

National Kaohsiung University of Applied Sciences 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 (29/50)	Physical education (1)0/2 Practical English 2/2 Chinese (1)2/2 Core curriculum (2)2/2 Service learning (1)0/2 Introduction to university studies0/1	Physical education (2)0/2 Advanced practical english2/2 Chinese (2)2/2 Core curriculum (1)2/2 Service learning (2)0/2	Physical education (3)0/2 English listening and speaking training (1) 1/2 Chinese practical writings 2/2 An extendable general knowledge course 2/2	Physical education (4)0/2 English listening and speaking training (2) 1/2 Core curriculum (3)2/2 An extendable general knowledge course 2/2	Physical education (5)0/2 core curriculum (4)2/2 An extendable general knowledge course 2/2	Physical education (6)0/2 Core curriculum (5)2/2		Professional ethics 1/1
	English competence training 0/2							
subtotal	6/11	6/10	5/8	5/8	4/6 or 4/8	2/4 or 2/6	0/0	1/1
College Required subject (6/6)	Calculus (1)3/3 Physics(1) 3/3							
subtotal	6/6							
Department of Professional compulsory subjects (75/92)	Fundamental chemistry(1)3/3 Introduction to chemical Engineering and materials Engineering 2/2 Basic principles and calculations in chemical engineering 3/3 Introduction to materials science3/3	Physics(2)3/3 Calculus (2)3/3 Fundamental chemistry(2)3/3 Fundamental chemistry experiment 1/3 Organic chemistry 3/3	Engineering mathematics(1)3/3 Physical chemistry(1)3/3 Polymer chemistry 3/3 Instrumental analysis 3/3 Organic chemistry experiments 1/3	Transport phenomena and unit operation (1)3/3 Engineering mathematics(2)3/3 Physical chemistry(2)3/3 Chemical engineering thermodynamics 3/3 Experiments in instrumental analysis 1/3	Transport phenomena and unit operations (2)3/3 Physical chemistry lab. 1/3 Thermodynamics of materials 3/3 Chemical material experiments 1/3 Special Practice (1)1/3	Transport phenomena and unit operation (3)3/3 Kinetics of chemical reaction engineering 3/3 Process control 3/3 Chemical engineering lab. 1/3 Special Practice (2)1/3 Off-Campus Practicum 2/	Seminar(1)1/2 Computer Aided Design and Practice 1/2	Seminar(2) 1/2
	subtotal	11/11	13/15	13/15	13/15	9/15	13/15	2/4
Dep. of Prof. Electives subjects	Polymer Materials Program			Polymer physics 3/3	Processing and applications of polymeric materials 3/3	Optoelectrical polymeric materials 2/2	Polymer nanocomposite 2/2	
	Optoelectronic Materials and Solar Program (choose any four)		Introduction to photo-electric engineering 2/2	Inorganic chemistry 2/2	Materials for Photo-Electric Applications 2/2	Introduction to solar cell devices 2/2	Thin film material and coating 2/2	
	Inorganic Materials Technology Program			Inorganic chemistry 2/2		Semiconductor materials 2/2	Surface treatment of materials 2/2	Thin film material and coating 2/2
	Green Technology and Fuel Cell Program (choose any four)	Analytical chemistry 2/2	Introduction to green energy technology2/2	Biochemistry 2/2	Electrochemistry 2/2	Fuel cells 2/2	Nanotechnology for environmental engineering 2/2	Thin film material and coating 2/2
	Other subjects	Introduction to computer science 2/2 Industrial safety and hygiene 2/2 Introduction to environmental science 2/2	Environmental chemistry 2/2 Electrical engineering 2/2 Chemical technology in our lives 2/2	Analysis of Organic Chemistry2/2 Air pollution control2/2 Cosmetic chemistry2/2	Molecular Biology 2/2 Special topics of organic chemistry2/2 Food chemistry2/2	Introduction of Environmental Engineering2/2 Process Automatic Instruments2/2 General printed circuit board technology2/2 Atomic energy and the environment3/3	Solid state physics2/2 Sequential Control2/2 Fundamental and Technology of Electrochemical Deposition2/2	Wastewater treatment 2/2 Plasma engineering 2/2 Chemical process design 2/2 Overview of nuclear engineering and energy technology 2/2 Off-campus practicum (1) 9

1. When the number of credits in each subject "credit / hour" mark.

2. Minimum credits required for graduation is 134 credits, including (1) the Common school compulsory subjects 29 credits (including core and extension Liberal), (2) a common compulsory subjects college 6 credits, (3) the Department of professional compulsory subjects 75 credits ,(4) the Department of professional electives at least 24 credits.

一、備註：

- (一)本課程表適用於 102 學年度入學新生。
- (二)各科目(或小計)之學分時數以「學分/小時」標示。
- (三)修讀外系跨領域學程開設之課程可列為本系專業選修課程。
- (四)軍訓：自 100 學年度起，列為選修課程，但不計入最低畢業學分數，視實際需要開課。
- (五)英語能力訓練：依本校大學部學生抵修英語能力訓練課程辦法辦理。
- (六)選修：表列者為預定科目，將依各學期實際需要開課。
- (七)其他選課注意事項，請依本校「選課須知」相關規定辦理。

二、畢業門檻：

- (一)最低畢業學分為 139 學分，包括(一)校共同必修科目 29 學分(含核心及延伸通識)，(二)院共同必修科目 6 學分，(三)系專業必修科目 75 學分，(四)系專業選修科目至少 29 學分(非本系開設之專業選修課程至多可承認 3 學分)。
- (二)至少需完成校內任一種學程(修畢系所開設之課程模組、學群等，並取得證書證明者，視同修畢學程之資格)之修讀並取得學程證明，始得畢業。
- (三)自 102 學年度入學新生開始，至少需完成校內任一門遠距教學類之課程，始得畢業。
- (四)核心通識(一)至核心通識(五)，修課無順序之別，每一核心通識課程各開設 2 至 3 門科目，須就各核心通

識領域選擇一門修讀，共計 10 學分。開設科目名稱如下：

核心通識(一)：「人文思潮與名著導讀」、「藝術創造力導論」

核心通識(二)：「社會學與當代社會」、「管理與知識經濟」

核心通識(三)：「諾貝爾科學桂冠」、「現今科技議題」

核心通識(四)：「台灣社會與文化」、「近代西方文明史」、「哲學概論與導讀」

核心通識(五)：「民主與法治」、「法律與公民意識」。

(五)延伸通識分為人文、社會、科技三大領域，得任選三門 6 學分修讀。

(六)體育：一年級至三年級必修，但不計入最低畢業學分數，不及格者不得畢業。

(七)自 102 學年度入學新生開始，日間部四技學生需取得 TOEIC 400 分(含)以上能力之證明，始得畢業。

(八)校外實習為校訂必修科目，並依「國立高雄應用科技大學學生校外實習辦法」辦理。

三、系訂規則：

(一)實務專題共分有機材料、無機材料、特用化學品、生化與環工、製程系統等五門，任選一門。

(二)本系開設「高分子材料學程」、「光電材料與太陽能電池學程」、「無機材料科技學程」、「綠色科技與燃料電池學程」(七門科目選四門)等特色學程；凡本校大學部(二技、四技)學生修畢任一特色學程，且成績及格者，可提出申請，經本系課程委員會審查通過後，由本系發給該學程結業證明書。修讀方式請見本系「特色學程修讀要點」相關規定辦理。