

SCHOOL OF

# INFOCOMM TECHNOLOGY

- Common ICT Programme
- Cybersecurity & Digital Forensics
- Data Science  
Revamped
- Immersive Media
- Information Technology





# ict

## Taking IT Higher

Fight cybercrime. Transform data into value. Create the next trendy mobile app. Design unforgettable virtual experiences. Build an AI start-up. Develop UX/UI solutions. At the School of InfoComm Technology (ICT), the possibilities are endless!

- 6 Common ICT Programme (N98)
- 10 Cybersecurity & Digital Forensics (N94)
- 15 Data Science (N81) Revamped
- 20 Immersive Media (N55)
- 25 Information Technology (N54)

# 4 DIPLOMAS

## +1 COMMON ICT PROGRAMME

### Common ICT Programme (N98)

Immerse in the world of infocomm technology with foundational modules from different disciplines in your first semester. At the end of the semester, you can continue your learning pathway in one of these diploma programmes:

- Cybersecurity & Digital Forensics
- Data Science
- Immersive Media
- Information Technology

### Diploma in Cybersecurity & Digital Forensics (N94)

Specialise in AI for Cybersecurity or Cloud Security and familiarise yourself with industry-recognised cybersecurity platforms and tools. Learn core offensive and defensive cybersecurity skills in a curated and practice-based curriculum with state-of-the-art lab facilities. Boost your portfolio with in-demand industry certifications, and gain a head start with internships of up to one year at renowned organisations.

### Diploma in Data Science (N81)

Revamped

Harness the power of data to make strategic business decisions. Prepare for a career in the big data industry by choosing either the Data Engineering or Generative AI specialisation. With the demand for AI talent at an all-time high, you can seize exciting opportunities as a data scientist or data analyst.

### Diploma in Immersive Media (N55)

Gain technical and creative skills needed for the cutting-edge field of immersive media, and learn how to bridge design and technology with user experience and user interface (UX/UI) design. You will also learn gamification concepts to develop enjoyable games or extended reality experiences (AR, VR & MR).

### Diploma in Information Technology (N54)

Learn how to develop innovative IT solutions, and gain access to unique learning pathways such as the OCBC-NP Technology Young Talent Programme. Customise your curriculum by selecting up to 7 modules from these exciting specialisation areas:

- Artificial Intelligence
- Cloud Computing
- Enterprise Computing
- Software Engineering

### Scholarships

Discover a range of exciting scholarships for ICT students:

- Ngee Ann Polytechnic (NP) Scholarship
- Agency for Science, Technology and Research (A\*STAR) Science Award (Polytechnic)
- Centre for Strategic Infocomm Technologies (CSIT) Scholarship
- Defence Science Organisation (DSO) Diploma Scholarship
- Defence Science and Technology Agency (DSTA) Polytechnic Digital Scholarship
- Public Service Commission (PSC) Scholarship
- Singtel Cyber Security Cadet Scholarship
- Singapore Digital (SG:D) Scholarship (Undergraduate) offered by the Infocomm Media Development Authority (IMDA)
- Smart Nation Scholarship

# WHY CHOOSE ICT

Earn professional certifications, gain industry exposure, undertake roles in student development and leadership committees, and create innovative IT solutions. Here at ICT, we offer some of the most sought-after courses that prepare you for a digital future. Here are other reasons why you should choose ICT:



### REAL-WORLD LEARNING

Be industry-ready through experiential learning opportunities such as one-year internships, industry projects and networking opportunities.



### OPPORTUNITIES TO UPSKILL

Gain an extra edge with professional certifications and attractive scholarships at ICT!



### SMART LEARNING SPACES

Experience life on a Smart Campus. Be exposed to the Internet of Things. Learn in cool playlabs equipped with industry-leading software and tools for cybersecurity, analytics, user experience design and agile development. You will embrace a culture of innovation and a new mindset that sees failure as part of the learning process.



### HACKATHONS & COMPETITIONS

Discover your potential as you compete in local and overseas competitions. You'll also get the chance to organise workshops, hackathons and tech festivals through which you'll develop as a leader, gain new insights and grow your network.



### STRONG INDUSTRY TIES

Our strong links with renowned organisations offer exciting opportunities for learning and talent development.





# WHAT INDUSTRY SAYS

“As a leader in cybersecurity, we are proud to support the next generation of talent in Singapore by providing NP with industry expertise. Through insights gleaned from our ongoing collaborations with customers in an ever-changing cyber landscape, our experts impart valuable advice on the AI skills required for students to embark on successful careers in the future. As part of this partnership, students will learn to use AI to identify real-time threats, participate in discussions about industry developments, and better understand the role of a cybersecurity professional.”

**GERMAINE TAN**

**Vice-President of Cyber Risk Management, Darktrace**

**DARKTRACE**

“Technology has been a lifeline during the pandemic, keeping businesses open, students learning, social lives connected and essential services flowing; and it will continue to be the backbone of society as we pivot to the new digital reality. Standing at the forefront of today’s tech-driven reality, Dell Technologies is excited to partner with NP to nurture the next generation of young talents who will drive growth and improve lives via technology in our digital future.”

**ANDY SIM**

**Vice-President and Managing Director, Dell Technologies (Singapore)**



“As more companies accelerate their digital transformation efforts, the tech talent crunch has become a significant challenge. We deeply value the partnership with NP on this very meaningful Technology Young Talent Programme which will contribute significantly towards tackling this issue. Every internship under the programme is customised according to a student’s strengths and area of study – which is time consuming to do – but we feel that this is worthwhile in order to develop the right tech talent. We look forward to welcoming our interns and hope to subsequently grow the pool of students under the programme.”

**PRAVEEN RAINA**

**Head of Group Operations and Technology, OCBC Bank**



## PAIR YOUR DIPLOMA WITH THAT SOMETHING XTRA



**Take 1 or 2 Learning Units in an area that piques your interest.  
Or complete 3 Learning Units to get a Minor.**

The choice is yours. Our **Personalised Learning Pathway (PLP)** lets you choose what you’d like to learn from 4 different pathways and more than 50 Learning Units (LUs). Upon completing 3 LUs, you will graduate with a Diploma + Minor!

PLP is NP’s signature programme to enable you to pursue your passion and gain in-demand skills. From applied psychology to data analytics, entrepreneurship to sustainability, our 11 Minors are specially curated to help you seize opportunities for a brighter future.

Mix and match your LUs or take up 3 specific LUs to earn a Minor Cert. Go on an overseas trip or attend a masterclass. Discover fun, freedom and fulfillment when you personalise your learning with PLP!

To check out the wide range of interesting LUs and how you can personalise your learning, visit [www.np.edu.sg/plp](http://www.np.edu.sg/plp) or scan the QR code here!



### Personalise Your Learning with 4 Exciting Pathways & 11 Minors



#### Global Readiness Pathway

##### Minor In

- Foreign Languages
- Global Readiness



#### Entrepreneurship Pathway

##### Minor In

- Entrepreneurship



#### Professional Skills Pathway

##### Minor In

- Applied Psychology
- Cybersecurity
- Data Analytics & AI
- Fundamentals of Internet of Things
- Social Media Marketing
- User Experience Design



