MUST Curriculum Planning for Undergraduate Students for Academic Years 2021-2024

Department of Electrical Engineering

1st year(110)

	Course	1st semester Cr.	1st semester hr.	2nd semester Cr.	2nd semester hr.
MUST Core Required Courses	Physical Education	0	2	0	2
	English(I)(II)	2	2	2	2
	Chinese Reading and Expressions(I)(II)	2	2	2	2
	Introduction to Computers and Programming	3	3		
	Introduction to Artificial Intelligence			3	3
	Subtotal	7	9	7	9
School Professional Required Courses	Calculus (I)(II)	3	3	3	3
	Chemistry and Chemistry Experiment	2	3		
	Basic Electricity and Electrical Experiment	2	3		
	Physics and Physics Experiment			2	3
	Subtotal	7	9	5	6
General Education	Classified general Education	2	2	2	2
	Classified general Education	2	2	2	2
	Subtotal	4	4	4	4
Department compulsory courses	※Digital Logic Design	3	3		
	※Electric Circuit (I)			3	3
	※Electric Circuit Lab (I)			1	3
	Subtotal	3	3	4	6
Department Elective Courses	■●◇Micro-computer Application			3	3

2nd year(111)

	Course	1st semester Cr.	1st semester hr.	2nd semester Cr.	2nd semester hr.
MUST Core Required Courses	Technical English(I)(II)	2	2	2	2
	Subtotal	2	2	0	0
School Professional Required Courses	Subtotal	0	0	0	0
General Education	Classified general Education	2	2	2	2
	Classified general Education	2	2		
	Subtotal	4	4	2	2
Department compulsory courses	Engineering Mathematics (I)(II)	3	3	3	3
	Electronics (I)(II)	3	3	3	3
	Electronic Lab (I)(II)	1	3	1	3
	Electric Circuit (II)	3	3		
	Electric Circuit Lab(II)	1	3		
	Electrical Machinery			3	3
	Electrical Machinery Lab			1	3
	Subtotal	11	15	11	15
Department Elective Courses	◇Computer network	3	3		
	■Freezing and Air-Conditioning Engineering	3	3		
	■●◇Microprocessor Practice	3	3		
	The Installation and Practice of Computer Hardware	3	3		
	■ Energy and Applications			3	3
	■Freezing and Air-conditioning Engineering Practice			3	3
	■●◇Network Analysis			3	3

3rd year(112)

	Course	1st semester Cr.	1st semester hr.	2nd semester Cr.	2nd semester hr.
MUST Core Required Courses	Subtotal	0	0	0	0
School Professional Required Courses	Ethics for Engineers	2	2		
	Subtotal	2	2	0	0
General Education	Subtotal	0	0	0	0
Department compulsory courses	Automatic Control	3	3		
	Power Systems	3	3		
	Principles of Communications	3	3		
	Special Practical Projects			1	3
	Subtotal	9	9	1	3
Department Elective Courses	■● Applications for Internet of Things System	3	3		
	■●◇App Programming	3	3		
	■●◇Linear Algebra	3	3		
	■Fuel Cell and Processing Control	3	3		
	■Power Distribution Engineering	3	3		
	■Power Electronics	3	3		
	●◇Signal and Systems	3	3		
	●◇Programming Logic Design	3	3		
	●◇Network Protocols	3	3		
	◇Communication Systems	3	3		
	◇Introduction to RFID	3	3		
	◇Introduction to Wireless Network	3	3		
	◇Design of Graphical Control Systems	3	3		
	■●◇Circuit layout Practice	3	3		
	■●Programmable Logic Design Practice	3	3		
	●Automatic Control Practice	3	3		
	◇Computer Network Practice	3	3		
	■●◇Smart Grid			3	3
	■●◇Micro-Grid System Design			3	3
	■●◇Programmable Logic Controller			3	3
	■●◇Probability			3	3
	■Advanced Power Systems			3	3
	■Electric Machine Control			3	3
	●Control System Design			3	3
	●Mechatronics			3	3
	●Digital Control			3	3
	●◇Digital Signal Processing			3	3
	◇Wireless Communications			3	3
	◇RFID EMC and Testing			3	3
	◇Microwave Engineering			3	3
	◇Electromagnetics			3	3
	◇RFID Applications			3	3
	Analysis and Design of Circuits with High Frequencies			3	3
	■●◇Real-Time Control Practice			3	3
	■●◇System Simulation Practice			3	3
	■Power electronics Practice			3	3
	■Power System Practice			3	3
	●Digital Control Practice			3	3
	◇Graphical Control Simulation Practice			3	3
	AUTOCAD Computer Drawing Practice			3	3

