COME JOIN THE DO CULTURE

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Our mission is to nurture and develop individuals who build on their interests and talents to impact society in meaningful ways. The university also aims to cultivate in its students four distinctive traits, or the SIT-DNA, which will prepare them to be ‘Thinking Tinkerers’, ‘Able to Learn, Unlearn and Relearn’, ‘Catalysts for Transformation’ and ‘Grounded in the Community’.

The university’s applied degree programmes offer you a chance to experience a unique pedagogy that integrates work and study. SIT’s degree programmes feature a six- to 12-month Integrated Work Study Programme (IWSP) which exemplifies the best of university-industry collaboration.
Singapore strives to become a Smart Nation to support better living, stronger communities, and create more opportunities for all. Being resource-scarce coupled with a declining active workforce, it is vital for Singapore to develop expertise in creating effective and innovative solutions to address challenges, and be at the forefront of the digital domain.

SIT’s applied learning curriculum provides students with strong theoretical and practical knowledge which they learn through hands-on experiments and team projects. Our signature Integrated Work Study Programme (IWSP) further allows students to apply this knowledge beyond the classroom to solve applied research problems in the industry and community.

Through a curriculum co-developed with industry partners who share their expertise and insights on the latest technological developments, SIT offers mission-critical and highly specialised ICT programmes that will train students to be industry-ready and relevant for life.

With the emergence of Internet of Things (IoT), autonomous vehicles, exponential growth in data analytics, and the need to secure everything digital, ICT presents many interesting opportunities and in-demand career pathways that will gear our nation up for the digital transformation in the global economy.

Our students are given the opportunity to work on applied research projects with our faculty and industry partners in areas such as software engineering, cybersecurity, Internet of Things (IoT), telematics and other advanced areas in artificial intelligence, AR/VR and many others.
I had the privilege to travel to Beijing with my coursemates to attend DEFCON, an international hacker convention as part of SIT’s Global/Regional Exposure to Advanced Technology (GREAT) programme. At the conference, I learned about current trends and attended masterclasses to gain in-depth hands-on knowledge and skills on topics that may not be covered in school, such as Internet of Things (IoT) hacking. Under the Work-Study Degree Programme (WSDeg), I am trained to juggle work as an employee of Singtel and study at the same time. During school breaks, I have been given plenty of opportunities to explore cybersecurity positions at Singtel, NCS and Trustwave.

Lim Yoong Jin
Year Three
Information and Communications Technology
(Information Security)
I am drawn to SIT’s industry-relevant curriculum as it tailors its modules based on the demands and trends of the industry. Not only have I been able to expand my networks through many industry exposure and networking sessions, I have to put my skills and knowledge acquired in school to use, and tackle the assigned corporate challenges during my internship.

Ong Yi Ning
Year Two
Information and Communications Technology (Software Engineering)
HEAR WHAT THE INDUSTRY SAYS

An intelligent transportation system is a major component of any Smart Nation. The curriculum was devised with due consideration of the long-term systemic requirements of a Smart Nation and its transport industries. Graduates of the programme will not only acquire state-of-the-art knowledge of transportation technologies, but also a systems engineering approach to design. This will ensure that graduates are equipped to integrate into the workforce and stay relevant in the fast-changing economy.

Mr Ang Kim Siah
Senior Vice President
Mobility Business Unit
ST Electronics (Info-Comm Systems) Pte Ltd

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Mr Ang Kim Siah
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ST Electronics (Info-Comm Systems) Pte Ltd

Back in 2014, companies were not very familiar with what SIT ICT programmes could offer. Fast forward to today, SIT has gained great recognition from government agencies and enterprises on her graduates’ relevance to a dynamic ICT environment. More recently, MINDEF has also selected SIT to train their Defence Cyber specialists.

Mr Chang Yew Kong
Chairperson
Industry Advisory Committee for the SIT Information and Communications Technology Programmes
Member, Governing Board
Centre for Quantum Technologies
National University of Singapore

SIT’s DNA is most suitable for the Information and Communications Technology (Information Security) degree programme. Information Security is a domain that paradoxically requires relevant hands-on experience in a highly specialised industry that is severely short-handed. Indeed, most companies will not trust fresh graduates with their data, and often require a minimum of two years’ experience for any information security hire. SIT’s vision of educating ‘thinking tinkerers’ sits well in imbuing SIT graduates with the right perspectives. Its unique year-long IWSP facilitates seamless transition of graduates into the industry, thus breaking the paradox and helping to staff the current acute need for information security professionals globally.