#### Social Leadership Pathway

##### Minor In

- Social Leadership
- Sustainability

# Common ICT Programme

Get latest updates on course

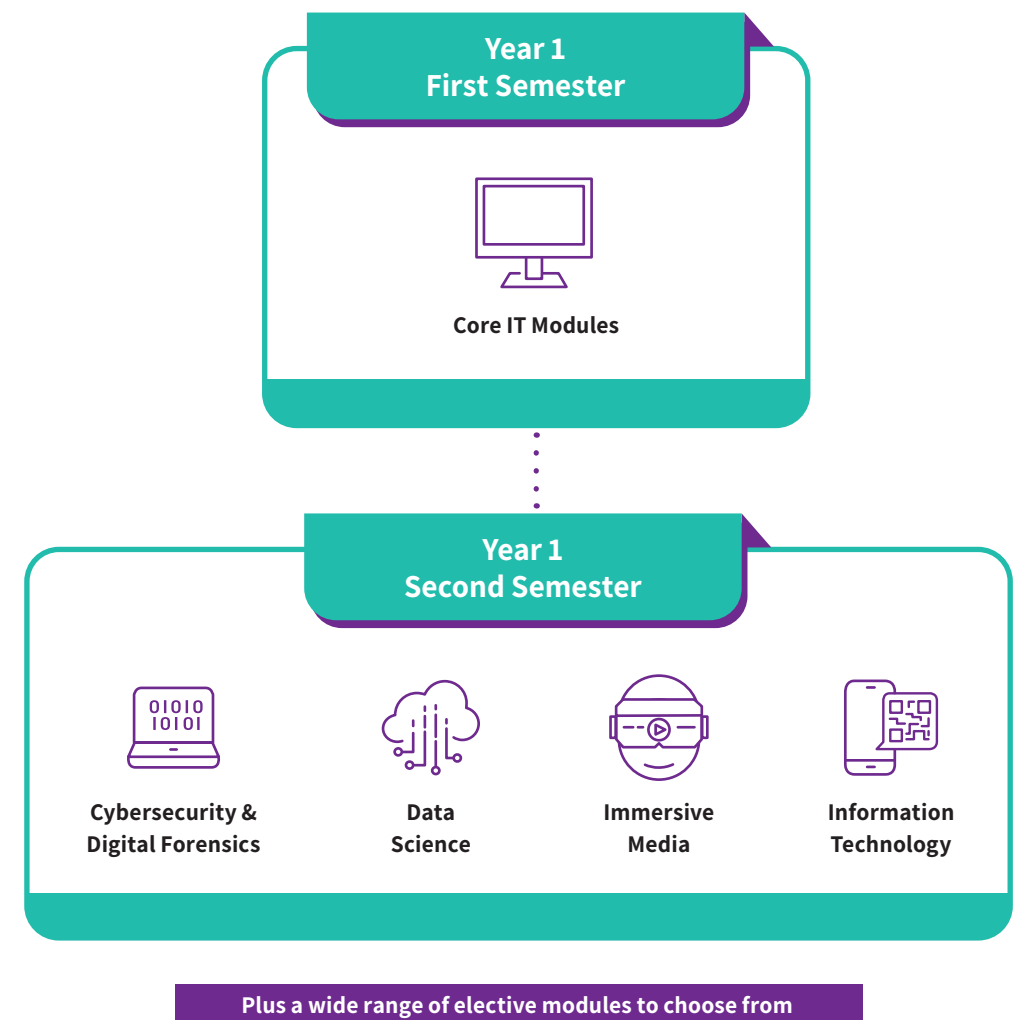


- **Gateway to one of four popular ICT diplomas:**
  - Cybersecurity & Digital Forensics
  - Data Science
  - Immersive Media
  - Information Technology
- **Customise your learning** with a wide variety of electives offered in all ICT courses
- Get set for the digital future with **exposure to industry trends**, and make informed career choices through our career and professional preparation modules

## WHAT THE COURSE IS ABOUT

Fascinated by the world of infocomm technology (ICT), but still undecided about which course to pursue? With the Common ICT Programme (CICTP), you'll get to explore different disciplines before choosing your own learning pathway.

In your first semester, you'll be groomed in broad-based fundamentals such as programming and computing mathematics. You'll also be introduced to discipline-specific skills like design principles, cybersecurity concepts and data science in specially designed modules to provide you with an understanding of various roles, practices and career paths. This will help you to discover your interests and aptitude, so that you can choose your preferred discipline at the end of your first semester: Cybersecurity & Digital Forensics, Data Science, Immersive Media or Information Technology.



# WHAT YOU WILL LEARN

## YEAR 1

- Computing Mathematics
- Cyber Security Fundamentals
- Design Principles
- Data Science Fundamentals
- Fundamentals for IT Professionals I\*
- Programming I
- Health & Wellness^
- Innovation Made Possible^
- Communication Essentials^
- English Language Express^\*

You will select your preferred diploma towards the end of your first semester. Refer to the module listing in the respective diploma pages for more details:

- Cybersecurity & Digital Forensics (page 10)
- Data Science (page 15)
- Immersive Media (page 20)
- Information Technology (page 25)

## YEAR 2

- Modules under the ICT diploma you major in
- World Issues: A Singapore Perspective^

## YEAR 3

- Modules under the ICT diploma you major in
- Project ID: Connecting the Dots^

^ Interdisciplinary Studies (IS) modules account for 13 credit units of the diploma curriculum. They include modules in communication, innovation and world issues, as well as an interdisciplinary project. By bringing students from diverse diplomas together, the interdisciplinary project fosters collaboration to explore and propose solutions for real-world problems. IS aims to develop students to be agile and self-directed learners, ready for the future workplace.

^\* For selected students only.

\* Career and Professional Preparation I & II are part of the Fundamentals for IT Professionals modules.

To keep our curriculum current and robust, diploma modules are subject to change over the three years. Please visit our website for latest updates.



“The Common ICT Programme is the perfect choice for those who may be uncertain about which specialisation to choose. The introductory modules offer valuable insights into various courses, enabling me to make an informed diploma choice after just one semester.”

**WANG YONGQING**  
**Diploma in Cybersecurity & Digital Forensics, Year 3**

# CAREER

Refer to the Career section on the respective diploma pages.

# FURTHER STUDIES

Refer to the Further Studies section on the respective diploma pages.

# ENTRY REQUIREMENTS

## Aggregate Type ELR2B2-C

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examination (or equivalent) results.

Subject	‘O’ level grade
English Language	1-7
Mathematics (Elementary/Additional)	1-6
Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type	1-6

You must also fulfil the aggregate computation requirements for the ELR2B2-C Aggregate Type listed at [www.np.edu.sg/docs/ELR2B2.pdf](http://www.np.edu.sg/docs/ELR2B2.pdf).

For students with other qualifications, please refer to the NP website for the entry requirements and admissions exercise period.

Candidates with colour vision deficiency, severe vision deficiency or hearing deficiency may encounter difficulties meeting the course requirements and expectations. Those with mild colour vision deficiency are required to undergo an in-house test.

## CONTACT US

For the most up-to-date information on NP’s Common ICT Programme, visit [www.np.edu.sg/cictp](http://www.np.edu.sg/cictp)



# Cybersecurity & Digital Forensics

Get latest updates on course



- First diploma course to offer in-demand specialisations in **AI for Cybersecurity** and **Cloud Security**
- Undergo **internships of up to one year** at renowned organisations
- Gain an edge with an **industry-driven curriculum** that is specially curated with leading industry partners such as EC-Council, CompTIA, Cisco Systems, Palo Alto Networks, RSA, Group-IB, Darktrace and Red Hat
- Boost your portfolio with up to **8 industry-recognised certifications** such as Security+, Certified Ethical Hacker, Computer Hacking Forensic Investigator, Cisco Certified Network Associate and Certified Cloud Security Engineer

## WHAT THE COURSE IS ABOUT

You are a digital warrior raring to join the fight against cybercrime. Play a crucial role in helping companies keep their data, applications, networks, and systems safe with the Diploma in Cybersecurity & Digital Forensics (CSF).

You will be equipped with a strong foundation in core CSF skills. Couple that with specialisation options and a suite of electives, CSF gives you an edge when you pursue further studies or a career in the sector.

### Be Industry-ready

Gain sought-after CSF skills that every organisation will need. You will be trained in core skills such as Windows & Linux server security, cybersecurity operations & threat intelligence, network security, digital forensics, malware analysis, ethical hacking, and web application pen-testing – practical skills that can be applied across diverse industries. Gain exposure to the latest technologies that will keep you relevant at the forefront of the cybercrime battle and learn in an industry-driven curriculum that is specially curated with leading industry partners.

### Specialise in Trending Cybersecurity Areas

Get groomed for a career in the future economy with specialisations in AI for Cybersecurity or Cloud Security. With the AI for Cybersecurity specialisation, which is co-developed by global cybersecurity solutions leader Darktrace, you will get in-depth training in machine & deep learning applications and AI tools & techniques for cybersecurity.

Deepen your cloud computing competencies with the Cloud Security specialisation, which features electives on cloud security tools & techniques and cloud native security. Or you could choose the General Track to learn the latest and emerging skills such as mobile and web applications development, data science, blockchain, quantum computing, mobile forensics, and secure software development, among many others.

