

Executive
MSc
Information Security



An Exclusive MSc for All IT Executives



Overview

Information security has been recognized as an essential speciality amongst IT professionals.

Therefore, IT professional with better knowledge in information security have more opportunities to enhance their careers; they also receive higher salaries according to recent international surveys.

CICRA in partnership of Asian e University brings a first of its kind global higher education opportunity in information security for Sri Lankan IT professionals and students.

Executive MSc in Information Security

The Executive Master of Science Degree in Information Security is expected to produce skilled and qualified leaders and managers in information security and contribute to the society with an increased and efficient security in information systems and assets.



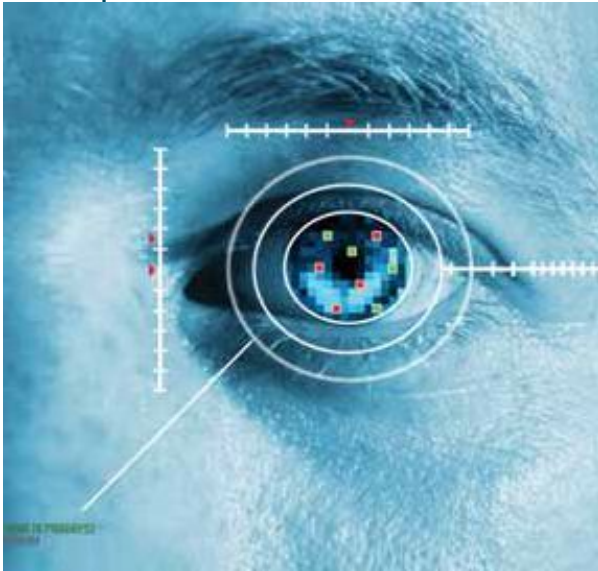


Key Features

- A unique program that covers all information security aspects extensively
- A globally recognised program delivered by foreign and local industry experts
- Provides opportunities for career IT/ICT practitioners to get promotions

Learning Objectives

- Understand the importance of information security including information security methods, information security risk analysis and, legal and ethical approaches to information security.
- Understand the best practices in security operations management, disaster recovery and business continuity, and incidence response and forensic analysis.
- Understand the approaches for information security in an organization and on the physical security of information assets.
- Acquire an overall understanding of the importance of information system security including data security, database security, network security and computer security.
- Acquire an overall understanding of information governance and insight into information audit.
- Students will learn how to apply information security in to practice with the right processes, tools and techniques, and how to tailor global standards to their unique information security requirements.
- Program will also focus on interpersonal skills including communication, leadership and decision making to ensure it builds excellent leaders in information security.



Program Structure

Executive MSc in Information Security program comprises of Eight Modules and a research project, to be completed within 12 - 18 months of time frame.

Three credits are granted for each module with 20 hours of contact time for a module, covering total number of 160 hours of student F 2 F learning time. Research project is to be completed within 4 weeks minimum and 12 weeks maximum and will have six credits granted.



| | Module | Credits | Learning Hours |
|---|--|------------|---|
| 1 | Principles of Information Security | 3 | 20 |
| 2 | Advanced Computer Security | 3 | 20 |
| 3 | Network Security and Intrusion Detection | 3 | 20 |
| 4 | Application Security | 3 | 20 |
| 5 | Data and Database Security | 3 | 20 |
| 6 | Information Governance and Audit | 3 | 20 |
| 7 | Information Security Management | 3 | 20 |
| 8 | Research Methodology | 3 | 20 |
| 9 | Research Project | 6 | Students are expected to complete the project within 4 weeks minimum or 12 weeks maximum. |
| | | 30 Credits | 160 F 2 F Learning Hours (4 hrs per day x 5 weeks x 8 modules) |

Awards

An Executive Master of Science degree in Information Security will be awarded by AeU, with the title Executive MSc (IS), to the candidates who successfully complete the program consisting eight modules and a 6,500 word Project.

Module 1: Principles of Information Security

Module Objective:

Principles of Information Security, provides a broad review of the entire field of information security, background on many related elements, and enough detail to facilitate an understanding of the topic as a whole. The module covers the terminology of the field, the history of the discipline, and strategies for managing an information security program.

Learning Outcomes:

On successful completion of this module, students will have an understanding to:

- Explain the concepts and principles that underpin current and emerging approaches to information security
- Demonstrate a critical understanding of the concepts and principles of information security and of its application in a business environment
- Demonstrate abilities and practices in the investigation, analysis and definition of requirements for a suitable and viable information security solution in a real or simulated business environment

| Topics | Face-to-Face Learning Hours |
|---|-----------------------------|
| Introduction to Information Security | 04 |
| The Need for Security, Legal, Ethical, and Professional Issues in Information Security | 04 |
| Risk Management | 04 |
| Security Technology: Firewalls, VPNs, Intrusion Detection, Access Control, and Other Security Tools | 04 |
| Security Implementation and Maintenance | 04 |

Module 2: Advanced Computer Security

Module Objective:

This subject will help students understand the best practices in computer security including Unix and Windows security and securing infrastructure services. It will also help the students to learn approaches for information security in virtual machines, cloud computing and mobile devices.

Learning Outcomes:

- The students will learn the process of securing computer security
- They will also learn how to engage in securing infrastructure services
- They will also learn the importance of security in virtual machines, cloud computing and mobile devices

| Topics | Face-to-Face Learning Hours |
|--------------------------------------|-----------------------------|
| Operating System Security Models | 04 |
| Unix Security | 04 |
| Windows Security | 04 |
| Securing Infrastructure Services | 04 |
| Virtual Machines and Cloud Computing | 04 |

Module 3: Network Security and Intrusion Detection

Module Objective:

To provide students with an overall understanding of the importance of network security in the information security sphere.