Mr Aloysius Cheang
Chief Executive Officer
iSyncGroup Technology Co. Ltd

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Chief Executive Officer
iSyncGroup Technology Co. Ltd

Talent is at the heart of Singapore’s digital transformation. The future workforce requires a skilled pool of infocomm talent with the in-demand skills in areas such as data, artificial intelligence, cybersecurity; as well as new mindsets such as agile and creative thinking. As digitalisation continues to transform Singapore’s economy, a skill in infocomm is a career in any industry.

Mr Howie Lau
Chief Industry Development Officer
Infocomm Media Development Authority

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Mr Howie Lau
Chief Industry Development Officer
Infocomm Media Development Authority
HEAR WHAT THE INDUSTRY SAYS

Mr Tham Chen Munn
Business Development Director
PTV Group

Hiring an SIT Telematics student for IWSP was timely for our company to meet the growing needs of the smart city industry in the region. The student added value to our team with his enthusiasm and willing-to-learn attitude that will take him far in his professional journey. The longer IWSP duration also allows students the opportunity to learn and understand the industry well by the end of the work attachment.

Mr Lo Kien Foh
President and Chief Executive Officer
Continental Automotive Singapore Pte Ltd

The SIT curriculum is developed with a strong focus on equipping our future talent pool with a well-rounded engineering capability and expertise to become industry-and future-ready. In addition, our partnership with SIT will provide students an opportunity to gain the much needed hands-on experience and invaluable exposure in the exciting engineering work environment.

Dr Ow Chee Chung
Chief Executive Officer
Kwong Wai Shiu Hospital

We are impressed by the performance of the students from the SIT ICT programmes. During their stint, they have designed innovative features for our Heritage Gallery photo kiosk. The high quality education is reflected in the technical skills and professionalism demonstrated by the students. We look forward to future partnerships with SIT’s Infocomm Technology cluster.
The Computer Science in Interactive Media and Game Development programme arms students with a strong foundation in mathematics, programming and design theory. Building on this strong foundation, they will be well-versed in programming game logic, interaction design, artificial intelligence, databases, design tools and game design theory for digital and non-digital games, level design, system design, and UI/UX design. This programme will address the growing need of the local industry for software engineers that have deep design skills and understanding of user experiences in the current digital age.

Students will embark on a series of studio-based software engineering projects that span across every trimester of their study. This allows them to continuously apply their module-based knowledge in larger-scale projects, as well as hone essential soft skills in working within multidisciplinary teams. Graduates will be well-equipped to enter both the games and broad software industry to take on roles that require both engineering and design expertise.

Design and engineering of interesting, intuitive and interactive user experiences for a wide variety of interactive software applications, ranging from complex real-time interactive scientific simulations to interactive digital media for entertainment, educational and business applications.

Game development and engineering as a tool for understanding and exploring computer science theory, mathematics, physics, user interfaces and user experience design principles. These techniques will be useful for designing and implementing interactive software applications that provide engaging and meaningful interactions between humans and technology.
## CURRICULUM STRUCTURE

### YEAR 01

#### TRIMESTER 1
- Computer Environment
- Composition
- Linear Algebra and Geometry
- High-level Programming 1
- Software Engineering Project 1

#### TRIMESTER 2
- Calculus and Analytic Geometry 1
- High-level Programming 2
- Game Implementation Techniques
- Interpersonal and Work Communication
- Software Engineering Project 2

#### TRIMESTER 3
- Break

### YEAR 02

#### TRIMESTER 1
- Calculus and Analytic Geometry 2
- Operating Systems
- Introduction to Game Design
- Advanced C/C++
- Software Engineering Project 3

#### TRIMESTER 2
- Linear Algebra
- Motion Dynamics and Lab
- Game Systems
- Data Structures
- Software Engineering Project 4

#### TRIMESTER 3
- Artificial Intelligence for Games
- Discrete Mathematics
- Introduction to Psychology
- Game Spaces
- Overseas Immersion Programme (OIP)
YEAR 03

TRIMESTER 1
- Algorithm Analysis
- Probability and Statistics
- Game Prototyping
- Career Planning and Development
- Software Engineering Project 5

TRIMESTER 2
- UI/UX Design
- Machine Learning
- Mobile and Cloud Computing
- Introduction to Virtual Reality
- Software Engineering Project 6