### Get a Professional Head Start

With options of either a six-month or one-year internship at leading organisations such as CSA, CSIT, A\*STAR, DSTA, Singtel, PwC, Ensign, Oracle, NTT, and ST Engineering, you will be well-placed to embark on your cybersecurity career.

In addition, you can pursue industry-recognised certifications, such as Security+, Certified Ethical Hacker, Computer Hacking Forensic Investigator, Cisco Certified Network Associate, Certified Cloud Security Engineer, Certified SOC Analyst, Red Hat Certified System Administrator and Certified Engineer, AWS Certified Cloud Practitioner, and Palo Alto Networks Certified Network Security Administrator.

### Learning Beyond the Classroom

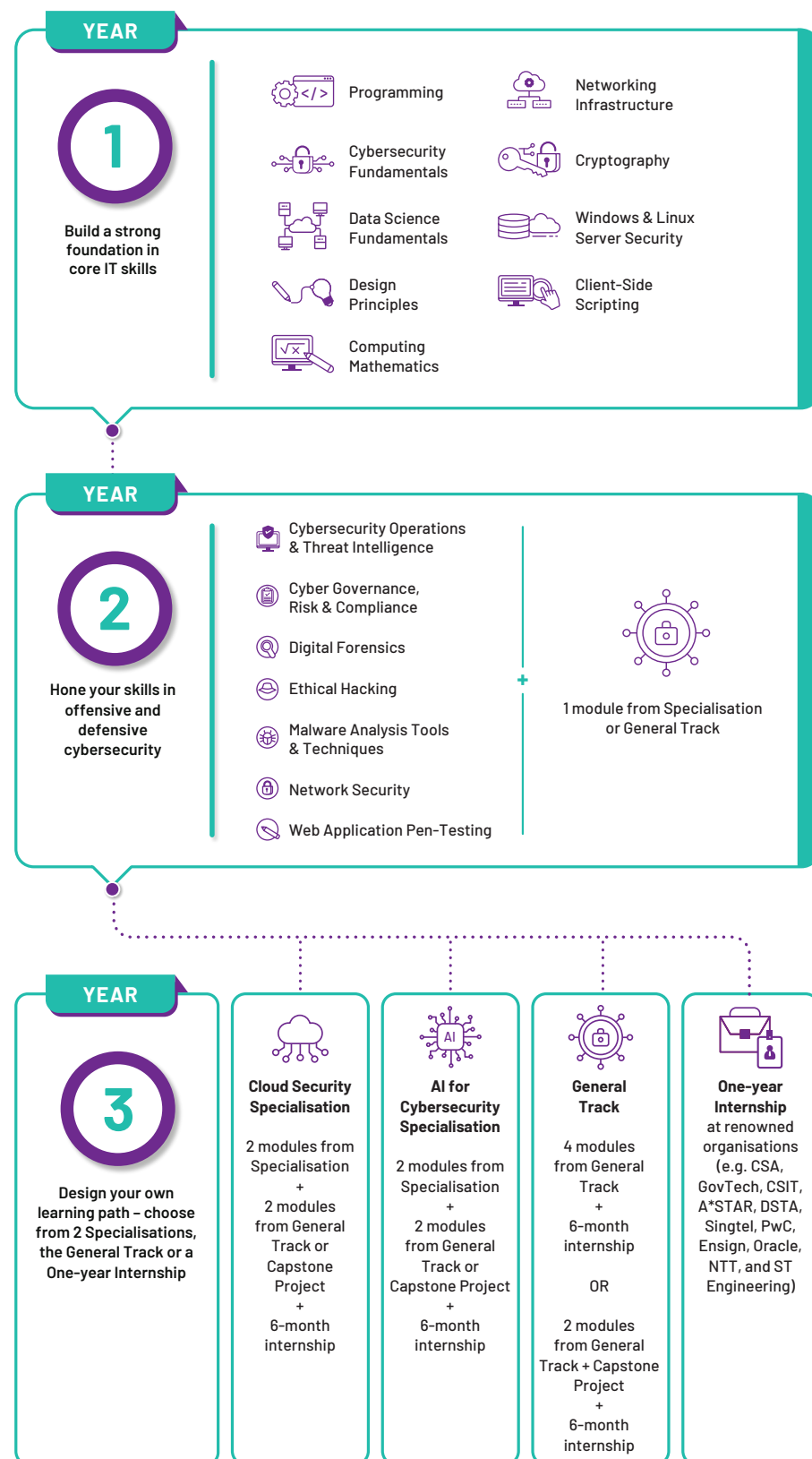
CSF's experiential learning pedagogy means that you will be immersed in realistic cybersecurity settings that simulate the industry environment. As part of your learning journey, you will get trained to use industry-recognised platforms and tools such as Cisco's Networking Academy, EC-Council's CodeRed & CyberQ, Group IB's Managed Extended Detection and Response (Managed XDR), EnCase, RSA's Archer Suite, and many more.

Furthermore, you will get the opportunity to collaborate with our partners on real-world projects such as bug hunting, penetration testing, and cyber threat intelligence. You can also attend masterclasses led by cybersecurity professionals and compete in Capture the Flag competitions, all designed to sharpen your cybersecurity skills.

## Partnerships



## OVERVIEW OF YOUR CSF JOURNEY



## WHAT YOU WILL LEARN

### YEAR 1

- Client-Side Scripting
- Computing Mathematics
- Cryptography
- Cyber Security Fundamentals
- Data Science Fundamentals
- Design Principles
- Fundamentals for IT Professionals I\*
- Networking Infrastructure
- Programming I & II
- Windows & Linux Server Security

### YEAR 2

- Cybersecurity Operations & Threat Intelligence
- Cyber Governance, Risk & Compliance
- Digital Forensics
- Ethical Hacking
- Fundamentals for IT Professionals II & III\*
- Malware Analysis Tools & Techniques
- Network Security
- Web Application Pen-Testing
- One elective module from Specialisation or General Track
- Communication Essentials^

### YEAR 3

- Six-month Internship with four elective modules or One-year Internship^
- Project ID: Connecting the Dots^

^ Interdisciplinary Studies (IS) modules account for 13 credit units of the diploma curriculum. They include modules in communication, innovation and world issues, as well as an interdisciplinary project. By bringing students from diverse diplomas together, the interdisciplinary project fosters collaboration to explore and propose solutions for real-world problems. IS aims to develop students to be agile and self-directed learners, ready for the future workplace.

\* Career and Professional Preparation I & II is part of the Fundamentals for IT Professionals modules.

^ You will get to work on an industry-driven project, a technopreneurship-enterprise project, or an IT-related project with a local or overseas organisation.

\* To graduate with a specialisation, students must successfully complete 3 prescribed electives under that specialisation.

To keep our curriculum current and robust, diploma modules are subject to change over the three years. Please visit our website for latest updates.

### General Track

- Applied Analytics
- Back-End Development
- Blockchain
- Capstone Project
- Data Discovery & Visualisation
- Data Structures & Algorithms
- Emerging Trends in IT
- Infocomm Sales & Marketing Strategies
- Mobile Applications Development
- Mobile Device Security & Digital Forensics
- Quantum Computing
- Secure Software Development

### Specialisation in AI for Cybersecurity\*

- AI Tools & Techniques for Cybersecurity
- Emerging AI Trends in Cybersecurity
- Machine & Deep Learning Applications for Cybersecurity

### Specialisation in Cloud Security\*

- Cloud Architecture & Technologies
- Cloud Security Tools & Techniques
- Cloud Native Architecture Security



## WORLD SKILLS TRIUMPH

CSF student Qin Guan (middle) won a medallion for excellence in the IT Software Solutions for Business category at WorldSkills Singapore 2023, where he used his programming skills to develop an integrated software system.



## FURTHER STUDIES

With our broad-based curriculum, you can find related degree courses at local universities and enjoy advanced standing when you apply for related degree programmes at universities abroad. These include:

### Singapore

- Nanyang Technological University
- National University of Singapore
- Singapore Institute of Technology
- Singapore Management University
- Singapore University of Technology and Design
- Singapore University of Social Science

### Australia

- Monash University
- Queensland University of Technology
- University of Adelaide
- University of New South Wales
- University of Queensland
- University of Sydney

### ELSA LEE

Cybersecurity & Digital Forensics graduate, Class of 2023

Elsa was awarded the 2023 Smart Nation Scholarship by the Cyber Security Agency of Singapore to pursue a degree in Computer Science at SMU.



