiple Units.		
١٩	٠٢ and ٠٣, Mar. ٢٠١٥	Material Balance Problems Involving Multiple Units.		
٢٠	٠٩ and ١٠, Mar. ٢٠١٥	Recycle and the Industrial Application of Material Balances.		
٢١	٢٣ and ٢٤, Mar. ٢٠١٥	Bypass and the Industrial Application of Material Balances.		
٢٢	٣٠ and ٣١, Mar. ٢٠١٥	Purge and the Industrial Application of Material Balances.		
٢٣	٠٦ and ٠٧, April, ٢٠١٥	Ideal Gases		
٢٤	١٣ and ١٤, April ٢٠١٥	The Ideal Gas Law		
٢٥	٢٠ and ٢١, April ٢٠١٥	Ideal Gas Mixtures		
٢٦	٢٧ and ٢٨, April ٢٠١٥	Partial Pressure		
٢٧	٠٤ and ٠٥, May, ٢٠١٥	Critical pressure and temperature		
٢٨	١١ and ١٢, May, ٢٠١٥	Real gases and compressibility factor		
٢٩	١٨ and ١٩, May, ٢٠١٥	Material Balances Involving Ideal Gases		
٣٠	٢٥ and ٢٦, May, ٢٠١٥	Material Balances Involving Ideal Gases		
٣١	٠١ and ٠٢, June, ٢٠١٥			

INSTRUCTOR Signature: **Dean Signature:**