TRIMESTER 3
- Break

YEAR 04

TRIMESTER 1
- Research, Reasoning and Writing
- Capstone Project
- Integrated Work Study Programme (IWSP)

TRIMESTER 2
- Professional Communication
- Capstone Project
- Integrated Work Study Programme (IWSP)
CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:

- Software Engineer
- Software Developer
- Interactive Mobile Application Programmer
- VR/AR Software Developer
- Tools Programmer
- Level Designer
- Gameplay Designer/Programmer
The Computer Science in Real-Time Interactive Simulation programme provides rigorous training in foundational STEM modules that underpin computer science and simulations, and also focuses on deep programming skills that include high level programming, low level programming, advanced C/C++, computer graphics, data structures, algorithms analysis and three progressive modules in computer graphics.

Students will embark on a series of studio-based software engineering projects that span across every trimester of their study. This allows students to continuously apply their module-based knowledge in larger-scale projects, as well as hone essential soft skills in working within multidisciplinary teams. Graduates will be industry-ready with deep technical expertise in the fields of digital media, software development, real-time simulations and game development.
## Computer Science in Real-Time Interactive Simulation

### Curriculum Structure

<table>
<thead>
<tr>
<th>Year</th>
<th>Trimester</th>
<th>Courses</th>
</tr>
</thead>
</table>
| 01   | 1         | - Computer Environment  
- Composition  
- Linear Algebra and Geometry  
- High-level Programming 1  
- Software Engineering Project 1 |
|      | 2         | - Calculus and Analytic Geometry 1  
- High-level Programming 2  
- Game Implementation Techniques  
- Interpersonal and Work Communication  
- Software Engineering Project 2 |
|      | 3         | - Break |
| 02   | 1         | - Calculus and Analytic Geometry 2  
- Operating Systems  
- Computer Graphics 1  
- Advanced C/C++  
- Software Engineering Project 3 |
|      | 2         | - Linear Algebra  
- Motion Dynamics and Lab  
- Computer Graphics 2  
- Data Structures  
- Software Engineering Project 4 |
|      | 3         | - Artificial Intelligence for Games  
- Discrete Mathematics  
- Computer Network  
- Low-level Programming  
- Overseas Immersion Programme (OIP) |
<table>
<thead>
<tr>
<th>YEAR</th>
<th>TRIMESTER</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>1</td>
<td>Algorithm Analysis, Probability and Statistics, Advanced Computer Graphics 1, Career Planning and Development, Software Engineering Project 5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Break</td>
</tr>
<tr>
<td>04</td>
<td>1</td>
<td>Research, Reasoning and Writing, Capstone Project, Integrated Work Study Programme (IWSP)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Professional Communication, Capstone Project, Integrated Work Study Programme (IWSP)</td>
</tr>
</tbody>
</table>
Graduates can look forward to careers in these areas:

- Computer Scientist
- Software Engineer
- Artificial Intelligence Developer
- VR/AR Software Developer
- Machine Learning Engineer
- Interactive Mobile Application Programmer
- Game Engine Developer
- Gameplay Programmer
The Computing Science programme is jointly offered by SIT and the University of Glasgow (UofG). Designed to support the government’s initiative to transform Singapore into a Smart Nation, this is the first computing programme offered by an autonomous university in Singapore that specialises in Internet of Things (IoT).

The three-year programme encompasses a broad-based computer science curriculum which combines essential knowledge from IoT, software engineering, data analytics, cyber security and machine learning. Students will learn about fundamental principles in computing science including boolean logic, discrete mathematics, programming, software engineering, databases, operating systems and computer networks. With the foundation in computing science topics, students will be exposed to specialised modules in IoT, including topics on sensors, IoT network protocols, cloud and distributed computing, data analytics, cyber security fundamentals and machine learning. Students will learn to work independently, as well as in groups to gather requirements, design software architectures for IoT applications, and implement and test software modules to meet software engineering project objectives.

