
DATA SCIENCE HUB
@liandro
Diploma in Cybersecurity
& Digital Forensics
All systems go,
for a tech-enhanced
tomorrow.
#tpcreatingtomorrow #tp_iit
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YOUR FEED FRAME TOMORROW
SCHOOL OF INFORMATICS & IT

SCHOOL OF INFORMATICS & IT

Walk into any bank, airport, school, office, hospital, park, theatre, or train station, and you'll notice the incredible power and influence of Information Technology (IT). You see IT in our mobile apps, the security applications that protect our computers, the chatbots on our phones, the Generative AI tools we use, and the digital games we play.

Here at the School of Informatics & IT (IIT), you'll learn how to leverage IT to improve business processes, ensure efficiency and enrich lives. Through our courses, you'll receive a robust, practical, and hands-on foundation, and better understand specialised areas like artificial intelligence, analytics, big data, cybersecurity, digital forensics, immersive media, and software development. You'll learn to harness the power of IT to make a difference in the world around you.

As a leader in the field, we are recognised as a forward-looking and progressive school that provides a range of highly relevant courses. Our emphasis on developing problem-solving and critical thinking skills helps us cultivate intelligent individuals who are independent, analytical, and able to respond effectively to the needs of people and organisations. We have a strong culture of applied learning, innovation and enterprise to nurture industry-ready professionals. We also emphasise critical thinking, problem-solving, global awareness, communication and teamwork because these are key attributes for people working in a global economy.

Through our Student Internship Programme, you'll gain real-life work experience in local or overseas companies. You'll be attached to a company for six months or more as an intern in your final year. This rich experience will prepare you well as an IT professional and give you an edge when seeking employment.

Common entry programme
- [T63] Common ICT Programme

Full-time diploma courses
- [T69] Applied Artificial Intelligence
- [T60] Big Data & Analytics
- [T62] Cybersecurity & Digital Forensics
- [T58] Immersive Media & Game Development
- [T30] Information Technology

General and admissions enquiries
Tel : 6788 2000
Email : admissions@tp.edu.sg

Course enquiries
Tel : 6780 5158
Email : iit@tp.edu.sg
Website : www.tp.edu.sg/iit

For the latest tuition fees, visit:
www.tp.edu.sg/coursefees

MINIMUM ENTRY REQUIREMENTS

To be eligible for any School of Informatics & IT diploma course:

English Language
Grade 1 – 7

Additional Mathematics / Mathematics
Grade 1 – 6

Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type
Grade 1 – 6

For details on ELR2B2-C computation, visit:
www.tp.edu.sg/elr2b2

T63 COMMON ICT PROGRAMME

Scan for full details, or visit:
www.tp.edu.sg/t63

The Course
Are you excited and curious about new technologies? Do you want to apply technology to enrich the lives of those in your community, businesses and organisations? Are you the type who wants to be the first to try out new technologies? Do you want a career where you work with emerging technologies in fields such as analytics, artificial intelligence, cybersecurity, financial technologies, immersive media or software development? If your answer to most of these questions is "YES", then the Common ICT Programme is one that you should consider.

In this one-year programme, you'll learn the fundamentals of information technology through a strong foundation in modules such as computational thinking, data analytics, cybersecurity, application development and user experience design. Before the programme's completion, you'll choose which of the following diploma courses you want to undertake for your next two years of study:

- [T69] Applied Artificial Intelligence
- [T60] Big Data & Analytics
- [T62] Cybersecurity & Digital Forensics
- [T58] Immersive Media & Game Development
- [T30] Information Technology

The Common ICT Programme gives you time to learn more about the School's diploma courses and make a more informed decision on the job role you want to pursue.

Programme Subjects
- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

TP Fundamentals (TPFun) Subjects
Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects
- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject
- Beyond the Classroom: Guided Learning

Note
Students in the Common ICT Programme will take selected TPFun subjects during the programme, and complete the remaining subjects after streaming into their respective diploma courses.

T69 APPLIED ARTIFICIAL INTELLIGENCE

Scan for full details, or visit:
www.tp.edu.sg/t69

The Course
Artificial Intelligence (AI) is already transforming our daily lives. We see it in smartphone chatbots such as Siri or Google Assistant. AI uses data from our search patterns, favourite movie genres, shopping habits, and more to push information that may interest us when we surf the web. Indeed, AI is changing business processes, impacting how we do things in healthcare and transportation. In fact, it is quickly impacting most facets of life.

