Master of Science (MSc) Program in Electronic Engineering

Program Director:

Jiang XU, Associate Professor of Electronic and Computer Engineering

At a very fundamental level, the increasing speed at which we can acquire, interpret, and take action based on information impacts on many of the changes we are observing in the modern world. Much of this increased speed is due to advances in Electronic Engineering. Advances in automation and control enable factories to reconfigure their production lines to respond to market driven changes in products. Advances in networking, communication, photonics and display technologies increase the speed at which information can be transmitted around the world as well as the number of ways we can access that information. Advances in signal processing and pattern recognition enable computers to automatically inspect the quality of production lines, respond to natural human input, or improve medical diagnostic technology. Powering these technologies are advances in chip design and computer architecture. Indeed, technology is advancing across a broad front of areas at such a rapid pace that even recent degree holders find their knowledge base fast becoming obsolete. The Master of Science (MSc) program in Electronic Engineering brings students up-to-date in state-of-the-art technologies which are changing the way we work and interact in an increasingly interconnected world.

Program Learning Outcomes

On successful completion of the program, graduates will be able to:

- Examine and formulate electronic engineering problems in their fields of study;
- Integrate theoretical principles and practical skills to solve electronic engineering problems in their fields of study;
- Communicate effectively in their fields of study through writing and discussions with other professionals; and
- Interpret scientific literature and contemporary innovations in multiple fields of electronic engineering.

Admission Requirements

Applicants must possess a bachelor's degree in Electrical / Electronic / Computer Engineering or a related field, or an equivalent qualification from a recognized university or tertiary institution.

Program Duration

The program can normally be completed in one year in full-time mode, or two years in part-time mode. Lectures will be given at HKUST campus or other venues in Hong Kong. Classes will be held on weekday evenings and/or weekends.

Program Fee

The program fee is HK$125,000 for full-time mode, and HK$120,000 for part-time mode. New students admitted with credit transfer are also required to pay the full

program fee. Students who take additional courses or need to retake any courses are required to pay additional fee.

Curriculum

Students are required to take a total of 24 credits of coursework, of which 15 credits (five courses) must be taken from the following course list:

EESM	5000	CMOS VLSI Design
EESM	5060	Embedded Systems
EESM	5600	Photonics Technology and Applications
EESM	5620	Flat Panel Displays
EESM	5650	Digital Communication Networks and Systems
EESM	5670	Advanced Computer and Networking Architectures
EESM	5700	Image and Video Signal Processing
EESM	5720	Signal Analysis and Pattern Recognition
EESM	5730	Modern Control Systems Design
EESM	5770	Engineering Research Methodologies
EESM	5810	Business Development for Technological Innovations
EESM	5900*	Special Topics
EESM	6900#	Independent Study

Students may take the remaining 9 credits of coursework from the above course list. Alternatively, subject to prior approval of the Program Director, students may take a maximum of 9 credits from outside this list offered by other programs. These 9 credits may include:

- EESM courses not in the above list, and
- A maximum of 3 credits of non-EESM courses.

The availability of courses offered by other programs may be subject to quota limitations imposed by individual programs.

Part-time students may take a maximum of 9 credits in each term.

Credit Transfer

Credit transfer may be granted to students in recognition of studies satisfactorily completed elsewhere. Applications must be made to the Department within the first term of study after admission. A maximum of 3 credits of undergraduate courses at 4000-level that have not been used to earn another academic qualification can be transferred to the program. All credit transfer must be approved by the Program Director and is subject to University regulations governing credit transfer for postgraduate programs.

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* *Students may take EESM 5900 for a maximum of 6 credits.*

[#] *Students may take EESM 6900 Independent Study for a maximum of 3 credits.*

Graduation Requirements

Students are required to complete the program with a graduation grade average (GGA) of 2.850 or above as required of all postgraduate students at the University. Students failing to meet the GGA requirement are required to repeat or take additional course(s) even if they attain passing grades for all courses.