Graduates from this programme will be equipped with a strong computing science foundation, be practice-oriented, industry-ready and team players. They will be able to apply their software and hardware training to develop innovative IoT solutions in different IT-related roles.
<table>
<thead>
<tr>
<th>TRIMESTER 1</th>
<th>TRIMESTER 2</th>
<th>TRIMESTER 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Computing</td>
<td>Data Structures and Algorithms</td>
<td>Break</td>
</tr>
<tr>
<td>Mathematics 1</td>
<td>Object Oriented Programming</td>
<td></td>
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<tr>
<td>Programming Methodology</td>
<td>Mathematics 2</td>
<td></td>
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<tr>
<td>Computer Organisation and Architecture</td>
<td>Operating Systems</td>
<td></td>
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<tr>
<td>Business Information Technology</td>
<td>Computer Networks</td>
<td></td>
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<tr>
<td><strong>YEAR 02</strong></td>
<td><strong>TRIMESTER 1</strong></td>
<td><strong>TRIMESTER 2</strong></td>
</tr>
<tr>
<td>Professional Software Development</td>
<td>Team Project</td>
<td>Internet of Things: Protocols and Networks</td>
</tr>
<tr>
<td>Team Project</td>
<td>Embedded Systems and Sensor Programming</td>
<td>Mobile Application Development</td>
</tr>
<tr>
<td>Cyber Security Fundamentals</td>
<td>Operating Systems</td>
<td>Database Systems</td>
</tr>
<tr>
<td>Human Computer Interaction</td>
<td>Database Systems</td>
<td>Career and Professional Development</td>
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<tr>
<td>Effective Communication</td>
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<tr>
<td><strong>TRIMESTER 3</strong></td>
<td><strong>TRIMESTER 3</strong></td>
<td><strong>TRIMESTER 3</strong></td>
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<tr>
<td>Cloud and Distributed Computing</td>
<td>Cloud and Distributed Computing</td>
<td>Cloud and Distributed Computing</td>
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<tr>
<td>Data Analytics</td>
<td>Data Analytics</td>
<td>Data Analytics</td>
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<tr>
<td>Design Project</td>
<td>Design Project</td>
<td>Design Project</td>
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<tr>
<td>Overseas Immersion Programme (OIP)</td>
<td>Overseas Immersion Programme (OIP)</td>
<td>Overseas Immersion Programme (OIP)</td>
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</tbody>
</table>
Computing Science

Year 03

Trimester 1
- Integrated Work Study Programme (IWSP)

Trimester 2
- Integrated Work Study Programme (IWSP)

Trimester 3
- Capstone Project
- Information Visualisation
- Internet of Things in Smart Nations
- Machine Learning
- Information Retrieval
CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:

- Software Engineer/Programmer/Developer/Consultant
- IT Project Manager/Officer/Engineer
- System Engineer/Administrator/Analyst
- Cyber Security Analyst/Engineer
- Mobile Application Developer
- IoT Engineer/IoT Solution Architect

Note: The SIT-UoG Computing Science programme shares the same Industry Advisory Committee members as the Information and Communications Technology programmes. Please refer to Page 29 of this booklet.
The first to be offered by a local autonomous university, the Information and Communications Technology (ICT) programme majoring in Information Security will impart essential skills and knowledge to help students become information security professionals upon graduation. The programme encompasses the entire information security process — from the securing of software, to the defence, monitoring and recovery of information systems, as well as the governance and management of information security in an organisation. Covering a wide range of application domains from embedded systems and smart mobile devices to cyberspace and cloud computing, students will be trained in practical skills in technology and engineering. This will enable them to develop innovative solutions to help organisations enhance the protection of their sensitive resources against information security threats.

As ICT is a dynamic field with rapid advancements, the degree programme not only aims to produce graduates who are relevant and current, but also independent and self-directed learners who are able to ‘learn, unlearn and relearn’ as they progress in their careers.
## CURRICULUM STRUCTURE

<table>
<thead>
<tr>
<th>TRIMESTER</th>
<th>Year 01</th>
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<tbody>
<tr>
<td>TRIMESTER 1</td>
<td>ICT Foundations</td>
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<tr>
<td></td>
<td>Introduction to ICT</td>
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<td></td>
<td>Programming Fundamentals</td>
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<tr>
<td></td>
<td>Computer Organisation and Architecture</td>
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<td></td>
<td>Web Systems and Technologies</td>
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<td></td>
<td>Mathematics and Statistics for ICT</td>
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<tr>
<td>TRIMESTER 2</td>
<td>ICT Foundations</td>
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<tr>
<td></td>
<td>ICT in Organisations</td>
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<tr>
<td></td>
<td>Operating Systems</td>
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<tr>
<td></td>
<td>Data Structures and Algorithms</td>
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<tr>
<td></td>
<td>Object-Oriented Programming</td>
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<td></td>
<td>Computer Networks</td>
</tr>
<tr>
<td>TRIMESTER 3</td>
<td>Break</td>
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</tbody>
</table>

