I-SHOU UNIVERSITY
Department of Mechanical and Automation Engineering
4-Year Curriculum for Students Admitted in Academic Year 2021

∗ Credits required for graduation from the Department: 128 , including:

1. GE core courses: required, **18** credits
2. GE liberal arts education: elective, **10** credits
3. Service and Knowledge for Practice: required, 0 credits. Service Education: required, 0 credits
4. Physical Education: required, 0 credits
5. College-required courses: 18 credits (including _1__ college-level cornerstone courses)
6. Department-required courses: 46 credits, including academic + practical courses: 40 credits, academic courses: 0 credits, practical courses: 4 credits, and capstone courses: 2 credits
7. Departmental Elective: 21 credits
   a. Academic courses: 7 credits; taking 33 credits out of 7 credits
   b. Practical courses: 14 credits; taking 454 credits out of 14 credits;
8. Other Elective: 15 credits

Notes:

1. Students are required to meet the requirements set by the Department for "English Proficiency," "Information Competency," and "Professional Certification," 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.)

Freshman Year (2021)

Category	Course Code	Course Title	1st Semester	2nd Semester	Required / Elective	Remark
General Education	A93A17	Service Education(I)	0		Required	
	A93A18	Service Education(II)		0	Required	
	A93A20	Programming		2	Required	Core
	A93A22	Chinese Literature 1.0- Reading, Narration		2	Required	Core
	A93A24	Digital English communication I	1		Required	Core
	A93A25	Digital English communication II		1	Required	Core
	A93A28	Unraveling the Mystery of Health		2	Required	Core
	A93A29	Secret Codes in Intelligent	2		Required	Core
College-required Courses	A83813	Calculus (I)	3		Required	
	A83814	Calculus (II)		3	Required	
	A83815	Physics(I)	3		Required	
	A83816	Physics(II)		3	Required	
	A83E02	Introduction to Industrial Technology		2	Required	
	A83812	General Physics Laboratory		1	Required	
	A83F02	Experiencing Industrial Technology		0	Required	
Department-required Courses	A04243	Mechanical Engineering Materials	3		Required	Common
	A04130	Applied Mechanics -Statics		3	Required	Common
	A04246	Introduction to smart machinery	2		Required	Common
	A04247	Computer-Aided Graphics	3		Required	Common
Departmental Elective	A04241	Material Science	3		Elective	Academic
	A04145	Global Communication Skills	2		Elective	Other
Total Required Credits for this Academic Year			**36**			

I-SHOU UNIVERSITY
Department of Mechanical and Automation Engineering
4-Year Curriculum for Students Admitted in Academic Year 2021

Sophomore Year (2022)

Category	Course Code	Course Title	1st Semester	2nd Semester	Required / Elective	Remark
General Education	A93A15	Physical Education(I)	0		Required	
	A93A16	Physical Education(II)		0	Required	
	A93A23	Chinese Literature 2.0- Critical thinking	2		Required	Core
	A93A21	Civic Literacy in the Era of Globalization	2		Required	Core
	A93A26	Smart English Practice I	2		Required	Core
	A93A27	Smart English Practice II		2	Required	Core
College-required Courses	A83809	Engineering Mathematics(I)	3		Required	
Department-required Courses	A04214	Practice in mechanical workshop		1	Required	Practical Training
	A04239	Mechanisms		3	Required	Common
	A04217	Thermodynamics (I)	3		Required	Common
	A04339	Computer aided design and practice	1		Required	Practical Training
	A04230	Electric Circuits	3		Required	Common
	A04323	Manufacturing Processes (I)		3	Required	Common
	A04226	Strength of Materials		3	Required	Common
Departmental Elective	A04215	Introduction to green energy	3		Elective	Academic
	A04236	Thermodynamics(II)	3		Elective	Other
	A04062	Engineering Mathematics(II)	3		Elective	Other
	A04070	Electronics	3		Elective	Academic
	A04061	Applied Mechanics -Dynamics	3		Elective	Academic
	A04078	Practices of the smart machinery	2		Elective	Practical
Total Required Credits for this Academic Year			**28**			

I-SHOU UNIVERSITY
Department of Mechanical and Automation Engineering
4-Year Curriculum for Students Admitted in Academic Year 2021

Sophomore Year (2023)