This course introduces you to fundamental AI concepts, the various applications of AI, and how smart applications can be created. You'll build essential foundations in IT in your first year and then proceed in your second year to learn core subjects of AI, such as machine learning and deep learning. Our broad-based and hands-on training will enable you to develop smart applications for any industry you join, such as commercial businesses, healthcare, education, transportation, manufacturing, etc. This course gives you an excellent head start to building a career in this exciting field.

Year 1 Subjects
- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

Year 2 Subjects
- AI & Ethics
- AI Agents & Intelligent Automation
- Conversational AI Systems Development
- Deep Learning & Intelligent Vision
- Generative AI Systems Development
- Machine Learning for Developers
- Machine Learning Operations
- Natural Language Processing
- Principles of Computer Vision

Year 3 Subjects
- Elective subjects[#]
- Major Project

[#]Students will take two elective subjects (see page 67)

TP Fundamentals (TPFun) Subjects
Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects
- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject
- Beyond the Classroom: Guided Learning

Further Studies
As a graduate of this course, you can take up the SkillsFuture Work-Study Programme (WSP), which leads to a Specialist Diploma in Business Analytics or other IT-related WSPs. You can choose to take up the Specialist Diploma in AI Solutions Development, AI-Driven Data Analytics, or similar programmes to deepen your skills.

You can also pursue a degree in Computer Science, Information Systems or other related programmes at any local or overseas university, and you can expect to receive advanced standing at many of these institutions.

Career Opportunities
- AI Engineer
- Applications Developer
- Computer Vision Engineer
- Data Analyst
- Frontend Developer
- Machine Learning Engineer
- Robotics Process Automation Engineer
- Software Engineer

T60 BIG DATA & ANALYTICS

Scan for full details, or visit:
www.tp.edu.sg/t60

The Course
Content streaming companies, like Netflix and Disney+, recommend movies and shows based on subscribers' viewing histories and preferences. Social media platforms such as Instagram showcase feeds based on users' interactions with posts. Online retail giant Amazon uses big data to shorten delivery times by predicting online purchasing habits. In fact, Amazon has so much confidence in its data and prediction algorithms that it starts the delivery process even before the customer clicks on the 'proceed to checkout' button!

These organisations can gain a competitive edge over their rivals by leveraging the power of analytics. If data is the new oil, then analytics is the refinement process that helps organisations make sense of the large volumes of data they have.

Indeed, with big data driving decision-making in businesses, it is an exciting time for big data and analytics professionals! When you undertake this course, you'll work with data at your fingertips and use analytics tools to provide data-driven insights to companies. You'll receive broad-based training integrated with real workplace experience through internships, mentorships, and project collaborations. You'll graduate with industry-recognised certifications that will be advantageous when pursuing further studies or job opportunities in the field of analytics.

Year 1 Subjects
- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

Year 2 Subjects
- Data Engineering in the Cloud
- Data Mining & Business Analytics
- Data Science Essentials
- Data Storytelling
- Data Warehousing & Business Intelligence
- Machine Learning for Decision Making
- Quantitative Analysis
- Text & Social Media Analytics

Year 3 Subjects
- Elective subjects#
- Major Project

#Students will take two elective subjects (see page 67)

TP Fundamentals (TPFun) Subjects
Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects
- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject
- Beyond the Classroom: Guided Learning

Further Studies
As a graduate of this course, you can take up the SkillsFuture Work-Study Programmes (WSP) that lead to a Specialist Diploma in Business Analytics or other IT-related WSPs. You can also pursue the Specialist Diploma in AI-Driven Data Analytics, DevOps, AI Solutions Development or similar programmes.

You can also pursue a degree in Computer Science, Information Systems or other related programmes at any local or overseas university, and you can expect to receive advanced standing at many of these institutions.

Career Opportunities
- Associate Business Analyst
- Business Intelligence Analyst
- Data Analyst
- Data Engineer
- Database Administrator
- Machine Learning Engineer

T62 CYBERSECURITY & DIGITAL FORENSICS

Scan for full details, or visit:
www.tp.edu.sg/t62

The Course

We use computers, mobile phones and digital devices to access information daily. Using the Internet for communication and monetary transactions is also commonplace. However, these services have become the prime target of hackers who attempt to access our computer systems to steal account details, demand money through ransomware and plant malware and viruses that compromise our systems. Organisations today seek qualified professionals who can patrol and protect our information and computing systems from these cyber villains.