## Specialised Core Knowledge
- Integrative Team Project
- Core Skills Development in ICT Foundation
- Translational and Professional Skills
- Integrated Work Study Programme (IWSP)
# INFORMATION AND COMMUNICATIONS TECHNOLOGY (INFORMATION SECURITY)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TRIMESTER</th>
<th>Specialisation Modules</th>
</tr>
</thead>
</table>
| 02   | 1         | - Introduction to Software Engineering  
|      |           | - Digital Forensics  
|      |           | - Network Security  
|      |           | - Ethical Hacking  
|      |           | - Career and Professional Development 1 |
| 03   | 1         | - Operations Security and Incident Management  
|      |           | - Malware Analysis and Defence  
|      |           | - Secure Software Development  
|      |           | - Security Analytics  
|      |           | - Self-Learning Module |
|      | 2         | - Applied Cryptography  
|      |           | - Web Security  
|      |           | - Mobile Security  
|      |           | - Security Governance, Risk Management and Compliance  
|      |           | - Career and Professional Development 2 |
|      | 3         | - Global/Regional Exposure to Advances in Technology (GREAT)  
|      |           | - Industry Certification Module  
|      |           | - Integrative Team Project  
|      |           | - Break |
|      | 2         | - Integrated Work Study Programme (IWSP)  
|      |           | - Design Thinking (Flipped Classes)  
|      |           | - Capstone Project  
|      |           | - Work |
**INFORMATION AND COMMUNICATIONS TECHNOLOGY (INFORMATION SECURITY)**

**YEAR 04**

**TRIMESTER 1**

- Integrated Work Study Programme (IWSP)
  - Productivity Management (Flipped Classes)
  - Capstone Project
  - Work

**TRIMESTER 2**

- Integrated Work Study Programme (IWSP)
  - Change Management (Flipped Classes)
  - Capstone Project
  - Work

Content is subject to review and updates.

As ICT is a very dynamic field, the curriculum is kept updated based on feedback from the industry. To ensure the rigour of the programme, the curriculum has taken reference from internationally-recognised curriculum guidelines as follows:

1. “Curriculum Guidelines for Baccalaureate Degree Programs in Information Technology”, Association for Computing Machinery (ACM), IEEE Computer Society, Dec 2017
2. “Computer Science Curricula 2013: Curriculum Guidelines for Undergraduate Degree Programs in Computer Science”, Association for Computing Machinery (ACM), IEEE Computer Society, Dec 2013
GLOBAL/REGIONAL EXPOSURE TO ADVANCES IN TECHNOLOGY (GREAT)

The Global/Regional Exposure to Advances in Technology (GREAT) programme aims to expose students to the advancements in information security through a series of activities, including an optional overseas study trip to various international information security companies and institutions. This will enable students to broaden their horizons and gain valuable global/regional insights to help counter cyber threats and stay abreast of global trends.

CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:

- Information Security Analyst/Professional
- Cyber Security Specialist
- Information Security Consultant
- Pen-tester
The Information and Communications Technology (ICT) programme majoring in Software Engineering is a highly-specialised programme comprising in-depth coverage on the development of software, design, operation, analysis, optimisation, security, maintenance and management of software in a holistic and systematic manner.

With the aim to produce best-in-class software engineers who can contribute seamlessly and effectively to the ICT sector upon graduation, highly-qualified academics, as well as global and local ICT industry leaders, will provide students with an industry-focussed and practice-oriented education. During their studies, students will be given ample opportunities to develop software across a range of devices and systems.

Students will build upon the practical software development skills and learn essential software engineering knowledge, which allows them to develop software systems of any scale attuned to the environments in which they operate. Key subjects which are in high demand such as secured software development, mobile computing, cloud-solution architecting and big data analytics will be covered. Translational and professional development have also been incorporated into the curriculum to support students’ career advancement in the software engineering field.
INFORMATION AND COMMUNICATIONS TECHNOLOGY
(SOFTWARE ENGINEERING)

CURRICULUM STRUCTURE

YEAR 01

TRIMESTER 1

ICT Foundations
- Introduction to ICT
- Programming Fundamentals
- Computer Organisation and Architecture
- Web Systems and Technologies
- Mathematics and Statistics for ICT