### TAUFIQ MOHAMMED

Information Security & Forensics\* graduate, Class of 2022

Taufiq received the Public Service Commission Scholarship (Engineering) to pursue Computer Science at NUS.

\*Renamed the Diploma in Cybersecurity & Digital Forensics



## CAREER

There is a global shortage of IT cybersecurity professionals, and the Singapore Government has launched a masterplan to grow Singapore's own pool of professionals to address this deficiency. With our course skills mapped to the ICT Skills Framework - Cybersecurity Track, you can look forward to pursuing a career in the following roles:

- Associate Security Analyst / Engineer
- Cyber Risk Analyst
- Forensic Investigator
- Security Engineer / Executive
- Security Operations Analyst
- Vulnerability Assessment and Penetration Testing Analyst

## ENTRY REQUIREMENTS

### Aggregate Type ELR2B2-C

To be eligible for consideration, candidates must have the following GCE 'O' Level examination (or equivalent) results.

Subject	'O' level grade
English Language	1-7
Mathematics (Elementary/Additional)	1-6
Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type	1-6

You must also fulfil the aggregate computation requirements for the ELR2B2-C Aggregate Type listed at [www.np.edu.sg/docs/ELR2B2.pdf](http://www.np.edu.sg/docs/ELR2B2.pdf).

For students with other qualifications, please refer to the NP website for the entry requirements and admissions exercise period.

Candidates with severe vision deficiency may encounter difficulties meeting the course requirements and expectations.

### CONTACT US

For the most up-to-date information on NP's Diploma in Cybersecurity & Digital Forensics, visit [www.np.edu.sg/csf](http://www.np.edu.sg/csf)

# N81

DIPLOMA IN

## Data Science Revamped

Get latest updates on course



- Become a highly sought-after AI talent with a solid foundation in data analytics and machine learning
- Gain hands-on experience in a one-year Industry Kickstart Programme
- Choose from two exciting specialisation areas: Data Engineering or Generative AI New
- Earn professional certifications from industry leaders such as SAP Analytics Cloud, Salesforce, Alteryx and Singapore Computer Society

## WHAT THE COURSE IS ABOUT

With each click, like and share, data is being created every second around the world. There's never been a greater demand for data science professionals to help businesses derive customer insights, drive traffic and boost profits. If you have a passion for data analytics and machine learning, and aspire to join the big data industry, the Diploma in Data Science (DS) is the course for you!

Plus! You will tap into the expertise of ICT, co-founder of the Data School, with leading industry partners such as OCBC and Indorse.

### Learning for the Future Economy

To ensure that you're well-equipped for the digital future, you'll build core skills in programming, databases and analytics. Besides understanding data science fundamentals and how they affect the competitiveness of organisations, you'll also learn key statistical concepts and data visualisation techniques for analyses and presentations. These competencies will stand you in good stead when you pursue a career as a data analyst, junior data scientist, associate data engineer or associate business analyst.

### Exposure to Reputable Enterprise Platforms

With exposure to reputable enterprise platforms including Salesforce, Tableau, SAP, and Alteryx, you'll develop strong programming and analytical skills that are vital in managing the AI project life cycle. With these skills and knowledge, you will be well-positioned to launch future careers in project management and business consultancy.

### Specialise in Emerging Areas

Get equipped for a career in the growing data science field with specialisations in Data Engineering or Generative AI. With the Data Engineering specialisation, which is co-developed by industry partners including Alteryx, Denodo and Snowflake, you will get in-depth training in data pipeline, data virtualisation and data wrangling.

Deepen your competencies in Generative AI through modules covering deep learning, generative AI tools and techniques, as well as generative AI solutioning. Our robust curriculum will prepare you for careers in this ever-evolving field.

### Experiential Learning

Leveraging our strong industry links, you'll get to go on a one-year Industry Kickstart Programme to enhance your workplace readiness. Integrating skills and knowledge, you'll embark on industry-driven data science projects that let you explore emerging trends and apply machine learning techniques in end-to-end data science workflows.

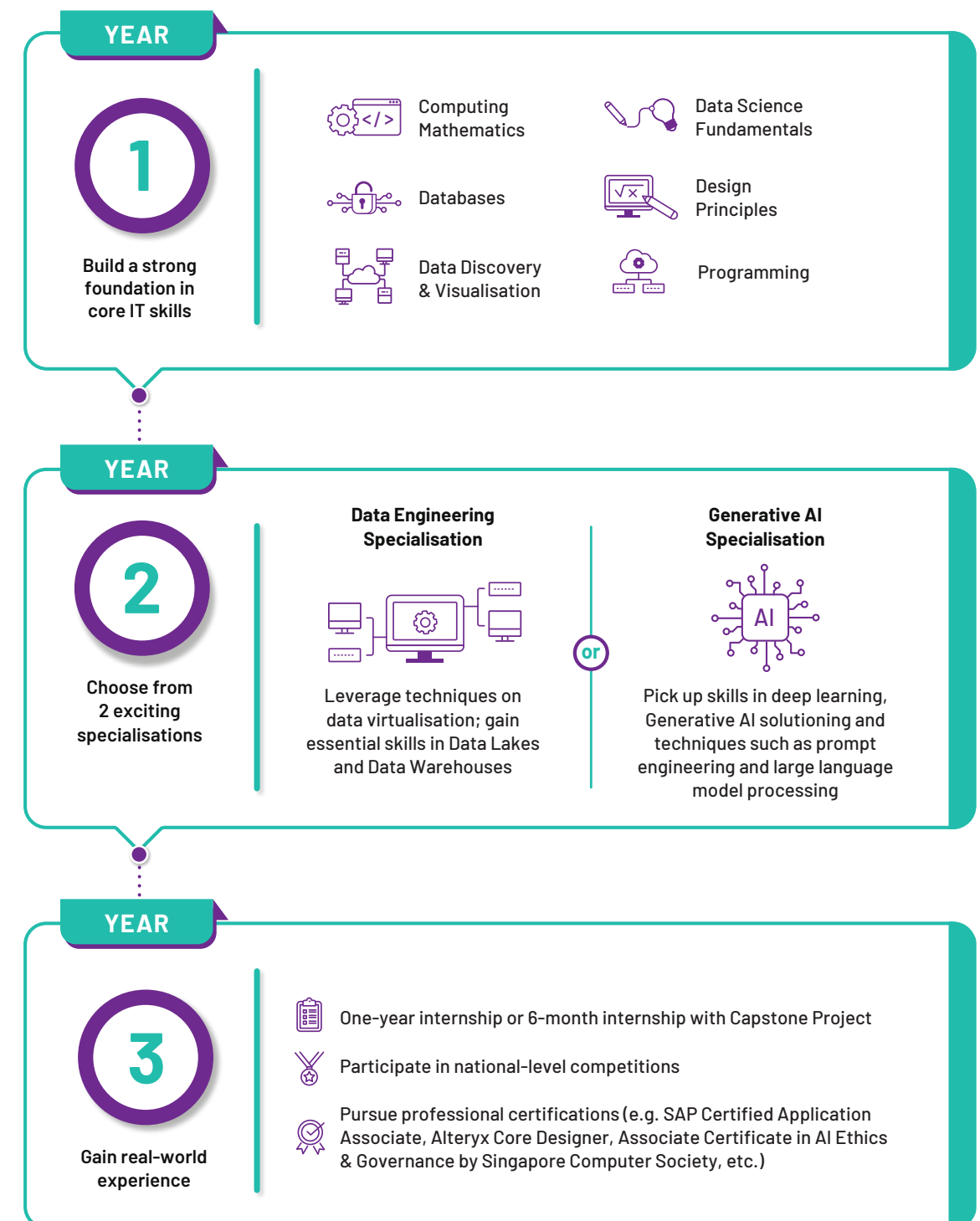
Keen to dive even further into AI? Join ICT's Artificial Intelligence Special Interest Group where you'll have hands-on experience in machine learning and AI applications, and learn from industry through events, competitions and talks.

