

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Catalysis chemistry
Course number	CHEM3124
Faculty	
Department	
Course type	College Needs
Course level	3
Credit hours (theoretical)	1
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - How heterogeneous catalytic process can be controlled and modified by suitable choice of substrate catalyst and support.
2 - A general overview of catalysis including an understanding of homogeneous and heterogeneous approaches
3 - Knowledge of factors causing these modifications can be applied to acid – base catalysis of organic reactions

Intended Learning Outcomes

Knowledge and Understanding	* Importance of catalysis in chemical production. * Describe reactants, products and the required catalyst in a chemical process. * Describe some relationships between the catalyst and the chemical reaction.
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Course Contents

1 - Definition types of catalysis, homogeneous catalysis, catalysis in gas phase and in solutions, kinetic and mechanism of acid base catalysis, reaction of organic compounds, auto catalysis, effect of pH and medium on catalytic reaction, catalytic activity and acid base strength, effect of solvent on the rate of non catalytic and catalytic reactions, ionic reaction and salt effect, primary and secondary kinetic salt effect , heterogeneous catalysis, mechanism of contact catalysis, theories of contact catalysis.

Students Assessment

Assessment Method	TIME	MARKS
exam	first mid term	20%
exam	second mid term	20%
homework & others		10%
exam	final	50%

Books and References

Essential books	Physical Chemistry, P.W. Atkins, ELBS
	Essentials of physical chemistry, Arun Bahl