

**MUST Curriculum Guide for Undergraduate Students for Academic Year 2018-2021,
Department of Electrical Engineering**

Year I (2018)				
Course title	1st semester		2nd semester	
	Cr.	hr.	Cr.	hr.
◎Physical Education	1	2	1	2
◎English (I)(II)	2	2	2	2
◎Chinese Reading and Expressions (I)(II)	2	2	2	2
C △Physics (I)(II)	2	2	2	2
△Physics Laboratory(I)(II)	1	2	1	2
△Calculus (I)(II)	3	3	3	3
△Chemistry			2	2
※Introduction to Computer Science	3	3		
※Digital Logic Design	3	3		
※Electric Circuit (I)			3	3
※Electric Circuit Lab (I)			1	2
※Programming Language			3	3
☆All-out Defense Education Military Training(XII)	0	2	0	1
Summation	17	21	20	24
E ■●◇Micro-computer Application			3	3

Year II (2019)				
Course title	1st semester		2nd semester	
	Cr.	hr.	Cr.	hr.
◎Physical Education	1	2		
◎Classified General Education	2	2	2	2
◎Technical English (I)(II)	2	2	2	2
C ◎Law, Politics and Society	2	2		
◎The Theory of History and Civilization			2	2
◎Chinese Reading and Expressions (II)			1	1
※Engineering Mathematics (I)(II)	3	3	3	3
※Electronics (I)(II)	3	3	3	3
※Electronic Lab (I)(II)	1	2	1	2
※Electric Circuit (II)	3	3		
※Electric Circuit Lab(II)	1	2		
※Electrical Machinery			3	3
※Electrical Machinery Lab			1	2
Summation	18	21	18	20
E ◇Computer network	3	3		
■◇Prezting and Air-Conditioning Engineering	3	3		
■●◇Microprocessor Practice	3	3		
E ■ Energy and Applications			3	3
Numerical Analysis			3	3
■◇Prezting and Air-Conditioning Engineering Practice			3	3
■●◇Network Analysis			3	3

Year III (2020)				
Course title	1st semester		2nd semester	
	Cr.	hr.	Cr.	hr.
◎Classified General Education	2	2	2	2
◎Ethics for Engineers	1	1		
◎English Proficiency Training			1	1
C ※Automatic Control	3	3		
※Power Systems	3	3		
※Principles of Communications	3	3		
※Special Practical Projects			1	2
Summation	12	12	4	5
E ■●◇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		
◇Communication Systems	3	3		
◇Introduction to RFID	3	3		
◇Introduction to Wireless Network	3	3		
◇Design of Graphical Control Systems	3	3		
Advanced Electronics	3	3		
Audio Techniques	3	3		
■●◇3D Design Practice Practice	3	3		
■●◇Circuit Layout Practice	3	3		
■●◇Programmable Logic Design Practice	3	3		
●Automatic Control Practice	3	3		
■●◇Microcontroller Application and Design			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
●Data Structure			3	3
●◇Network Protocols			3	3
◇Wireless Communications			3	3
◇RFID EMC and Testing			3	3
◇Microwave Engineering			3	3
◇Electromagnetics			3	3
◇RFID Applications			3	3
◇Semiconductor Devices			3	3
◇Analysis and Design of Circuits with High Frequency			3	3
■●◇Real-Time Control Practice			3	3
■●◇System Integration Intelligence and Application Practice			3	3
■●◇Micro-Grid System Design Practice			3	3
■●◇System Simulation Practice			3	3
■Power electronics Practice			3	3
■Power System Practice			3	3
●Embed system Practice			3	3
●Digital Control Practice			3	3
◇Computer Network Practice			3	3
◇Communication System Practice			3	3
◇Radio Frequency Circuit Practice			3	3
◇Graphical Control Simulation Practice			3	3

Year IV (2021)				
Course title	1st semester		2nd semester	
	Cr.	hr.	Cr.	hr.
C ※Special Practical Projects	1	2		
Summation	1	2	0	0
E ■●◇Innovation and Invention	3	3		
■Electrical Load Management	3	3		
■Wind Power Generation and Energy Conversion	3	3		
■Dependency and Control of Belt 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		
●◇Windows Graphics	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		
The Ethics of workshop	3	3		
Industrial Management	3	3		
Field Operation Practice	3	3		
Workshop practice	3	3		
Manufacture practice	3	3		
■●Electric Machine Control Practice	3	3		
■ Solar Energy Engineering			3	3
■Electrical Machinery Design			3	3
■Electrical Power Monitoring and Control			3	3
●◇CMOS Analog Integrated Circuits			3	3
●◇CMOS Digital Integrated Circuits			3	3
◇Material and fabrication of RFID			3	3
◇Mobile wireless broadband network technology			3	3
Multimedia Design			3	3
Introduction to Electro-Optics			3	3
Working Ethics			3	3
Factory Technique			3	3
Industrial safety and hygienic practice			3	3
◇EMC Practice			3	3
Digital Communication Practice			3	3
Image Processing Practice			3	3
Antenna Simulation Design Practice			3	3

Item	Cr.	hr.
◎General Education Courses	30	33
△Basic Professional Courses	14	16
※Required Professional Courses	46	53
Elective Professional Courses	38	45
☆All-out Defense Education Military Training	0	3
Total	128	150

C/E = Compulsory / Elective
Cr./hr. = Credit / Hour

Remarks:

- The university requires students to achieve basic competencies and meet graduation requirements.
- Students are required to take 4 hours of Service Education courses (0 credit) during their first year.
- In the first three years, students must take 16-24 credits per semester, and 9-27 credits per semester in the 4th year.
- Minimum credits required for graduation are 128 credits (90 required credits and at least 38 elective credits).
- No fewer than 32 professional elective credits are required with the exclusion of credits for inter-disciplinary programs.
Note: Inter-departmental elective credits are transferable.
- In order to graduate, each student must take at least 15 credits in one of the three modular courses: Electric Power Engineering, System Engineering, and Communication Engineering.
- Six courses: Workshop Practice, Work Ethics, Field Operations, Production Practices, Factory Technology, and Industrial Safety and Health, are open only to those who participate in the Factory Internship Program.
- The elective courses are subject to change if necessary.
- 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 90 compulsory credits, and at least 50 elective credits (including inter-departmental elective credits), while elective professional course credits shall not be fewer than 44. The program can be extended up to 3 academic years.