TRIMESTER 2

ICT Foundations
- ICT in Organisations
- Operating Systems
- Data Structures and Algorithms
- Object-Oriented Programming
- Computer Networks

TRIMESTER 3

- Break

YEAR 02

TRIMESTER 1

Specialisation Modules
- Introduction to Software Engineering
- Human Computer Interaction
- Information Management
- Embedded Systems Programming
- Career and Professional Development 1

TRIMESTER 2

Specialisation Modules
- Mobile Application Development
- Software Design
- Distributed Systems Programming
- Software Modelling and Analysis
- Career and Professional Development 2

TRIMESTER 3

Special Trimester
- Global/Regional Exposure to Advances in Technology (GREAT)
- Industry Certification Module
- Integrative Team Project
- Break
### Specialisation Modules
- Software Verification and Validation
- Performance Testing and Optimisation
- Secure Software Development
- Software Management
- Self-Learning Module

### TRIMESTER 1
- Break (Optional)

### TRIMESTER 2
- Integrated Work Study Programme (IWSP)
  - Design Thinking (Flipped Classes)
  - Capstone Project
  - Work

### TRIMESTER 3
- Integrated Work Study Programme (IWSP)
  - Productivity Management (Flipped Classes)
  - Capstone Project
  - Work

### TRIMESTER 2
- Integrated Work Study Programme (IWSP)
  - Change Management (Flipped Classes)
  - Capstone Project
  - Work

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To ensure the rigour of the programme, the curriculum has taken reference from internationally-recognised curriculum guidelines as follows:

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INFORMATION AND COMMUNICATIONS TECHNOLOGY (SOFTWARE ENGINEERING)

CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:

- Software Engineer
- Software Systems Architect
- Information Technology Project Manager
- Mobile, Web and Cloud Developer
The members of the Industry Advisory Committee for the Computing Science, Information and Communications Technology (Information Security) and (Software Engineering) programmes are:

**Mr Chang Yew Kong (Chairperson)**  
Member, Governing Board  
Centre for Quantum Technologies  
National University of Singapore

**Mr Aloysius Cheang**  
Chief Executive Officer  
iSyncGroup Technology Co. Ltd

**Mr Philip Heah**  
Assistant Chief Executive  
Technology & Infrastructure Group  
Infocomm Media Development Authority

**Mr Kiren Kumar**  
Assistant Managing Director  
Infocomms and Media  
Singapore Economic Development Board

**Mr Leong See Sum**  
Director  
Infocomm Infrastructure  
Defence Science and Technology Agency

**Mr Stephen Lim**  
Chief Executive Officer  
SQL View Pte Ltd

**Mr Peter Moore**  
Managing Director  
APAC Global Public Sector  
Amazon Web Services

**Dr Yoshihiro Ohba**  
Chief Specialist  
System Technology Research & Development Center  
Toshiba Memory Corporation

**Mr Selwyn Sean Scharnhorst**  
Director  
Ecosystem Development  
Cyber Security Agency of Singapore

**Dr Keiji Yamada**  
Senior Vice President  
Research & Development  
NEC Asia Pacific Pte Ltd
The Telematics (Intelligent Transportation Systems Engineering) programme is the first-of-its-kind in Singapore, comprising two interdisciplinary fields — Vehicular Telematics and Intelligent Transportation Systems (ITS) Engineering.

With an emphasis on the enhancement of our public transport systems, ITS will be the mainstay for managing and optimising the limited road space in Singapore. The transport landscape is going through dramatic changes driven by technological innovations in the form of electrification, connectivity and autonomy, and rapid growth in car-sharing and ride-sharing demand. The mobility system of the future will be radically different from what exists today. Next-generation vehicles are electric and autonomous, and have increased connectivity to other vehicles, infrastructure and internet. The future will also see a shift in uptake in shared mobility.

Developed with support from LTA, ST Electronics, NCS and Continental Automotive, students will be exposed to the latest transportation technologies, applications and solutions. They will also be equipped with electrical engineering and computer science core skills in ITS engineering, vehicular communication and telematics technologies in order to work in this technically challenging field.