Category	Course Code	Course Title	1st Semester	2nd Semester	Required / Elective	Remark
Department-required Courses	A04216	Implementation in mechanical workshop	1		Required	Practical Training
	A04317	Fluid Mechanics	3		Required	Common
	A04319	Mechanical Engineering Laboratory (I)	1		Required	Common
	A04347	Electrical Engineering & Electronics Labor	1		Required	Common
	A04349	Fundamental of Machine Design	3		Required	Common
	A04320	Mechanical Engineering Laboratory (II)		1	Required	Common
	A04325	Auotmatic Control		3	Required	Common
Departmental Elective	A04336	Manufacturing process for Engineering Materials(II)	3		Elective	Practical
	A04368	Sensor techonology	3		Elective	Practical
	A04420	Mechatronics	3		Elective	Academic
	A04311	Applications of Photovoltaic Technology	3		Elective	Practical
	A04313	Heat Engines	3		Elective	Academic
	A04071	Heat Transfer	3		Elective	Academic
	A04479	Logic Circuits	3		Elective	Academic
	A04340	Optimization in Mechanical Design	3		Elective	Academic
	A04356	Electric Machinery	3		Elective	Practical
	A04372	Design of Machine Elements	3		Elective	Practical
	A04463	Principles and Applications of PLC	3		Elective	Practical
	A04371	The Analysis of Dynamics	3		Elective	Other
	A04381	Numerical Analysis	3		Elective	Other
	A04361	Pneumatics & Hydraulics	3		Elective	Other
	A04386	Non Traditional Manufacture Technology	3		Elective	Other
	A04388	Technology and Application of Solar Cells	3		Elective	Other
	A04416	Introduction of Medical Devices	3		Elective	Other
	A04472	Computer Aided Design & Manufacturing	3		Elective	Other
	A04405	Solar Engineering of Thermal Processes	3		Elective	Other
	A04077	Smart design and manufacturing	3		Elective	Other
	A04360	CAM	3		Elective	Other
	A04357	Applications of Advanced Mathematics with Python	3		Elective	Other
Total Required Credits for this Academic Year			**13**			

I-SHOU UNIVERSITY

Department of Mechanical and Automation Engineering
4-Year Curriculum for Students Admitted in Academic Year 2021

Sophomore Year (2024)

Category	Course Code	Course Title	1st Semester	2nd Semester	Required / Elective	Remark
Department-required Courses	A04504	Working Capability and Occupational Ethics		**2**	Required	Common
	A04409	Mechatronics Laboratory	1		Required	Practical Training
	A04389	Practical Project	2		Required	Capstone
	A04009	English Proficiency Enhancement	0		Required	Required
Departmental Elective	A04417	Computer Interface Control	3		Elective	Academic
	A04467	Computer-Aided Engineering Analysis	3		Elective	Practical
	A04415	Thermal-Fluid Sciences and Applications	3		Elective	Practical
	A04478	Single-chip Controller	3		Elective	Practical
	A04412	Energy Engineering & Energy Conservation	3		Elective	Academic
	A04655	Design of Machine System	3		Elective	Practical
	A04410	Electric Vehicle	3		Elective	Practical
	A04350	Principle & Application for IC Package	3		Elective	Other
	A04431	Advanced Fluid mechanics	3		Elective	Other
	A04447	Rapid Prototyping Principles and Technology	3		Elective	Other
	A04677	Modern Control Systems	3		Elective	Other
	A04685	Engineering Computational Methods	3		Elective	Other
	A04404	LED Module	3		Elective	Other
	A04424	Automobile	3		Elective	Other
	A04425	Reliability Analysis for IC Package & Test	3		Elective	Other
	A04435	Introduction to Combustion	3		Elective	Other
	A04441	metal Heat Treatment	3		Elective	Other
	A04505	Electric vehicle design	3		Elective	Other
	A04617	Theory and Applications of Photovoltaci Cells	3		Elective	Other
	A04459	Semiconductor Fabrication Technology	3		Elective	Other
	A04461	Robotics	3		Elective	Other
	A04462	Modern Control Theory	3		Elective	Other
	A04621	Introduction to Nanomaterials	3		Elective	Other
	A04632	Application of Computational Fluid Dynamics	3		Elective	Other
	A04663	Mechanism Design Fluid Dynamics	3		Elective	Other
	A04414	Project practice for 3D printing	3		Elective	Other
	A04194	Solar Thermal Technology and Applications	3		Elective	Other
	A04502	Off-campus internship	3		Elective	Practical
	A04648	Introduction to MEMS	3		Elective	Other
	A04470	Principles and applications of wind turbines	3		Elective	Practical
	A04507	Intelligent Control	3		Elective	Other
	A04072	Flight Principle And Maneuvering Techniquw For Uavs	3		Elective	Practical
	A04490	Numerical Control Machine	3		Elective	Other
Total Required Credits for this Academic Year			**5**			