In this course, you'll learn how to protect and defend computing and information systems, applications and networks to ensure they are secure. Should a cybersecurity breach occur, you'll be knowledgeable in retrieving and reconstructing the evidence, investigating the cause, and advising on preventing further attacks. You'll undergo hands-on training at the Operational Technology Security Lab, a collaboration with Fortinet, Fujitsu, Cisco and Panasonic; and training in security operations at the Security Information & Event Management (SIEM) Centre.

In addition, you'll have the opportunity to identify, contain, analyse and eradicate live malware samples in our Malware Analysis Centre, a facility set up with ST Engineering, Palo Alto Networks and CrowdStrike. Here, you'll learn from these industry leaders who will impart knowledge and skills in handling and analysing malware and operations to supplement and add value to your broad-based education, enabling you to support any industry as a future IT professional.

Year 1 Subjects

- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

Year 2 Subjects

- Ethical Hacking & Intrusion Prevention
- Enterprise Networking
- Forensics in Digital Security
- Incident Response & Management
- IT Security Management & Audit
- Network Security
- Secure Web Applications
- Servers Administration & Security

Year 3 Subjects

- Elective subjects[#]
- Major Project

[#]Students will take two elective subjects (see page 67)

TP Fundamentals (TPFun) Subjects

Gain crucial life skills to navigate the modern workplace as a future-ready individual and team player.

TPFun Core Subjects

- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject

- Beyond the Classroom: Guided Learning

Further Studies

After you graduate from this course, you can take up a SkillsFuture Work-Study Programme (WSP). You can also pursue the Specialist Diploma in Information Security & Forensics or similar programmes.

You can also pursue a degree in Computer Science, Information Systems or other related programmes at any local or overseas university, and you can expect to receive advanced standing at many of these institutions.

Career Opportunities

- Cyber Risk Analyst
- Incident/Forensic/Threat Investigator
- IT Security Auditor
- Network Infrastructure Support Specialist
- Security Operations Analyst
- Security Penetration Tester

T58 IMMERSIVE MEDIA & GAME DEVELOPMENT

Scan for full details, or visit:
www.tp.edu.sg/t58

The Course
Want to create your own exciting games and interactive digital worlds? Curious about how the latest immersive technologies like AR and VR are transforming the way we play, learn, and work? This course gives you the chance to turn your passion into reality.

You'll learn how to bring ideas to life by combining core development skills with the creativity of game design. From your very first concept to a fully working game, you'll get hands-on experience every step of the way. Along the journey, you'll be guided by our lecturers who have worked on projects ranging from VR training tools in healthcare, to AR experiences in hospitality, to serious games in education and beyond.

But learning doesn't stop in the classroom. You'll get to work with game studios and immersive media companies on cutting-edge projects, gain real-world exposure through industry internships, and even travel overseas on learning journeys to see how the global industry is evolving. You'll also work with industry-standard tools like Unity, giving you the same platform used by game studios worldwide. On top of that, you'll graduate with professional certifications that are recognised by the immersive media and games industry, thus giving you a real edge when it comes to future studies, internships, or landing your dream job.

If you're ready to create, experiment, and push the boundaries of immersive experiences, this course is your perfect starting point.

Year 1 Subjects
- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

Year 2 Subjects
- 3D Modelling
- Augmented Reality Application Development
- Computer Graphics & Programming
- Game Design
- Game Development
- Immersive UiUx
- Maths & Physics Programming
- Programming with Game Engines

Year 3 Subjects
- Elective subjects[#]
- Major Project

[#]Students will take two elective subjects (see page 67)

TP Fundamentals (TPFun) Subjects
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TPFun Core Subjects
- Career Readiness & Communication
- Current Issues & Critical Thinking
- Effective Personal Leadership
- Global Studies
- Innovation & Entrepreneurship
- Sports & Wellness
- Sustainability & Climate Action
- Student Internship Programme

TPFun Elective Subject
- Beyond the Classroom: Guided Learning

Further Studies
As a graduate of this course, you can take up the SkillsFuture Work-Study Programmes (WSP), which lead to the Specialist Diploma in Business Analytics or other IT-related WSPs. You can choose to take up the Specialist Diploma in AI Solutions Development, AI-Driven Data Analytics or similar programmes to deepen your skills.

You can also pursue a degree in Computer Science, Information Systems or other related programmes at any local or overseas university, and you can expect to receive advanced standing at many of these institutions.

