Information and Electrical Engineering Technology (G) (EMI), Micro Credential(9 Credits)

IEE-G-MP-003

Admitted Academic Year：2026

Program's Descriptions：

The Information and Electrical Engineering Technology (EMI) applied a combination of theoretical and practical teaching methods, students will learn the fundamental concepts and practical applications, such as transient phenomena in power systems, including the identification and analysis of transient issues, progressing from localized transients to distributed transients. Students will gain foundational knowledge and practical applications of microwave materials, enhancing their analysis and design capabilities, including material analysis, manufacturing, and measurement, while exploring advanced microwave technology applications. They will study deposition techniques, such as evaporation and sputtering, and learn to analyze and test the properties of thin films. The program also delves into integrated circuit manufacturing processes and the characteristics and modeling of microwave components. Students will design nonlinear microwave circuits, including power amplifiers, mixers, and oscillators. They will explore the reliability issues of semiconductor processes and devices, understanding degradation mechanisms and reliability testing methods, particularly in the Foundry industry. Finally, students will acquire interdisciplinary knowledge in electromechanical system integration, covering optoelectronics, precision manufacturing, and micro-electromechanical systems (MEMS), with a focus on theoretical analysis, practical experience, subsystem integration, and automated measurements. This comprehensive expertise spans from power systems and microwave technologies to integrated electromechanical systems, applicable across diverse technological and engineering fields.

Program's Curriculum：

Required/ Elective	Course Number	Course name	Credit	Course Clusters
Elective	COME2034	PROGRAMMING WITH PYTHON	3	1.基礎
Elective	AUTO6004	ADVANCED MEASUREMENT ENGINEERING	3	2.進階
Elective	ELEN6008	RELIABILITY ANALYSIS	3	2.進階
Elective	EEEN6037	MICROWAVE INTEGRATED CIRCUITS	3	2.進階
Elective	EEEN6041	ANTENNA ENGINEERING	3	2.進階
Elective	EEEN6045	ELECTRICAL TRANSIENTS IN POWER SYSTEM	3	2.進階
Elective	IECS6052	ADVANCED SOFTWARE ENGINEERING	3	2.進階
Elective	EEEN6057	THIN-FILM TECHNOLOGY	3	2.進階
Elective	EEEN6087	MICROWAVE MATERIAL AND ANALYSIS	3	2.進階
Elective	IECS7015	SPECIAL TOPICS IN OPERATING SYSTEM	3	2.進階
Elective	AUTO6005	AUTOMATIC AND INTEGRATED ELECTROMECHANICAL SYSTEM	3	3.應用
Elective	AUTO7003	ENGINEERING TECHNOLOGY PRACTICE AND APPLICATIONS	3	3.應用

Total credits： 9 Required credits： 0 Elective credits： 9

Industrial Classification：

C26	Manufacture of Electronic Parts and Components
C28	Manufacture of Electrical Equipment
C27	Manufacture of Computers, Electronic and Optical Products

Guidelines for Program Completion：

Management Unit： College of Information and Electrical Engineering / College of Information and Electrical Engineering