

THE UNIVERSITY OF HONG KONG
Master of Science in Engineering in Microelectronics Science and Technology
[MSc(Eng)(MEST)]
Programme Learning Outcomes

University Educational Aims (UEAs)	Proposed MSc(Eng)(MEST) PLOs
UEA1. Critical intellectual enquiry and acquiring up-to-date knowledge and research skills in a discipline / profession.	PLO1 On successful completion of the curriculum, students should understand the fundamental concepts and theories of microelectronics with relevant technology, and acquire specialised knowledge to solve problems that are critical to future growth of industry and business.
UEA2. Application of knowledge and research skills to practice or theoretical exploration, demonstrating originality and creativity.	PLO2 On successful completion of the curriculum, students should be able to apply advanced knowledge, analytical skills and reasoning in interdisciplinary fields between materials, devices and other appropriate disciplines.
UEA3. Tackling novel situations and ill-defined problems.	PLO3 On successful completion of the curriculum, students should be able to apply and integrate of interdisciplinary knowledge and skills to identify and tackle practical problems, and develop the devices using appropriate tools and techniques.
UEA4. Collaboration and communication of disciplinary knowledge to specialists and the general public.	PLO4 On successful completion of the curriculum, students should demonstrate the ability to present effectively, initiate the ideas with other specialists and use specific technical terminology to enhance public awareness in the related topics through research activities and industrial projects.
UEA5. Awareness of and adherence to personal and professional ethics.	PLO5 On successful completion of the curriculum, students should be able to demonstrate independent and critical thinking ability and appreciate the ethical issues and concerns relevant to the discipline.
UEA6. Enhancement of leadership and advocacy skills in a profession.	PLO6 On successful completion of the curriculum, students should be able to develop a critical awareness of current issues in the global market, and inculcate leadership, professional ethics and competence in entrepreneurship and relevant interdisciplinary fields.

Mapping of courses against the PLOs (in the form of a matrix). The mapping includes the disciplinary core and elective courses.

Course in MSc(Eng) (MEST) (Unless specified, all are 6 credits)	General Learning Outcomes					
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
MEST74XX Characterization Techniques for Materials and Devices			√	√	√	
MEST74XX Solid-state Materials and Physics	√	√	√	√		
MEST74XX Semiconductor Devices	√		√	√	√	
ELEC6027 Integrated Circuit Systems Design		√	√	√	√	√
MECH6045 Nanotechnology: Fundamentals and Applications		√	√			√
MEST74XX Advanced Micro/nanofabrication		√	√			√
MEST74XX Advanced Semiconductor Device	√		√	√	√	
MEST74XX Advanced topics in Microelectronics Technologies A	√	√		√	√	
MEST74XX Advanced topics in Microelectronics Technologies B	√	√		√	√	
MEST74XX Nanophotonics	√	√	√	√		
ELEC6049 Digital System Design Techniques			√	√	√	
ELEC6063 Optoelectronics and Lightwave Technology			√	√	√	
ELEC70XX Analog IC Design, Computing & Memories		√	√	√	√	√
MECH6046 Microsystems for Energy, Biomedical and Consumer Electronics Applications		√	√			√
Capstone requirement						
MEST71XX Dissertation (24 credits) #	√	√	√	√		√

Dissertation is a comprehensive course for MEST students. They would use what they had learned in their courses to work on a research project. Therefore, Dissertation would be mapped against most of the PLOs.