You can also look forward to internships, workshops, field trips, and industry mentorship as part of your learning journey in DS. Plus, you'll have opportunities to put your skills to the test in national-level competitions like the PolyFintech100 Hackathon.

### Industry Certifications

To get an added edge at the workplace, you can pursue additional professional certifications, such as Salesforce's Lightning Experience Reports & Dashboards Specialist Superbadge, Alteryx Core Designer and Associate Certificate in AI Ethics & Governance by Singapore Computer Society.

## OVERVIEW OF YOUR DS JOURNEY



## WHAT YOU WILL LEARN

### YEAR 1

- Computing Mathematics
- Cyber Security Fundamentals
- Databases
- Data Discovery & Visualisation
- Data Science Fundamentals
- Design Principles
- Fundamentals for IT Professionals I\*
- Mathematics for Data Science
- Programming I & II
- Health & Wellness^
- Innovation Made Possible^
- Communication Essentials^
- English Language Express^\*

### YEAR 2

- Agile DataOps
- Intelligent Enterprise Systems
- Data Wrangling
- Emerging Trends in Data Science
- Fundamentals for IT Professionals II & III\*
- Machine Learning I & II
- Three elective modules
- World Issues: A Singapore Perspective^

### YEAR 3

- Four elective modules with six-month internship OR Capstone Project with two elective modules and six-month internship OR One-year internship#
- Project ID: Connecting the Dots^

#### Elective Modules

- AI Tools & Techniques for Cybersecurity
- Artificial Intelligence Concepts and Techniques
- Blockchain
- Cloud Databases
- Cloud Architecture and Technologies
- Customer Experience Management
- Designing User Experience
- Digital Transformation
- Emerging AI Trends in Cybersecurity
- Financial Ecosystem
- Infocomm Sales & Marketing Strategies
- Machine & Deep Learning Applications for Cybersecurity
- Mobile Applications Development
- Modern Artificial Intelligence
- Reinforcement Learning

#### Specialisation in Generative AI\*

- Deep Learning
- Generative AI Tools & Techniques
- Generative AI Solutioning

#### Specialisation in Data Engineering\*

- Distributed Data Pipelines
- Data Virtualisation
- Data Lake and Data Warehouse

^ Interdisciplinary Studies (IS) modules account for 13 credit units of the diploma curriculum. They include modules in communication, innovation and world issues, as well as an interdisciplinary project. By bringing students from diverse diplomas together, the interdisciplinary project fosters collaboration to explore and propose solutions for real-world problems. IS aims to develop students to be agile and self-directed learners, ready for the future workplace.

^\* For selected students only.

\* Career and Professional Preparation I & II are part of the Fundamentals for IT Professionals modules.

# You will get to work on an industry-driven project, a technopreneurship-enterprise project, or an IT-related project with a local or overseas organisation.

\* You will need to complete 3 prescribed electives to graduate with a specialisation.

To keep our curriculum current and robust, diploma modules are subject to change over the three years. Please visit our website for latest updates.

## FURTHER STUDIES

Receive advanced standing when you apply for related degree programmes at universities both locally and abroad. These include:

- Nanyang Technological University
- National University of Singapore
- Singapore Institute of Technology
- Singapore Management University
- Singapore University of Technology and Design

You can also look forward to pursuing a specialist diploma in an analytics-related field and other advanced diploma courses at local polytechnics.



**EVELYN PEI**  
Financial Informatics\*  
graduate, Class of 2019

Pursuing a degree in Information Systems with a specialisation in FinTech and Business Analytics at SMU.

\*Renamed the Diploma in Data Science

## CAREER

With the amount of data growing exponentially, there is a greater need for professionals who can read and analyse it. As Singapore aims to be a global hub for developing, test-bedding, deploying and scaling AI solutions, there will be an increased demand for professionals who possess skills in areas such as data extraction and wrangling, as well as machine learning and deep learning techniques. You can look forward to pursuing careers in these job roles upon graduation:

- Artificial Intelligence Engineer
- Associate Business Analyst
- Associate Data Engineer
- Data Analyst
- Data Engineer

## ENTRY REQUIREMENTS

### Aggregate Type ELR2B2-C

To be eligible for consideration, candidates must have the following GCE 'O' Level examination (or equivalent) results.

Subject	'O' level grade
English Language	1-7
Mathematics (Elementary/Additional)	1-6
Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type	1-6

You must also fulfil the aggregate computation requirements for the ELR2B2-C Aggregate Type listed at [www.np.edu.sg/docs/ELR2B2.pdf](http://www.np.edu.sg/docs/ELR2B2.pdf).

For students with other qualifications, please refer to the NP website for the entry requirements and admissions exercise period.

Candidates with severe vision deficiency may encounter difficulties meeting the course requirements and expectations.

### CONTACT US

For the most up-to-date information on NP's Diploma in Data Science, visit [www.np.edu.sg/ds](http://www.np.edu.sg/ds)



## DIPLOMA IN Immersive Media

Get latest updates on course



- Design and develop immersive experiences and games that feature **augmented, virtual and mixed realities (AR/VR/MR)**
- **Build your portfolio** by working on integrated projects that hone your skills through our unique Project-Based Learning approach
- Opportunities to work on **capstone projects** and go on **internships** at renowned organisations such as HelloHolo, UbiSoft, White Label Studio, The Doodle People, En Group and UXArmy
- Gain insights into the IT and creative media industries with **masterclasses, industry visits, networking sessions and collaborations**

### WHAT THE COURSE IS ABOUT

Technology is advancing more rapidly than ever before, with new forms of digital media disrupting the industry. Digitalisation has skyrocketed in every industry, with a need for creative professionals who can drive digital engagement through immersive platforms.

If you have a passion for interactive media, simulations or games development, and a creative streak to fuel your talent, the Diploma in Immersive Media (IM) can groom you to be a part of this cutting-edge industry.

Uncover a world of possibilities and transport users on a journey to realms beyond their flat screens with Augmented, Virtual and Mixed Realities (AR/VR/MR). You will get to develop digital products ranging from web applications to extended reality platforms using your design & programming skills in a project-based environment.

Take these further with training in user experience (UX) and user interface (UI) design, as well as an understanding of the real-time environment design workflow. With IM, you can look forward to openings in the vibrant creative and tech industries as a UX/UI designer, app or web developer, technical/3D artist and immersive media designer.

### Project-Based Learning

As an IM student, you will benefit from our signature Project-Based Learning pedagogy. Instead of sitting for exams, you will build your portfolio by working on an Integrated Project every semester.

Work with your teammates to set up a creative studio start-up that simulates renowned companies like Meta, White Label Studio or HelloHolo. You may work on game development, design interactive 3D experiences or create media content for multiple platforms. You can even conceptualise your very own metaverse and bring it to life! At the end of your learning journey, you will have a stellar portfolio that will highlight your industry-relevant skills and give you an added advantage in your career.

### Industry Immersions

Hear from industry insiders and pick up valuable insights through masterclasses, industry visits, networking sessions and collaborations. Embark on internships and contribute to real-world projects at HelloHolo, The Doodle People and White Label Studio; Ubisoft, a leading games company; and UXArmy, a company focusing on UX research. Moreover, look forward to earning professional certifications from industry leaders like Unity Technologies and Adobe to gain a competitive edge when you embark on your career!

