Semiconductor Engineering in Mechanical and Computer-Aided Engineering, M.S. (32 Credits)
MCAE-M-FM-002
(Applicable to Students Admitted in the Academic Year 2026)

Required To earn 2 credits

1st.

Semester 1

CourseNum	Course name	credit
GEID6022	RESEARCH ETHICS EDUCATION ONLINE PROGRAM	0
MCAE6027	THE DISCUSS OF SYSTEM ENGINEERING FOR UNMANNED AERIAL VEHICLE DESIGN	2

2nd.

Semester 2

CourseNum	Course name	credit
ENGS7990	MASTER THESIS	0

Elective To earn at least 30 credits

1st.

Semester 1			Semester 2		
CourseNum	Course name	credit	CourseNum	Course name	credit
MCAE6015	OPTIMAL DESIGN IN ENGINEERING	3	MCAE6008	APPLICATION AND PRACTICE OF ADVANCD AUTOMATION SYSTEM	3
MCAE6024	MICRO FABRICATION AND NET ZERO CARBON EMISSIONS	3	MCAE6020	ENERGY APPLICATION AND THERMAL POWER PLANT	3
MCAE6028	UAV PROPULSION SYSTEMS AND INTEGRATION DESIGN	3			

2nd.

Semester 1			Semester 2		
CourseNum	Course name	credit	CourseNum	Course name	credit
MCAE6901	INTERNSHIP (1)	3	MCAE6904	INTERNSHIP(4)	3

Semiconductor Engineering in Mechanical and Computer-Aided Engineering, M.S. (32 Credits)
MCAE-M-FM-002
(Applicable to Students Admitted in the Academic Year 2026)

MCAE6902	INTERNSHIP (2)	3	MCAE6905	INTERNSHIP(5)	3			
MCAE6903	INTERNSHIP (3)	3	MCAE6906	INTERNSHIP(6)	3			

Graduation credits： 32 credits
Major required course credits： 2 credits
Major elective course credits： 30 credits

Guidelines for Program Completion：

1.The program is conducted entirely in English.

2.Students are required to complete a total of 32 credits, including 2 mandatory credits and 30 elective credits, of which 18 credits are earned through off campus internship.

3.In place of a traditional master’s thesis, students may submit a Technical Report. The report must address topics related to semiconductor manufacturing processes, mechanical engineering, smart manufacturing, computer-aided engineering, product testing, or carbon-reduction technologies. Completion of the required professional internship and successful passage of the Master’s Degree Examination are mandatory for graduation.

4.Target Industry: Semiconductor Manufacturing

5.Job Title: Process Engineer
Job Description:
(1) New product implementation, execute equipment setup and pilot run.
(2) Engineering change management.
(3) Process capability improvement and investigation of process abnormalities

Management Unit：College of Engineering and Science/Department of Mechanical and Computer-Aided Engineering