

I-SHOU UNIVERSITY Department of Materials Science and Engineering 4-Year Curriculum for Students Admitted in Academic Year 2026

Category	Freshman Year		Sophomore Year	
GE core courses: required (16 credits)	A93A34 Academic English [2]1st A93A35 Professional English [2] 2nd A93A29 Secret Codes in Intelligent Technologies [2]2nd A93A36 Chinese Literature - Speculative and Expression [2] 2nd		A93A21 Civic Literacy in the Era of Globalization [2] 1st A93A15 Physical Education (I) [1]1st A93A16 Physical Education (II) [1]2nd	
College-required courses (24 credits)	A83E03Deciphering sustainable development[2] 2nd A83818Calculus e-learning (II) [1] 2nd A83817Calculus e-learning(I)[1] 1st A83819Calculus (I)[2] 1st A83815Physics(I)[3] 1st		A83820Calculus (II) [2] 2nd A83816Physics(II)[3] 2nd A83811General Chemistry(II)[3] 2nd A83812General Physics Laboratory[1] 2nd A83810General Chemistry(I)[3] 1st	
Category	Freshman Year	Sophomore Year	Junior Year	Senior Year
Department-required courses (41 credits)	A07123 General Chemistry Laboratory(I)[1]1st A07127 An Introduction to Materials Science(I) [3]1st A07089 First Acquaintance with Materials Science and Engineering [1] 1st A07124 General Chemistry Laboratory (II) [1]2nd A07159 Engineering Computation and AI-Assisted Programming Applications [3] 2nd	A07221Physical Metallurgy (I) [3] 1st A07223Metallurgical Thermodynamics (I) [3] 1st A07204 Experiments of Ceramic Materials [3] 1st A07222 Physical Metallurgy (II) [3] 2nd A07224 Metallurgical Thermodynamics (II) [3] 2nd A07212 Engineering Mathematics (II) [3] 2nd A07203 Experiments of Metallic Materials [3] 2nd	A07301 Experiments of Metal Processing [3] 1st A07302 Experiments of Physical Properties Measurement [3] 2nd	A07161 Materials Seminar and AI Tool Applications [2] 1st A07900 Graduation Project [1] 1 st A07420English Proficiency[0] 1st A07B98 Interdisciplinary Competencies[0] 1st A07162 Materials Seminar and Technology Ethics [2] 2nd
Departmental electives (≥15 credits)	A07088 An Introduction to Materials Science(II) [3] 2nd A07941 Materials Science and Life [1] A07140 Global Communication Skills[2]	A07629 Mechanics of Materials [3] ¹Note³ A07399 Introduction of ceramic Materials [3] ¹Note³ A07400 Introduction of Polymer Materials [3] ¹Note³ A07115 Fundamentals of Statics [3] A07213 physical chemistry [3] A07116 Introduction to Solid State Physics [3] A07242 Electric Engineering [3] A07309 Crystallography [3] A07393 Processing and Application of Polymers [3]	A07398 Mechanical Properties of Material [3] ¹Note³ A07396 Physical Properties of Materials [3] ¹Note³ A07397 Diffraction Theory [3] ¹Note³ A07093 Metallic Materials and Manufacturing Processes [3] ¹Note³ A07096 Phase Transformations and Microstructures in Materials [3] A07252 Physics Properties of Polymers [3] A07623 Ceramic Manufacturing and Application[3] A07348 Principles & Processing of Ferrous Materials [3] A07155 Introduction to Solid State Physics [3] A07352 Heat treatment [3] A07329 the introduction of drive IC reliability [3] A07349 Green Engineering Practice [3] 1st A07940 Experiment for Material Project [1] 2nd A07130Advanced Materials Analysis [3]	A07474 Thin Film Technology [3] A07476 Magnetic Materials [3] A07235 Display Technology and Materials [3] A07450 Corrosion and Corrosion Prevention [3] A07374 Composite materials [3] ¹Note³ A07783 Fabrication Process of Semiconductor Devices [3] A07499 Functional Ceramic Materials [3] A07471 Biomaterials [3] A07097 Defects in Materials and Microscopic Characterization [3] A07098Advanced Welding Technology and Metallurgy [3] A07616 Nanotechnology on Biomedical Engineering [3] A07455 Technology of Flexible Electronic Materials [3] A07160 Artificial Intelligence Applications in Materials Science and Engineering [3] A07151 Electron Microscopic Analysis of Material [3] A07156 Optoelectronic Devices and Materials [3] A07157 Green Engineering Practice Part I [3] 1st A07158 Green Engineering Practice Part II[3] 2nd
GE liberal arts education	GE liberal arts education: elective, 10 credits from “Humanities and Arts”, “Nature and Technology” , “Social Science” , 2 credits from “College Humanistic Literacy Courses”.			
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	Undergraduate students admitted to the University in or after Academic Year 2026 are required to fulfill all of the following requirements during the prescribed duration of study to be eligible for graduation: I. Earning the number of course credits required by their major department; II. Completing one required cornerstone course offered by another college and earning a passing score; the credits earned from this course may be counted toward the Liberal Arts Education category, up to a maximum of four credits; III. Group I Core Elective Courses in Materials must total at least 9 credits, with students selecting 3 out of 4 available courses. Group J Core Elective Courses in Material Properties must also total at least 9 credits, with students selecting 3 out of 4 available courses. Students must complete a minimum of 9 credits in both Group I and Group J. Any additional credits earned from Group I or Group J may be counted toward the departmental elective credits required for graduation. IV. Fulfilling one of the University’s English proficiency requirements for graduation by submitting a valid test report recognized by the University; V. Interdisciplinary Learning: Completing a minor or a secondary major recognized by the University, or completing an interdisciplinary credit program or micro-credit program offered by the University and obtaining a certificate of completion issued by the program.			