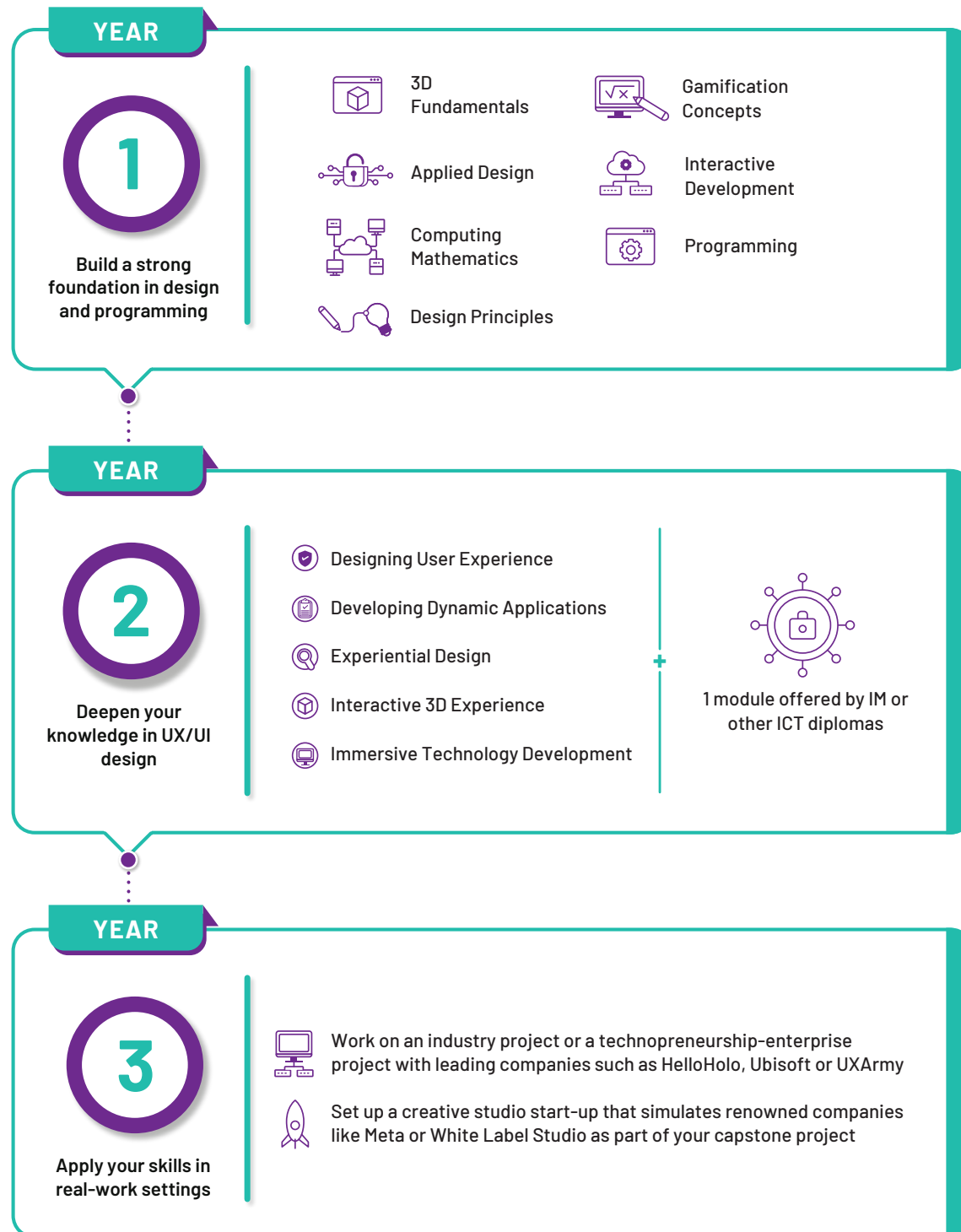
Scan the QR code to check out some of our students' projects!



### Partnerships



## OVERVIEW OF YOUR IM JOURNEY



## WHAT YOU WILL LEARN

### YEAR 1

- 3D Fundamentals
- Applied Design
- Computing Mathematics
- Cyber Security Fundamentals
- Design Principles
- Data Science Fundamentals
- Fundamentals for IT Professionals I\*
- Gamification Concepts
- Interactive Development
- Production Management
- Programming I
- Health & Wellness<sup>^</sup>
- Innovation Made Possible<sup>^</sup>
- Communication Essentials<sup>^</sup>
- English Language Express<sup>^\*</sup>

### YEAR 2

- 3D Environments
- 3D for Real-time
- Designing User Experience
- Developing Dynamic Applications
- Experiential Design
- Fundamentals for IT Professionals II\*
- Immersive Technology Development
- Interactive 3D Experience
- Spatial Theory & Level Design
- One elective module<sup>+</sup>
- World Issues: A Singapore Perspective<sup>^</sup>

### YEAR 3

- Capstone Project
- One elective module<sup>+</sup>
- Fundamentals for IT Professionals III\*
- Internship<sup>#</sup>
- Project ID: Connecting the Dots<sup>^</sup>

### \*Elective Modules

- 3D Character Creation
- 3D Prototyping
- Digital Audio Design
- Digital Video & Audio
- Motion Graphics & Effects
- Procedural Modelling & Simulation
- Serious Games & Simulation
- Social Media & Branding

<sup>^</sup> Interdisciplinary Studies (IS) modules account for 13 credit units of the diploma curriculum. They include modules in communication, innovation and world issues, as well as an interdisciplinary project. By bringing students from diverse diplomas together, the interdisciplinary project fosters collaboration to explore and propose solutions for real-world problems. IS aims to develop students to be agile and self-directed learners, ready for the future workplace.

<sup>^\*</sup> For selected students only.

\* Career and Professional Preparation I & II are part of the Fundamentals for IT Professionals modules.

<sup>#</sup> You will get to work on an industry-driven project, a technopreneurship-enterprise project, or an IT-related project with a local or overseas organisation.

<sup>+</sup> You will be able to choose from a basket of electives offered or take electives offered by other Diplomas.

To keep our curriculum current and robust, diploma modules are subject to change over the three years. Please visit our website for latest updates.

## FURTHER STUDIES

You may receive advanced standing when you apply for related degree programmes at universities both locally and abroad. These include:

### Singapore

- DigiPen Institute of Technology
- Nanyang Technological University
- National University of Singapore
- Singapore Institute of Technology
- Singapore University of Social Sciences
- Singapore University of Technology and Design

### Australia

- Queensland University of Technology
- RMIT University

### United Kingdom

- The Glasgow School of Art
- University of Hertfordshire

### United States

- Savannah College of Art and Design
- University of Southern California



### CELEST GOH

Immersive Media graduate,  
Class of 2023

A recipient of the DigiPen Silver Medal & Prize, Celest is currently pursuing a degree in User Experience and Game Design at DigiPen under a Singapore Institute of Technology Scholarship.



### TAY KAI YUAN

Immersive Media & Game  
Design Graduate\*, Class of 2021

Kai Yuan is pursuing a degree in Interactive Design and Game Development at the Savannah College of Art and Design under a Distinguished Student Scholarship.

\*Renamed the Diploma in Immersive Media

## CAREER

With our course skills mapped to the ICT Skills Framework, you can look forward to pursuing a career in these job roles:

- 3D Artist
- Creative Technologist
- Digital Content Creator
- Extended Reality (AR/VR/MR) Designer
- Extended Reality (AR/VR/MR) Developer
- Front-End Designer
- Game Developer
- Game Designer
- Game Interface Designer
- Junior Designer
- Junior Programmer
- Level Designer
- Multimedia Designer
- Producer
- UI/UX Designer
- Visual Designer
- Web Designer

## ENTRY REQUIREMENTS

### Aggregate Type ELR2B2-C

To be eligible for consideration, candidates must have the following GCE 'O' Level examination (or equivalent) results.

Subject	'O' level grade
English Language	1-7
Mathematics (Elementary/Additional)	1-6
Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type	1-6

You must also fulfil the aggregate computation requirements for the ELR2B2-C Aggregate Type listed at [www.np.edu.sg/docs/ELR2B2.pdf](http://www.np.edu.sg/docs/ELR2B2.pdf).

For students with other qualifications, please refer to the NP website for the entry requirements and admissions exercise period.

Candidates with colour vision deficiency, severe vision deficiency or hearing deficiency may encounter difficulties meeting the course requirements and expectations. Those with mild colour vision deficiency are required to undergo an in-house test.

Students are required to own a MacBook or Windows notebook and purchase art materials.

## CONTACT US

For the most up-to-date information on NP's Diploma in Immersive Media, visit [www.np.edu.sg/im](http://www.np.edu.sg/im)

# N54

DIPLOMA IN

# Information Technology

Get latest updates on course



- Get **well-equipped for the future economy** with a strong foundation in full stack development and software engineering
- Choose from four **exciting specialisation areas**: Artificial Intelligence, Cloud Computing, Software Engineering and Enterprise Computing
- **Deepen your skill sets** with our one-year Technology Young Talent Programme with OCBC
- Acquire real-world skills by earning **professional industry certifications** from renowned organisations, including IBM, AWS and Salesforce



## WHAT THE COURSE IS ABOUT

Embark on a dynamic journey into the world of technology with our Diploma in Information Technology. This intensive course is meticulously crafted to equip you with the essential skills and knowledge sought after by today's tech-driven industries.

