

# **Module Synopses**

## **Module 1 - Infocomm Security and Network Essentials**

This module covers the latest developments in infocomm security and networking, and teaches fundamental configuration and administrative tasks for various operating systems.

## **Module 2 - Ethical Hacking and Defences**

This module teaches in-depth understanding of how to test networks and websites for potential exploits for the purpose of securing them. Advanced offensive and defensive skills will be covered for discovering potential security problems with servers and networks.

## **Module 3 - Security Management and Incident Response**

This module aims at equipping students with knowledge and skills in security information and event management. The models and tools will be covered on how to perform manual analysis, automatic analysis or real-time monitoring and reporting on security events. Techniques to correlate events for advanced incident detection will be taught. Students will practise on how to detect and respond to security incidents in scenarios.

## **Module 4 - Digital Forensics**

This module equips students with the fundamental concepts and techniques of computer and mobile forensics. Students will learn to acquire, analyse and present computer and mobile data as evidence. Students will be taught practical-based forensic investigation methodology and the proper handling of evidence.

## **Module 5 - Secure Coding**

This module equips the students on how to build secure Java applications and gain the knowledge and skills to keep a website from getting hacked, perform application penetration testing to counter a wide range of application attacks, and prevent critical security vulnerabilities that can lead to data loss.

## **Module 6 - Malware Reverse Engineering**

This module aims at equipping the students with the knowledge of malware analysis to reverse-engineer the malware using practical tools and techniques. The three phases of behavioural, code and memory analysis of malware will be taught. Students will learn the techniques of reverse-engineering compiled Windows executable malware, common anti-decompiling techniques and analysis of malicious documents and images.