Learning Outcomes:

On successful completion of this module, students will have an understanding of Secure Network Design, Network Device Security, Firewalls and security in Virtual Private Networks. They will also learn the importance of Intrusion Detection and Prevention Systems and how to apply security to Voice over IP and PBX.

| Topics | Face-to-Face Learning Hours |
|---|-----------------------------|
| Secure Network Design and Network Device Security | 04 |
| Firewalls and Virtual Private Networks | 04 |
| Wireless Network Security | 04 |
| Intrusion Detection and Prevention Systems | 04 |
| Voice Over IP (VoIP) and PBX Security | 04 |

Module 4: Application Security

Module Objective:

This subject will help students understand the best practices in secure application design, process of writing secure software and key features of Java and .NET programming, and controlling application behavior. It will also help the students to learn how to control application behavior.



Learning Outcomes:

- The students will learn the process of writing secure software
- They will also learn how to engage in Java and .NET secure programming
- They will also learn the importance of controlling application behavior

| Topics | Face-to-Face Learning Hours |
|----------------------------------|-----------------------------|
| Secure Application Design | 04 |
| Writing Secure Software | 04 |
| J2EE Security | 04 |
| Windows .NET Security | 04 |
| Controlling Application Behavior | 04 |

Module 5: Data and Database Security

Module Objective:

To provide students with an overall understanding of the importance of data and database security. This module will give insights into securing unstructured data including data loss prevention and information rights management. It will also discuss data encryption, storage security and database security.

Learning Outcomes:

On successful completion of this module, students will have an understanding of how to secure unstructured data, encrypt data and how to secure the databases.

| Topics | Face-to-Face Learning Hours |
|--------------------------------------|-----------------------------|
| Secure Application Design | 04 |
| Information Raights Management (IRM) | 04 |
| Encryption | 04 |
| Storge Security | 04 |
| Database Security | 04 |

Module 6: Information Governance and Audit

Module Objective:

To provide students with an overall understanding of information governance. This module will give insights into information audit.

Learning Outcomes:

- On successful completion of this module, students will understand how to initiate a successful information governance program in an organization.
- Students will also learn the concept of information audit.

| Topics | Face-to-Face Learning Hours |
|---|-----------------------------|
| Principles and Concepts of Information Governance | 04 |
| Information Governance Risk Assessment | 04 |
| Key Impact Areas of Information Governance | 04 |
| Introduction to Information Audit | 04 |
| Introduction to Frameworks and Standards of Information Audit | 04 |

Module 7: Information Security Management

Module Objective:

This subject will help students understand the best practices in security operations management, disaster recovery and business continuity, and incidence response and forensic analysis. It will also help the students to learn approaches for information security in an organization and on the physical security of information assets.



Learning Outcomes:

The students will learn the process of information security operations management

They will also learn how to engage in disaster recovery and business continuity

They will also learn the importance of incidence response and forensic analysis

| Topics | Face-to-Face Learning Hours |
|---|-----------------------------|
| Security Operations Management | 04 |
| Disaster Recovery and Business Continuity | 04 |
| Incidence Response and Forensics Analysis | 04 |
| Physical Security | 04 |
| Security Organization | 04 |

Module 8: Research Methods

Module Objective:

To prepare students to complete the dissertation module by providing them with the understanding of research methods. This module will guide the students to identify an appropriate research topic, develop research problem and prepare research proposal to develop the dissertation.

Learning Outcomes:

Gain understanding of the research methods and how to apply it to the final research project.

| Topics | Face-to-Face Learning Hours |
|----------------------------------|-----------------------------|
| Introduction to Research Methods | 04 |
| Research Planning | 04 |
| Research Design | 04 |
| Data Collection and Analysis | 04 |
| Developing the Research Proposal | 04 |

Master's Project

The Master's Project is a research paper that is more substantial than a term paper. Depending on the topic and methodology, it can range about 6,500 words, exclusive of any tables or figures and the list of references.

The Master's Project goes beyond a literature review on the narrow topic in a field. It will have to build upon and extend the relevant literature in the field. The relevant literature is likely to be covered in one or more of the modules in the Executive Master's program. The project should discuss this literature as background to the more detailed literature that pertains specifically to the project.

Admission criteria

Degree in IT or professional qualifications equivalent to a degree
and age below 25 years

OR

At least 5 years of industry experience and age above 25 years



Asia e University (AeU)

AeU is a dual-mode, international university set in Asia, by Asians for Asia under the Asia Cooperation Dialogue (ACD).

Based in Malaysia, the university has the support of 33 ACD Member Countries including Sri Lanka as confirmed at the Islamabad 2005 and Doha 2006 ACD Ministerial Meetings.

AeU comprises of 8 Schools (Management, Education, ICT, Humanities & Arts, Graduate Studies, Foundation Studies, Professional & Executive Education and Technical & Engineering Education) with over 20 learning centres around the world.

Focused on personalised learning on demand, AeU provides education for working professionals in search of flexibility, innovation and creativity in their education needs.



Asia Cooperation Dialog (ACD)



The ACD is a continent-wide forum, the first of its kind in Asia. It aims to constitute the missing link by incorporating every Asian country and build an Asian community, consolidate its strengths and fortify its competitiveness.

Sri Lanka is among the 33 member nations that represent ACD.

Global Memberships



Recognised by:

University Grants Commission (UGC), Sri Lanka