



Master of Science in Security by Design (MSSD)

Cybersecurity for a Smarter World

Programme Overview

The Master of Science in Security by Design (MSSD) focuses on cybersecurity foundations and applications, from early design stages to implementations, for **organisational domains** and **cyber-physical systems**.

Students will be able to design, analyse, implement and manage secure systems ranging from online services and business to **large-scale infrastructures** (e.g. power grid, water treatment).

Unique Features

- Access to World-Class Testbeds
- Active Learning and Hands-On Pedagogy
- Local and Overseas Attachment Opportunities (for Research Thesis OR Industry Project)

The MSSD programme includes the following areas of focus:

- Foundations of Cybersecurity
- Secure Software Engineering
- Secure Cyber Physical Systems
- Cybercrime

Testbeds

SUTD hosts several world-class testbeds that facilitate research and training in the design of secure large-scale cyber physical systems.

These systems include:

- **Secure Water Treatment** (SWaT)
- **Water Distribution** (WADI)
- **Electric Power and Intelligent Control** (EPIC)
- **Research in Security Innovation Lab** for Internet of Things (RESILIOT)

Programme Duration (Full-Time / Part-Time / Modular)

Each academic year is divided into 3 Terms:

	Full-Time	Part-Time	Modular
Duration	1 Year (3 Consecutive Terms)	2 to 3 years (Maximum of 9 Terms)	Up to 5 Years (Maximum of 15 Terms)

Curriculum Overview

The MSSD programme starts in September and ends in the following August.

Term 1 (Sept to Dec)

- Foundations of Cybersecurity
- Computer Networks
- Elective Module 1
- Security Tools Laboratory 1

Term 2 (Jan to Apr)

- Secure Software Engineering
- System Security
- Elective Module 2
- Security Tools Laboratory 2

Term 3 (May to Aug)

- Research Thesis OR Industry Project

Part-time students must complete the above curriculum within 9 Terms.

Featured Elective Modules

- Machine Learning
- Secure Cyber Physical Systems
- Cybercrime

For more details, please visit

<https://istd.sutd.edu.sg/mssd/programme-structure/>

Admission Requirements

At least a **Bachelor's degree** with

- Second-Upper Class Honours and majoring in **engineering** or **computer science**
- OR
- At least **2 years** of work experience in the information & communications technology sector

Applicants should also possess the following:

- Proficiency in at least one of the following programming languages: **Java, C/C++, Python** (or other modern programming language)
- English language proficiency (**TOEFL** or **IELTS** may be required if English is not your medium of instruction)

Admission Assessments

- Programming Test
 - Face-to-Face OR Video Conference Interview
- Credit exemption for academic modules will be evaluated on a case-by-case basis

Featured Scholarships

National Cybersecurity Postgraduate Scholarship

Open to Singapore Citizens and Permanent Residents

Center for Cyber Safety and Education Graduate Scholarship

Open to all local and international students

Contact Us

For admission and programme enquiries:

Email: mssd@sutd.edu.sg

Company Partnerships

- Certis CISCO
- Cyber Security Agency of Singapore
- Netherlands Organisation for Applied Scientific Research (TNO)
- Public Utilities Board, Singapore's National Water Agency
- StarHub Ltd
- ST Electronics (Info-Comm Systems) Pte Ltd