4th year(113)

	Course	1st semester Cr.	1st semester hr.	2nd semester Cr.	2nd semester hr.
MUST Core Required Courses	Subtotal	0	0	0	0
School Professional Required Courses	Subtotal	0	0	0	0
General education	Subtotal	0	0	0	0
Department compulsory courses	Special Practical Projects	1	3		
	Off-Campus Internship			9	9
	Subtotal	1	3	9	9
Department Elective Courses	Corporate Internship	9	9		
	■●◇Innovation and Invention	3	3		
	■Electrical Load Management	3	3		
	■Wind Power Generation and Energy Conversion	3	3		
	■Supervisory and Control of Solar Energy Generation System	3	3		
	■Renewable Energy Generation Systems	3	3		
	●Linear Control	3	3		
	●System Dynamics	3	3		
	●Control system integration design	3	3		
	●◇Image Processing	3	3		
	◇Digital Communications	3	3		
	◇RFID Antenna Design	3	3		
	◇Introduction to EMC	3	3		
	◇Applications of Electromagnetic Wave	3	3		
	◇Handheld Device Antenna Design	3	3		
	◇Hand-held satellite navigation system	3	3		
	◇Principles and Applications of Mobile Communication	3	3		
	◇ RFID Application Development	3	3		
	◇Communication Electronics	3	3		
	◇Introduction to Mobile Communications	3	3		
	◇Driving Circuit for Plane Display	3	3		
	Industrial Management	3	3		
	■●Electric Machine Control Practice	3	3		
	Applications of PWM Control IC	3	3		
	■ Solar Energy Engineering			3	3
	■Electrical Machinery Design			3	3
	◇EMC Practice			3	3
	Digital Communication Practice			3	3
	Image Processing Practice			3	3
	Analysis of PWM Control IC			3	3

Cr./hr.=Credit/hour

Remarks:

1. According to university regulations, students are required to meet the graduation requirement of basic language proficiency and professional skills.
2. Students shall take 4 hours Service Education courses (0 credits) in the first and second semester of the first academic year.
3. In the first three years, students must take 16-30 credits per semester, and 9-30 credits per semester in the 4th year.
4. Minimum credits required for graduation: 128 credits including 95 compulsory credits, and at least 33 elective credits (interdepartmental credits are included), while elective professional course credits shall not be fewer than 14.
5. Must complete the 20 transferable inter-departmental credits (excluding core required courses (Chinese Reading and Expressions(I)(II)、English(I)(II)、Introduction to Programming、Introduction to Artificial Intelligence、Technical English(I)(II)、Applied English(I)(II))、school professional required courses, department compulsory and department elective courses.)
6. In order to graduate, each student must take at least 12 credits in one of the three modular courses: Electric Power Engineering, System Engineering, and Communication Engineering, including 6 credits in regular courses and 6 credits in practice courses.
7. Students having graduated from a foreign country, including Hong Kong and Macau, with the equivalent of the second year of high school study of the ROC's high school sophomore level, or with a high school equivalent degree, need to take 140 credits including 95 compulsory credits, and at least 45 elective credits (including inter-departmental elective credits), while elective professional course credits shall not be fewer than 25. The program can be extended up to 3 academic years.
8. Elective courses are subject to change if necessary.