With this broad-based diploma, you will gain a strong foundation that will help you to excel in further studies or a career in emerging areas such as artificial intelligence, blockchain, cloud computing and data analytics. We will equip you with core computing skills in programming, networking, databases and operating systems, so you can develop web applications and design business IT solutions.

Along the way, you will get to build your digital portfolio with a capstone project and showcase your competencies to potential employers. Plus, get a head start in your career by earning industry certifications from leading organisations like IBM, AWS and Salesforce.

### Build Full-Stack Development Competencies

You will gain skills to become a full-stack developer and be well-versed in software engineering, as well as front-end and back-end application development. You will learn to use coding and apply user engagement strategies that integrate front interface and back-end components to create seamless user experiences.

### Specialise in Key Growth Areas in IT

Own your learning by choosing the modules that best fit your interests and aptitude.

Beyond core modules – such as design principles, cyber security fundamentals, and programming – to build a strong foundation in IT concepts, our flexible curriculum structure allows you to expand your competencies by specialising in one of these four areas: Artificial Intelligence, Cloud Computing, Software Engineering or Enterprise Computing.

Alternatively, you can choose the general track and select any seven electives to broaden your skill sets. With our extensive range of electives, you will get schooled in emerging technologies like machine learning, cloud databases, blockchain, game programming, robotic process automation and digital forensics.

### Gain a Professional Head Start

To advance your career, you can pursue additional professional certifications related to your field or interest, such as Certified Scrum Master, AWS Certified Cloud Practitioner, Salesforce ADX 201 Certification, UiPath Certified RPA Associate, and Tableau Desktop Specialist.

### Experiential Learning with Industry

Many elective modules are co-delivered with our industry partners such as Dell, Google, IBM, Microsoft, Salesforce and SAP, so you can be sure that you will be well-prepared for the industry when you graduate.

To give you an edge in your career, there are also curated opportunities such as our exclusive one-year Technology Young Talent Programme at OCBC. You can also look forward to valuable networking opportunities with industry professionals.

## WHAT YOU WILL LEARN

### YEAR 1

- Computing Mathematics
- Cyber Security Fundamentals
- Databases
- Data Science Fundamentals
- Design Principles
- Front-End Development
- Fundamentals for IT Professionals I\*
- Operating Systems & Networking Fundamentals
- Programming I & II
- Health & Wellness^
- Innovation Made Possible^
- Communication Essentials^
- English Language Express^\*

### YEAR 2

- Back-End Development
- Designing User Experience
- Full Stack Development Project
- Fundamentals for IT Professionals II & III\*
- Software Analysis and Design
- Software Project Management
- Three elective modules from Specialisation or General Track
- World Issues: A Singapore Perspective^

### YEAR 3

- Six-month Internship with up to four elective modules from other Specialisations/Common Electives or One-year Internship^
- Project ID: Connecting the Dots^

^ Interdisciplinary Studies (IS) modules account for 13 credit units of the diploma curriculum. They include modules in communication, innovation and world issues, as well as an interdisciplinary project. By bringing students from diverse diplomas together, the interdisciplinary project fosters collaboration to explore and propose solutions for real-world problems. IS aims to develop students to be agile and self-directed learners, ready for the future workplace.

^\* For selected students only.

\* Career and Professional Preparation I & II are part of the Fundamentals for IT Professionals modules.

# You will get to work on an industry-driven project, a technopreneurship-enterprise project, or an IT-related project with a local or overseas organisation.

To keep our curriculum current and robust, diploma modules are subject to change over the three years. Please visit our website for latest updates.



### SAF YOUNG LEADER

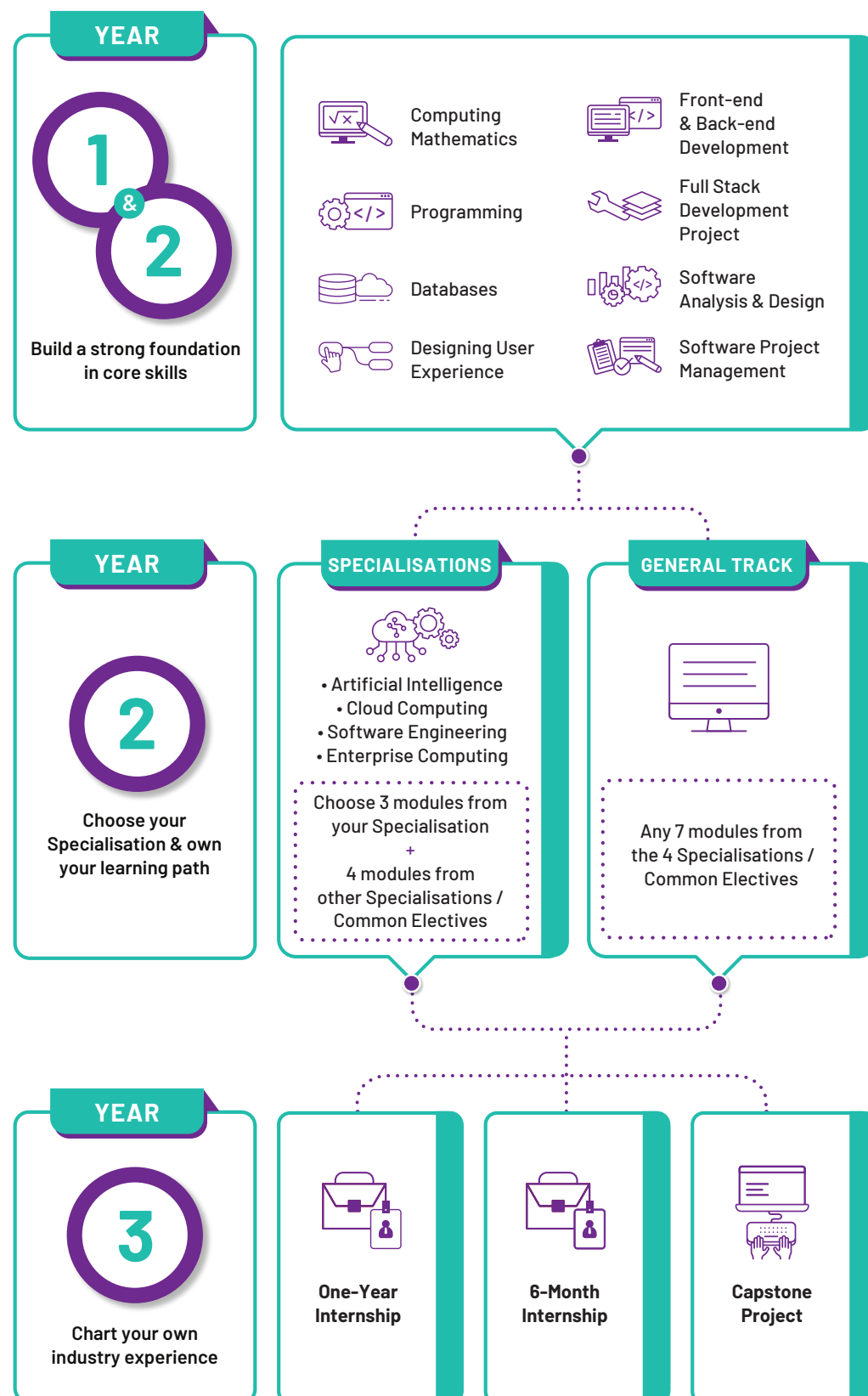
“From competing in WorldSkills Singapore to visiting top tech firms, studying IT in NP has given me many opportunities to grow my tech skills. I hope to contribute to the nation through the development of cutting-edge generative cybersecurity technologies and formulation of tech-related defence policies.”

### KOH EN YANG

#### Diploma in Information Technology, Year 3

En Yang is a recipient of the prestigious MINDEF SAF Young Leader Award.

