I-SHOU UNIVERSITY Department of Materials Science and Engineering
4-Year Curriculum for Students Admitted in Academic Year 2025

Category	Freshman Year(2025)	Sophomore Year(2026)
GE core courses: required (18 credits)	A93A34 Academic English [2]1st A93A35 Professional English [2] 2nd A93A29 Secret Codes in Intelligent Technologies [2]2nd A93A22 Chinese Literature 1.0- Reading, Narration and communication [2] 2nd A93A28 Codes in Health and Medicine [2]1st A93A20 Programming [2]1st	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 A93A21 Civic Literacy in the Era of Globalization [2]1st
College-required courses (24 credits)	A83E03Deciphering sustainable development[2] 2nd A83817Calculus e-learning(I)[1] 1st A83819Calculus (I)[2] 1st A83815Physics(I)[3] 1st A83810General Chemistry(I)[3] 1st A83818Calculus e-learning (Ⅱ)[1] 2nd A83820Calculus (Ⅱ)[2] 2nd A83816Physics(II)[3] 2nd A83811General Chemistry(II)[3] 2nd A83812General Physics Laboratory[1] 2nd	A83809 Engineering Mathematics(I)[3]1st

Category	Freshman Year(2025)	Sophomore Year(2026)	Junior Year(2027)	Senior Year(2028)
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 A07189 Engineering calculation and program application [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	A07094 Seminar and Working Capability and Occupational Ethics (I) [2] 1st A07900 Graduation Project [1] 1st A07420 English Proficiency Enhancement [0] 1st A07095 Seminar and Working Capability and Occupational Ethics (II) [2] 2nd
Departmental electives (≧15 credits)	A07088 An Introduction to Materials Science(II) [3] 2nd A07941 Materials Science and Life [1]	A07629 Mechanics of Materials [3] J Note3 A07399 Introduction of ceramic Materials [3] I Note3 A07400 Introduction of Polymer Materials [3] I Note3 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] J Note3 A07396 Physical Properties of Materials [3] J Note3 A07397 Diffraction Theory [3] J Note3 A07093 Metallic Materials and Manufacturing Processes [3] I Note3 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] 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] I Note3 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] A07091 Application ofAtificial Itelligence on Materials Science and Engining [3] A07151 Electron Microscopic Analysis of Material [3] A07156 Optoelectronic Devices and Materials [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. 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.