PROGRAMME HIGHLIGHTS

INDUSTRIAL IMMERSION PROGRAMME (IIP)
— Visits to Telematics, Automotive Engineering or ITS Companies in Singapore and Overseas

Participation in DEVELOPMENT OF SIT ELECTRIC AND AUTONOMOUS DRIVING (S.E.A.D.)
## TELEMATICS (INTELLIGENT TRANSPORTATION SYSTEMS ENGINEERING)

### CURRICULUM STRUCTURE

| YEAR 01 | TRIMESTER 1 | Engineering Mathematics 1  
|         |            | Newtonian Mechanics and Waves  
|         |            | Electronic Circuits  
|         |            | Introduction to Programming  
|         |            | Technical Communication 1  
|         | TRIMESTER 2 | Engineering Mathematics 2  
|         |            | Electricity and Magnetism  
|         |            | Digital Systems  
|         |            | Object Oriented Programming  
|         |            | Linear Signals and Systems  
|         | TRIMESTER 3 | Break  
| YEAR 02 | TRIMESTER 1 | Sensors and Control  
|         |            | Embedded System Design  
|         |            | Instrumentation and Displays  
|         |            | Database and Information Systems  
|         |            | Career Professional Development  
|         | TRIMESTER 2 | Wireless Communications  
|         |            | RF Engineering and Electromagnetic Compatibility  
|         |            | Operating Systems and Automotive OS  
|         |            | Internet Programming  
|         |            | Technical Communication 2  
|         | TRIMESTER 3 | Integrated Work Study Programme (IWSP)  
|         |            | Break  

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INFOCOMM TECHNOLOGY
YEAR 03

TRIMESTER 1

» Integrated Work Study Programme (IWSP)

TRIMESTER 2

» Design Project
» Traffic Regulations, Safety and Standards
» Traffic Signal and Toll Systems
» Systems and Software Engineering
» Digital Signal Processing
» Business and Project Management

TRIMESTER 3

» Design Project
» Transport Management
» Infotainment Technologies
» Automotive Electronics
» Car Interconnects and Vehicular Networks
» Professional Ethics and Engineers in Society

CAREER OPPORTUNITIES

Graduates can look forward to careers in these areas:

Engineer (Design/Application/Network/Telematics/Technology Integration)

Software Engineer

Engineer (Intelligent Transportation Systems)

Project Manager/Officer/Engineer
The members of the Industry Advisory Committee for this programme are:

**Mr Ang Kim Siah**  
Senior Vice President  
Mobility Business Unit  
ST Electronics (Info-Comm Systems) Pte Ltd

**Dr Chin Kian Keong**  
Chief Engineer  
Land Transport Authority

**Mr Lo Kien Foh**  
President and Chief Executive Officer  
Continental Automotive Singapore Pte Ltd

**Mr Sing Mong Kee**  
Director  
Keespires Consultancy
SIT adopts an aptitude-based approach in assessing applicants for admission by considering the following criteria:

**ADMISSION REQUIREMENTS**

To help us understand the academic pathway you have taken, please fill in the details of both your entry qualification (i.e. Polytechnic Diploma/A Level/IB or equivalent Year 12 results) and your GCE O Level or equivalent Year 10 results/ITE (Nitec and Higher Nitec) when you apply for admission to SIT. SIT accepts applicants who did not sit for their GCE O Level examination and have come through other forms of secondary or post-secondary education such as the Polytechnic Foundation Programme (PFP).

**MEETING THE MINIMUM ACADEMIC REQUIREMENTS**

- Full-time Diploma from any local polytechnic
- GCE A Level
- International Baccalaureate Diploma (IB)
- NUS High School Diploma
- Diploma from other institutions
- Other Year 12 Equivalent Qualifications

**INTERVIEW PERFORMANCE**

All shortlisted applicants will be assessed through interviews. For specific degree programmes, applicants may have to submit portfolios or essays, and/or be assessed through written tests or technical tests.

*To help us understand the academic pathway you have taken, please fill in the details of both your entry qualification (i.e. Polytechnic Diploma/A Level/IB or equivalent Year 12 results) and your GCE O Level or equivalent Year 10 results/ITE (Nitec and Higher Nitec) when you apply for admission to SIT. SIT accepts applicants who did not sit for their GCE O Level examination and have come through other forms of secondary or post-secondary education such as the Polytechnic Foundation Programme (PFP).
## ADMISSION REQUIREMENTS

