

I-SHOU UNIVERSITY Department of Department of Chemical Engineering4-Year Curriculum for Students Admitted in Academic Year 2025

Category	Freshman Year(2025)		Sophomore Year(2026)	
GE core courses: required (18 credits)	A93A22 Chinese Literature 1.0- Reading, Narration and communication [2] 2nd A93A34 Academic English [2]1st A93A35 Professional English [2] 2nd A93A29 Secret Codes in Intelligent Technologies [2] 2nd A93A28 Unraveling the Mystery of Health [2] 1st A93A20 Programming[2] 1st A93A21 Civic Literacy in the Era of Globalization[2] 2nd		A93A23 Chinese Literature 2.0- Critical thinking and creativity in writing [2]1st A93A15 Physical Education (I) [1]1st A93A16 Physical Education (II) [1]2nd	
College-required courses (21credits)	A83E03 Green Persistent Password [2] 2nd A83815 Physics(I)[3] 1st A83819 Calculus(I)[2] 1st A83810 General Chemistry(I) [3] 1st A83820 Calculus(II) [2] 2nd A83817 Calculus (I)Digital Learning[1] 1st A83818Calculus (II)Digital Learning[1] 2nd A83812 General Physics Laboratory[1] 2nd A83811 General Chemistry (II) [3] 2nd		A83809 Engineering Mathematics(I) [3] 1st	
Category	Freshman Year(2025)	Sophomore Year(2026)	Junior Year(2027)	Senior Year(2028)
Department-required courses (53 credits)	A05153 Engineering Calculations and Computer Programming [1] 2nd A05123 General Chemistry Laboratory [1] 1st A05124 General Chemistry Laboratory (II) [1] 2nd A05223 Material and Energy Balances [3] 2nd	A05277 Organic Chemistry (I) [3] 1st A05278 Organic Chemistry (II) [3] 2nd A05219 Physical Chemistry (I) [3] 1st A05220 Physical Chemistry (II) [3] 2nd A05224 Transport Phenomena and Unit Operations (I) [3] 2nd A05217 Organic Chemistry Laboratory (I) [1] 1st A05218 Organic Chemistry Laboratory[1] 2nd A05221 Physical Chemistry[1] 1st A05322 Physical Chemistry Laboratory (II) [1] 2nd	A05321ChemicalEngineering Thermodynamics[3] 1st A05330 Transport Phenomena and Unit Operations (II) [3] 1st A05333 Instrumental Analysis[3] 1st A05335 Instrumental Analysis Laboratory[1] 2nd A05312 Transport Phenomena and Unit Operations (III) [3] 2nd A05320 Chemical Reaction Engineering[3] 2nd A05310 Process Control and Industrial Instrument[3] 2nd A05427 Chemical Engineering Laboratory[2] 2nd	A05411 Process Design[3] 1st A05429 Special Topics Laboratory of Chemical[2] 1st A05406 Seminar[2] 2nd A05420 English Proficiency Enhancement[0]
Departmental electives (≥6credits)	A05152 Genral Physics(II)[3] 2nd A05134 Global communication skills[2] A05274 Introduction to Materials Science[3] A05230 Introduction to Biotechnology[3] A05251 Biology[3]	A05229 Engineering Mathematics(II) [3] 2nd A05382 Introduction to Environmental Engineering[3] A05228 Introduction to Electrical, Optical and Magnetic Properties of Materials[3] A05282 Analytical Chemistry[3] A05304 Cosmetic Chemistry[3]	A05460 Project (I)[1] 1st A05461 Project (II)[1] 2nd A05397 Polymer Chemistry[3] 1st A05155 Experimental implementation of green energy-saving technology[1] 2nd A05338 An Introduction to Biomedical Materials[3] A05373 Applied Electrochemistry[3] A05317 Applied Organic Chemistry[3] A05328 Cell and Molecular Biology[3] A05281 Biochemistry[3] A05479 Catalysis in Practice[3] A05343 applications of artificial intelligence (AI) in science and engineering[3] A05442 Separation Techniques [3]	A05462 Project III[1] 1st A05629 Green Engineering[3] A05628 Nanotechnology[3] A05425 Bioenergy[3] A05424 Polymer Physics[3] A05383 Biochemical Engineering[3] A05614 Molecular biotechnology[3] A05428 Chemical Process Industries[3] A05409 Polymer Processing and Physical Properties[3] A05665 Statistics and Experimental Design[3] A05379 Industrial Microbiology[3] A05431 Bioenergy[3] A05407 Semiconductor Processing[3] A05381 Sustainable Development Practice [3]
GE liberal arts education	GE liberal arts education: elective, 10 credits from “Humanities and Arts”, “Nature and Technology” , “Social Science”			
Cross-domain electives	Up to 20 credits earned from courses, whether required or elective, offered by other departments/programs at I-Shou University or its partner universities will be recognized by the Department as credits from electives.			
Credits required for graduation from the Department	128 Credits			
Note	1.Students are required to meet the requirements set by the Department for “English Proficiency,” in addition to earning the required number of credits to be eligible for graduation. 2.Before graduation, students are required to take at least one required cornerstone course offered by another college. The credits earned from such courses may be recognized as part of the credits under the category of Liberal Arts Education, but only a maximum of four credits will be recognized accordingly. (For more details about required cornerstone course offered by different colleges, please refer to the announcement on the website of the Curriculum Section.) 3.Encourage students to participate in different programs, developing diverse abilities			