

I-SHOU UNIVERSITY Department of Chemical Engineering, Graduate Institute of Biotechnology and Chemical Engineering Curriculum for *Master’s Students Admitted in Academic Year 2025*

Category	First Year (2025)	Second Year (2026)
Required Professional Courses (14 Credits)	M05645 Seminar (I) [2] 1st M05646 Seminar (II) [2] 2nd	M05647 Seminar (III) [2] 1st M05649 Independent Study (I) [3] 1st M05M00 Master Thesis [0] M05648 Seminar (IV) [2] 2nd M05650 Independent Study (II) [3] 2nd M05M01 Research Ethics [0] 2nd
Elective Professional Courses (≥ 24Credits) (Elective courses “Independent Study” will not be included.)	M05603 Advanced Chemical Engineering Thermodynamics [3] M05609 Molecular Biology [3] M05607 Material Chemistry [3] M05627 Advanced Organic Chemistry [3] M05383 Biochemical Engineering [3] M05633 Special Topics of Nanotechnology [3] M05605 Advanced Physical Chemistry [3] M05631 Computer Numerical Analysis [3] M05620 Supercritical Fluids [3] M05624 Advanced Process Control [3] M05628 Nanotechnology [3] M05424 Polymer Physics [3] M05428 Chemical Process Industries [3] M05640 Techniques for Surface Finishing [3] M05613 Cell Biology [3] M05501 Micro Electro-Mechanical System [3] M05639 Bio-inorganic Chemistry [3] M05376 Enzyme Engineering [3] M05378 Bioorganic Chemistry [3] M05667 Technical Thesis Writing [3] M05666 Bioenergy [3] M05669 Field Practice [3] M05610 Biotechnology Processes [3] M05617 Bioinformatics [3] M05602 Solid State Chemistry [3] M05632 Material Analysis [3] M05670 Product Design and Development [3] M05606 Advanced Transport Phenomena [3] M05611 Advanced Biochemistry [3] M05621 Advanced Mathematics in Chemical [3] M05489 Fermentation Technology [3] M05638 Chemical Sensors [3] M05604 Advanced Chemical Reaction [3] M05608 Advanced Biochemical Engineering [3] M05618 Phase Equilibrium [3] M05616 Applied Immunology [3] M05626 Advanced Polymer Physics [3] M05409 Polymer Processing and Physical Properties [3] M05614Molecular Biotechnology [3] M05636 Advanced Electrochemistry [3] M05642 Biomedical Engineering [3] M05496 Environmental Toxicology [3] M05502 Organic Electrochemistry [3] M05480 Integrated Circuit Packing Materials and Packaging [3] M05665 Statistics and Experimental Design [3] M05426 Organic Electro-optics Materials [3] M05623 Advanced Polymer Chemistry [3] M05668 Separation Technology [3] M05629 Green Engineering [3] M05612 Genetic Engineering [3] M05630 Semiconductor Processing [3] M05635 Separation and Application of Natural Products [3] M05479 Catalysis in Practice [3] M05380 Industrial Microbiology [3]	
Category	Third Year (2027)	Fourth Year (2028)
Elective Professional Courses	M05651 Independent Study (III) [1] 1st M05652 Independent Study (IV) [1] 2nd	M05653 Independent Study (V) [1] 1st M05654 Independent Study (VI) [1] 2nd
Thesis	Thesis required courses without credits (capstone courses)	
Credits required for graduation from the Program	38 Credits	
Note	Elective professional courses, _12_ credits from other programs may be recognized with approval from the Program.	