## OVERVIEW OF YOUR IT JOURNEY



## CHOOSE YOUR IT SPECIALISATIONS

**3 MODULES**  
from your Specialisation Option



**4 MODULES**  
from other Specialisations/  
Common Electives

### Artificial Intelligence Specialisation

- Modern Artificial Intelligence
- Artificial Intelligence Concepts and Techniques
- Computer Vision and Natural Language Processing
- Reinforcement Learning
- Machine Learning
- Deep Learning

### Software Engineering Specialisation

- Data Structures and Algorithms
- Software Design Patterns
- Mobile Applications Development
- DevOps
- Blockchain
- Game Programming

### Cloud Computing Specialisation

- Cloud Architecture and Technologies
- Cloud Native Architecture and Development
- Cloud Databases
- Cloud Security Tools & Techniques
- Virtualisation & Data Centre Management

### Enterprise Computing Specialisation

- Customer Experience Management
- Enterprise Resource Planning
- Robotic Process Automation
- Digital Transformation
- Data Discovery & Visualisation
- Infocomm Sales & Marketing Strategies

### Common Electives\*

- Capstone Project
- Networking Infrastructure
- Digital Forensics
- Quantum Computing
- Advanced Mathematics in Computing
- Emerging Trends in IT

\*All electives are subject to availability

## FURTHER STUDIES

You can receive advanced standing when you apply for related degree programmes at universities both locally and abroad. These include:

### Singapore

- Nanyang Technological University
- National University of Singapore
- Singapore Institute of Technology
- Singapore Management University
- Singapore University of Social Sciences
- Singapore University of Technology and Design

### Australia

- Australian National University
- University of Adelaide
- University of Melbourne
- University of New South Wales
- University of Queensland
- University of Western Australia

### United Kingdom

- University of Essex
- University of Kent
- University of Manchester
- University of Newcastle

### KOH WEE XUAN

Information Technology graduate, Class of 2021

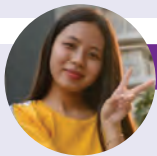
A recipient of the IMDA iPoly Scholarship, Wee Xuan will be pursuing a degree in computer science at NTU.



### JOEY AW

Information Technology graduate, Class of 2019

Currently pursuing a Bachelor in Computer Science at NUS.



## CAREER

With our course skills mapped to the ICT Skills Framework, you can look forward to pursuing a career in these job roles:

- Applications Developer
- Back-End Developer
- Channel Sales Executive
- Cloud Engineer
- Customer Experience Manager
- Database Administrator
- Data Analyst
- Data Engineer
- Front-End Developer
- Full Stack Developer
- Infrastructure Executive
- Platform Engineer
- Pre-/Post-Sales Consultant
- Systems Analyst
- Technical Support Executive
- UI/UX Designer

### AARON TAN

Information Technology graduate, Class of 2004

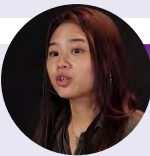
Co-founder of Carro, Singapore's largest AI-driven used car marketplace.



### JONAI SAH IDJUAN

Information Technology graduate, Class of 2016

Business Development Associate at Salesforce, one of the largest technology companies in the world.



## ENTRY REQUIREMENTS

### Aggregate Type ELR2B2-C

To be eligible for consideration, candidates must have the following GCE 'O' Level examination (or equivalent) results.

Subject	'O' level grade
English Language	1-7
Mathematics (Elementary/Additional)	1-6
Any one of the 2nd group of Relevant Subjects for the ELR2B2-C Aggregate Type	1-6

You must also fulfil the aggregate computation requirements for the ELR2B2-C Aggregate Type listed at [www.np.edu.sg/docs/ELR2B2.pdf](http://www.np.edu.sg/docs/ELR2B2.pdf).

For students with other qualifications, please refer to the NP website for the entry requirements and admissions exercise period.

Candidates with severe vision deficiency may encounter difficulties meeting the course requirements and expectations.

### CONTACT US

For the most up-to-date information on NP's Diploma in Information Technology, visit [www.np.edu.sg/it](http://www.np.edu.sg/it)



# OUR GRADUATES WITH THAT SOMETHING XTRA



## FOUNDER OF FAST-GROWING START-UP

“One of the best decisions in my life was joining ICT. Not only did I learn to become a better programmer, I also developed leadership skills and the mindset of a business owner during my time at NP. Thanks to ICT, I had the opportunity to participate in the WorldSkills competition, an experience that has made a significant impact in my life.”

### AARON TAN

#### Information Technology graduate, Class of 2004

Aaron is the co-founder of Carro, an online car marketplace with a regional footprint that covers Singapore, Malaysia, Indonesia and Thailand. The company raised more than S\$480 million in June 2021 to become one of Singapore’s unicorns.



## ENHANCING USER EXPERIENCES

“Immersive media is an exciting field that allows me to use digital media tools to create engaging 3D content. The skills that I’ve picked up in ICT have helped me in my role as a mixed-reality developer, enabling me to experiment with extended realities to enhance user experiences.”

### KRYSTAL YAMIN

#### Immersive Media and Game Design\* graduate, Class of 2021

Krystal was the Gold Medallist of her cohort and a recipient of the Ngee Ann Polytechnic Scholarship. She is pursuing a Bachelor of Science in Computer Science in Real-Time Interactive Simulation at Digipen Institute of Technology.

\*Renamed the Diploma in Immersive Media



## MAKING DESIGN COUNT

“My internship allowed me to gain a holistic understanding of the creation process, which helps me to develop more practical and intuitive designs. Through IM, I learnt that design goes beyond aesthetics. It must also be useful and fulfill needs to help people who need them the most.”

### ELICIA NG

#### Immersive Media graduate, Class of 2023

A recipient of the IMGD Gold Medal & Prize and the Ngee Ann Polytechnic Outstanding Achievement Award, Elicia is currently pursuing a degree in Communications and New Media at NUS.



## FIGHTING CYBERCRIME

“CSF nurtured my patience and resolve to keep cyber attacks at bay. Thanks to my training in NP, I am able to identify and fix vulnerabilities easily, and build stronger web defences.”

### SEH XIN RU

#### Information Security & Forensics\* graduate, Class of 2019

A recipient of the Smart Nation Scholarship, Xin Ru graduated with a Bachelor of Computing in Information Security at NUS. She is now a systems engineer at the Cyber Security Agency of Singapore.

\*Renamed the Diploma in Cybersecurity & Digital Forensics



## EQUIPPED FOR THE FUTURE

“During my time at ICT, I had the chance to acquire essential technical skills and gain valuable industry exposure, which has prepared me for a career in cybersecurity. I am eager to apply this knowledge to further my professional growth and make meaningful contributions to the community.”

### MUHAMMAD ZAIDAN SANI

#### Information Security & Forensics\* graduate, Class of 2021

Zaidan was the Silver Medallist and valedictorian of his cohort. A recipient of the Ngee Ann Polytechnic Scholarship and the A\*STAR Science Award (Poly), he was also the executive vice president of ORION. He is pursuing a Bachelor in Computer Science at NUS.

\*Renamed the Diploma in Cybersecurity & Digital Forensics



## CREATING INNOVATIVE BUSINESS SOLUTIONS

“My time at NP has been a fulfilling journey that paved the way for my career pursuits. The challenging yet enriching curriculum not only expanded my knowledge but also played a pivotal role in refining my character.”

### IMZUMI CHIA

#### Financial Informatics\* graduate, Class of 2023

Imzumi is working as a FICO (finance accounting and controlling) consultant for cbs Corporate Business Solutions, APAC. She works with clients to design, build and deploy SAP-based enterprise resource planning solutions to support their business and organisational goals.

\*Renamed the Diploma in Data Science



## TECH FOR GOOD

“My internship at GovTech was an eye-opening one as it enabled me to see firsthand how building mobile applications such as SingPass and anti-scam app Scamshield could benefit the community. I hope to create solutions that help others.”

### TAUFIQ MOHAMMED

#### Information Security & Forensics\* graduate, Class of 2022

A recipient of the Public Service Commission Scholarship (Engineering) award, Taufiq will pursue a degree in Computer Science at NUS.

\*Renamed the Diploma in Cybersecurity & Digital Forensics

535 Clementi Road Singapore 599489  
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[askNP@np.edu.sg](mailto:askNP@np.edu.sg)

All information is correct at time of printing (Nov 2023)