Career Opportunities
- Applications Developer
- Augmented Reality/Virtual Reality/ Mixed Reality Developer
- Game Developer/Programmer
- Level Designer/Game Designer
- Mobile App Developer
- UI/UX Designer

T30 INFORMATION TECHNOLOGY

Scan for full details, or visit:
www.tp.edu.sg/t30

The Course
How does my Grab app locate the nearest available driver? How does my home know to turn on the lights five minutes before I arrive? How can I create a music player for my phone? How can I design an engaging web profile? The answers to all these questions have one thing in common—they are all created and driven by information technology.

In today's world, intelligent AI-driven applications are changing everything around us. In this course, you'll acquire essential foundation skills in IT in your first year. Subsequently, you'll learn best industry practices and develop skills in software development and emerging technologies that will enable you to be at the forefront of change when you graduate and be equipped to manage change in the future.

Graduates of this course will have the necessary skills and knowledge to develop innovative software solutions through coding that will transform and disrupt society meaningfully. The broad-based and hands-on training you undergo here will also enable you to enjoy job opportunities in any industry you seek to join.

Year 1 Subjects
- Application Development Project
- Computational Thinking
- Cybersecurity Fundamentals
- Data Visualisation & Analytics
- Database Application Development
- Data Structures & Algorithms
- Logic & Mathematics
- Network & Cloud Technology
- User Experience & Interface Design

Year 2 Subjects
- Agile Methodology & Design Thinking
- Application Security
- Cloud Application Development
- DevOps Essentials
- IoT Application Development
- Machine Learning for Developers
- Mobile App Development
- Full Stack Web Development

Year 3 Subjects
- Elective subjects#
- Major Project

#Students will take two elective subjects (see page 67)

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- Sports & Wellness
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- Student Internship Programme

TPFun Elective Subject
- Beyond the Classroom: Guided Learning

Further Studies
As a graduate of this course, you can take up the SkillsFuture Work-Study Programmes (WSP), which lead to a Specialist Diploma in Business Analytics or other IT-related WSPs. You can also take Specialist Diploma courses in areas such as AI Solutions Development, AI-Driven Data Analytics, and DevOps.

You can also pursue a degree in Computer Science, Information Systems or other related programmes at any local or overseas university, and you can expect to receive advanced standing at many of these institutions.

Career Opportunities
- Applications Developer
- Application Support Engineer
- DevOps Engineer
- Mobile Applications Developer
- Software Engineer
- Software Tester
- SysOps Engineer
- Systems Analyst
- UI/UX Designer

SUMMARY OF INFORMATICS & IT COURSE ELECTIVE CLUSTERS

COURSE	ELECTIVE SUBJECTS
ALL SCHOOL OF INFORMATICS & IT COURSES	**Business Development & Marketing** • Business Development • Digital Marketing **Industry Practice** • Guided Work-based Learning 1 • Guided Work-based Learning 2 **SMU Pathway Programme** Information Systems Pathway • Algorithms & Programming • Business Process Analysis & Solutioning Computer Science Pathway • Mathematical Foundations of Computing • Collaborative Software Development Software Engineering Pathway • Algorithms & Programming • Operating Systems & Networking **Software & Analytics for Sustainability** • Data Analytics for Environmental Sustainability • Green Software Principles
[T69] **APPLIED ARTIFICIAL INTELLIGENCE**	**Applied AI for Industry** • AI for Advanced Manufacturing • AI for Cybersecurity
[T60] **BIG DATA & ANALYTICS**	**Advanced Analytics** • Deep Learning & Object Recognition • Recommendation Systems **Advanced Manufacturing Technology** • Distribution Centre Management • Industrial IoT Analytics
[T62] **CYBERSECURITY & DIGITAL FORENSICS**	**Advanced Manufacturing Technology** • Distribution Centre Management • Industrial IoT Analytics **Digital Forensics** • Malware Analysis • Mobile Device Forensics **Enterprise Security** • Cloud Security • Security Technology & Innovation
[T58] **IMMERSIVE MEDIA & GAME DEVELOPMENT**	**Immersive Technology & AI** • Game AI • Immersive Technology Development
[T30] **INFORMATION TECHNOLOGY**	**Advanced Manufacturing Technology** • Distribution Centre Management • Industrial IoT Analytics **Business Analytics** • Data Mining & Business Analytics • Data Storytelling **Fintech** • Digital Banking & Financial Services • Introduction to Blockchain Application Development