<table>
<thead>
<tr>
<th>QUALIFICATIONS</th>
<th>Computer Science in Interactive Media and Game Development</th>
<th>Computer Science in Real-Time Interactive Simulation</th>
<th>Computing Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL-TIME DIPLOMA FROM ANY LOCAL POLYTECHNIC</td>
<td>Completed a full-time local polytechnic Diploma.</td>
<td>Subject to approval, diploma applicants may be granted module exemptions, based on the modules taken and minimum grades achieved in their diploma.</td>
<td>Module exemptions may be granted for the first year modules on a module-by-module basis subject to evaluation of applicant’s diploma and grade in related modules. Exemptions may also be considered for relevant professional or industrial certifications.</td>
</tr>
<tr>
<td>GCE A LEVEL</td>
<td>Obtained passes in at least two H2 Level subjects and offered General Paper (GP) or Knowledge &amp; Inquiry (KI) in the same sitting while satisfying the Mother Tongue Language (MTL) requirements.</td>
<td>A pass in one of the following H2 subjects (Mathematics or Physics or Computing); or a pass in H1 Mathematics</td>
<td>—</td>
</tr>
<tr>
<td>INTERNATIONAL BACCALAUREATE DIPLOMA (IB)</td>
<td>Obtained a minimum grade five for at least two HL and one SL subjects and the IB Diploma while satisfying the Mother Tongue Language (MTL) requirements.</td>
<td>A pass in one of the following HL subjects (Mathematics or Physics or Computing); or a pass in SL Mathematics</td>
<td>—</td>
</tr>
<tr>
<td>NUS HIGH SCHOOL DIPLOMA</td>
<td>Obtained the NUS High School Diploma while satisfying the Mother Tongue Language (MTL) requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIPLOMA FROM OTHER INSTITUTIONS</td>
<td>Applicants will be assessed on a case-by-case basis.</td>
<td>BCA diploma holders in Construction Information Technology may apply.</td>
<td></td>
</tr>
<tr>
<td>OTHER YEAR 12 EQUIVALENT QUALIFICATIONS</td>
<td>Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For up-to-date information, please refer to SingaporeTech.edu.sg.
<table>
<thead>
<tr>
<th>QUALIFICATIONS</th>
<th>Information and Communications Technology (Information Security)</th>
<th>Information and Communications Technology (Software Engineering)</th>
<th>Telematics (Intelligent Transportation Systems Engineering)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL-TIME DIPLOMA FROM ANY LOCAL POLYTECHNIC</td>
<td>Completed a full-time local polytechnic Diploma.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicants with relevant diplomas may apply for module exemptions of up to 10 modules. Exemptions may also be considered for relevant professional or industrial certifications.</td>
<td>Applicants with relevant diplomas may apply for module exemptions of up to 10 modules. Exemptions may also be considered for relevant professional or industrial certifications.</td>
<td>Applicants with relevant engineering background, i.e. Diploma in Electrical and Electronics Engineering, Computer Engineering and Information Technology, may apply for exemption from modules of up to a maximum of two trimesters. For applicants with non-relevant diplomas, exemption from modules will be considered on a case-by-case basis.</td>
<td></td>
</tr>
<tr>
<td>GCE A LEVEL</td>
<td>Obtained passes in at least two H2 Level subjects and offered General Paper (GP) or Knowledge &amp; Inquiry (KI) in the same sitting while satisfying the Mother Tongue Language (MTL) requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTERNATIONAL BACCALAUREATE DIPLOMA (IB)</td>
<td>Obtained a minimum grade five for at least two HL and one SL subjects and the IB Diploma while satisfying the Mother Tongue Language (MTL) requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUS HIGH SCHOOL DIPLOMA</td>
<td>Obtained the NUS High School Diploma while satisfying the Mother Tongue (MTL) Language requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIPLOMA FROM OTHER INSTITUTIONS</td>
<td>BCA diploma holders in Construction Information Technology may apply.</td>
<td>BCA diploma holders in the following may apply:</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>» Construction Engineering</td>
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<td></td>
<td></td>
<td>» Construction Information Technology</td>
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<td>» Electrical Engineering and Clean Energy</td>
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<td></td>
<td></td>
<td>» Mechanical Engineering (Green Building Technology)</td>
<td></td>
</tr>
<tr>
<td>OTHER YEAR 12 EQUIVALENT QUALIFICATIONS</td>
<td>Completed at least 12 years of formal education deemed as acceptable, equivalent qualifications to be considered for admission.</td>
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<td></td>
</tr>
</tbody>
</table>

For up-to-date information, please refer to SingaporeTech.edu.sg.
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OPERATING HOURS

Mondays to Fridays: 11:00 am to 3:00 pm
Closed on Saturdays, Sundays and Public Holidays

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