

**Division of Continuing and Extension Education of KUAS 2014 Academic Year Chemical Engineering and Materials Engineering Four-year curriculum**

Academic year	First Year		Second Year		Third Year		Fourth Year	
Semester	First Semester	Second Semester	Third Semester	Fourth Semester	Fifth Semester	Sixth Semester	Seventh Semester	Eighth Semester
School Required Subject (20/30)	Practical English2/2 Chinese (1)2/2	Advanced Practical English2/2 Chinese (2)2/2	Advanced English listening and speaking training (1)1/2  Core Curriculum (1)2/2	Advanced English listening and speaking training (2)1/2  Core Curriculum (2)2/2	Physical education (1)0/2  Core Curriculum (3)2/2	Physical education (2)0/2  Core Curriculum (4)2/2	Physical Education (3)0/2  Core Curriculum (5)-law & civic consciousness 2/2	Physical education (4)0/2
subtotal	4/4	4/4	3/4	3/4	2/4	2/4	2/4	0/2
Department of Professional compulsory subjects (76/92)	Calculus-1 3/3  Fundamental physics(1) 3/3  Fundamental Chemistry(1) 3/3  Calculations of Chemical Engineering 3/3  Introduction to Chemical Engineering and Materials Engineering 2/2	Fundamental physics(2) 3/3  Calculus (2) 3/3  Fundamental Chemistry(2) 3/3  An Introduction to Bio-Engineering Material 3/3  Fundamental chemistry experiment 1/3	Engineering mathematics (1)3/3  Physical chemistry(1)3/3  Polymer chemistry3/3  Organic chemistry3/3	Engineering mathematics (2) 3/3  Physical chemistry(2) 3/3  Instrumental analysis 3/3  Chemical engineering thermodynamics 3/3  Organic chemistry experiments 1/3	Physical chemistry lab.1/3  Transport phenomena and unit operation (1)3/3  Thermodynamics of materials3/3  Experiments in instrumental analysis1/3	Transport phenomena and unit operation (2)3/3  Kinetics of chemical reaction engineering3/3  Practical project (1)1/3	Transport phenomena and unit operation (3)3/3  Practical project (2)1/3  Chemical material experiments1/3  Process control3/3	Chemical engineering lab.1/3
subtotal	14/14	13/15	12/12	13/15	8/12	7/9	8/12	1/3
Dep. of Prof. Electives subjects (35)	Introduction to life science 2/2 Electrical engineering2/2 Water Treatment2/2 Analytical chemistry2/2 Environmental Chemistry2/2 An introduction to computer science2/2 Food chemistry2/2 Food Industry2/2 Petroleum refining technology2/2 Introduction to Environmental Science2/2 Chemical Technology in Our Lives2/2		Industrial safety and hygiene 2/2 Industrial Economics 2/2 Inorganic chemistry 2/2 Introduction to photo-electric engineering 2/2 Biochemistry 2/2 Special topics of organic chemistry 2/2 Electrochemistry 2/2 Interface sciences 2/2 Wastewater treatment 2/2 Air pollution control 2/2 Cosmetic chemistry2/2 Polymer physics 3/3 Introduction to nano-materials 2/2  Composite materials 2/2 Energy Storage Materials 2/2 Thin Film Ceramics 2/2 Environmental protection and knowledge management 2/2 Introduction of Environmental Engineering 2/2		Materials of Chemical Engineering 2/2 Introduction of Environmental Engineering2/2 Pollution and Prevention2/2 Quality control2/2 Synthesis of Organic Chemistry2/2 Computer Programming and Application2/2 Analysis of Organic Chemistry2/2 Materials for photo-electric applications2/2 Semiconductor Materials2/2 Fuel Cells2/2 Process Automatic Instruments2/2 Polymer nanocomposite2/2 Off-Campus Practicum 2/320 Processing and applications of polymeric materials 3/3 Plant Management2/2 Introduction to biotechnology 2/2 Introduction to green energy technology 2/2		Computer Aided Design and Practice 1/2 Special Topics of Ceramic Materials 2/2 Manufacturing Process in Chemical Engineering 2/2 Environment Examination 2/2 Solid Waste Treatment 2/2 Separation process 2/2 Optoelectrical polymeric materials 2/2 Introduction to solar cell devices 2/2 Surface Treatment of Materials 2/2 Nanotechnology for environmental engineering 2/2 Solid state physics 2/2 Chemical process design 2/2 Polymeric materials for high-tech applications 2/2 Principles of plasma 2/2 Environmental impact assessment 2/2 Chemical of electronics industry 2/2 Fundamental and Technology of Electrochemical Deposition 2/2 Introduction to nano-scale surface coating	

		Principle of Ironmaking and Steelmaking 2/2 Molecular Biology 2/2 Atomic energy and the environment 3/3	Industrial instruments 2/2 Application and preparation of microsensor for microfabrication technology2/2 Thin film material and coating 2/2 Overview of nuclear engineering and energy technology3/3	technology 2/2 Sequential Control 2/2 Equipments Design 2/2
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1. When the number of credits in each subject "credit / hour" mark.

2. Minimum credits required for graduation is 131 credits, including (1) the Common school compulsory subjects 20 credits (including core and extension Liberal), (2) a common compulsory subjects college 0 credits, (3) the Department of professional compulsory subjects 76 credits ,(4) the Department of professional electives at least 35 credits.