

POSTGRADUATE PROGRAMMES

Keeping pace with cybersecurity technologies

ROZANA SANI
rsani@nst.com.my

CONTINUOUS learning is necessary to stay ahead of the curve or at least keep pace with current developments in information and communication technology (ICT) security.

Cognisant of this, the Faculty of Information Science and Technology at Universiti Kebangsaan Malaysia (UKM) eyed working IT professionals as its target group when it developed the Master of Cyber Security programme.

Offered since 2013 with a one to two-year duration for full-time students and two to four years of studies for part-timers, the modular programme — a collaboration between UKM and CyberSecurity Malaysia — is designed to produce graduates who, among others, will be able to employ knowledge of principles, theories, and scientific methods to come up with effective solutions to cybersecurity problems; protect organisational cyber assets as well as plan, strategise and launch cyber counter-attacks; and implement a cybersecurity management standard for the organisation.

Associate Professor Dr Siti Norul Huda Sheikh Abdullah, chairman of the faculty's Center for Cyber Security, said: "We looked deep into the cybersecurity ecosystem with high consideration of industrial, professional and governmental human resource gaps in the market when we created this programme."

"Today a company only remains competitive



6 Today a company only remains competitive if it acquires, develops and uses knowledge faster than its rivals.

SITI NORUL HUDA SHEIKH ABDULLAH
UKM Center for Cyber Security chairman

UKM'S MASTER OF CYBER SECURITY PROGRAMME STRUCTURE



if it acquires, develops and uses knowledge faster than its rivals. New knowledge and technology are quickly making what we learn today obsolete. As knowledge workers, we have to keep on learning throughout our lives, or else we will become unemployable or non-relevant to our work environment."

With a total of 40 credit hours, there are five core subjects amounting to 16 credits which encapsulate cybersecurity fundamentals and skill sets: Cyber Law and Ethics, Computer Security, Network Security, Information Security Management and Project.

The remaining credits are from a choice of five specialised tracks: Information Security, Digital Forensics, Financial Technology Security, Cyber Intelligence and Cyber Security Strategy.

"Cryptocurrency and Block Chain technology have become hot topics in the financial industry. Therefore, we grasp the opportunity to encourage either personnel from a financial or ICT background to upgrade their skills in fintech tools by emphasising financial security measures and policies.

"We blended finance and ICT together under the Financial Technology Security track and introduced new elective courses covering Digital Banking and Financial Services and Financial Technology Security and Risk."

Meanwhile, the Cyber Security Strategy Track was designed to accommodate information strategic planning of an organisation through collective and real-time information.

"Cybersecurity strategists, cyber troopers and cyber warfare analysts are in demand in the market. Some lectures will be conducted by experienced chief information officers to

deliver knowledge transfer regarding top level strategic information planning. Elective courses in this executive track include Strategic Information, Cyber Security in Strategic Studies and International Relations, and Organizational-wide Cyber Security Strategy.

"In collaboration with CyberSecurity Malaysia, the courses are designed in such a way that face-to-face learning, which includes active learning, lab activities, discussion and case studies, is done in five days. Assignments need to be completed in the next three weeks for full-time students or seven weeks for part-timers. Ongoing assessment contributes to 60 per cent of the overall marks and the final examination accounts for the remaining 40 per cent."

At International Islamic University Malaysia, apart from master's and postgraduate cybersecurity programmes, the tertiary institution has a cyber-range programme which offers hands-on training on cybersecurity.

Dr Mohamed Ridza Wahiddin, a professor at the Kulliyah of ICT in IIUM, said: "The cyber-range is our flagship activity. It is the first in Malaysia and was launched by the Minister of Science, Technology and Innovation in September 2016.

"A golfer frequents a driving range to practise golfing skills and some military personnel frequent a shooting range to hone shooting skills — this is the concept that Cyber Range Malaysia creatively innovated for cybersecurity professionals to practise cybersecurity defensive skills," he said, adding that participants will be Certified Cyber Defender Associates once they pass the examination.



Working professionals attending classes under the Master of Cyber Security programme at UKM.