Teaching Institutions

- 1 Centre for English Language and Communication
 - 1.1 Centre's Commitment
 - 1.2 Key Contact Information
- 2 Institute of Systems Science
 - 2.1 Programmes Commitment
 - 2.2 Key Contact Information
 - 2.3 Programmes Offered
 - 2.4 Programme Requirements
 - 2.4.1 Master of Technology
 - 2.4.2 Graduate Diploma in Systems Analysis
 - 2.5 Financial Assistance and Awards

1 Centre for English Language and Communication

1.1 Centre's Commitment
1.2 <u>Key Contact Information</u>

1.1 Centre's Commitment

The Centre for English Language Communication (CELC) was established in 1979. It plays a vital role in enhancing the English language and communication skills of both local and international undergraduate and graduate students at the National University of Singapore.

CELC's mission is to empower its students to acquire effective English language and communication skills for their academic and professional lives through innovative teaching, promotion of independent learning and engagement in research related to ELT. To achieve this mission, its strategic goals are to:

- provide well designed and relevant programmes
- prepare students for the communication needs of the university and the workplace
- promote independent learning through the provision of self access learning environments
- adopt innovative teaching practices grounded in research
- design and administer effective language assessments
- enhance professional growth by keeping abreast of current developments in theory, research, pedagogy and Information Technology
- conduct classroom based research on the teaching of English and communication skills
- collaborate with departments and faculties across the university to meet students' language and communication needs
- share expertise with ELT practitioners through publications, conferences and academic collaboration

For more information on CELC and the modules offered, please go to: http://www.nus.edu.sg/celc

1.2 Key Contact Information

For up-to-date information, please visit the Centre's website at: $\underline{\text{http://www.nus.edu.sg/celc}}$

Title & Name	Designation/Responsibility	Telephone (6516-XXXX)	Email (XXXX@nullnus.edu. sg)
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Mr Patrick GALLO	Course Coordinators, EPP3 & EE3031	1942	elcgpb
Dr James STEPHEN		8876	elcjds
Dr Katy KAN	Course Coordinator, ES2002	6079	elckhk
Ms Aileen LAM	Course Coordinator, FAS1101	6083	elclwa
A/P LEE Kooi Cheng	Course Coordinator, PR4196	8880	elcleekc
Dr LEE Ming Cherk	Course Coordinator, SP2171	6085	elcImc
Ms LEE Sher Lin	Course Coordinator, FAS1102	7228	elcIsI
Ms Susan LEE	Course Coordinator, ES2007D	66013920	elcImss
Dr Daron LOO	Course Coordinator, ES5000	3874	elcdbl
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Ms Doreen TAN	Course Coordinator, EM1201 & EM1202	3873	elctyrd
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2 Institute of Systems Science

- 2.1 Institute's Commitment
- 2.2 Key Contact Information
- 2.3 Programmes Offered
 - 2.3.1 Master of Technology in Enterprise Business Analytics [MTECH EBAC]
 - 2.3.2 Master of Technology in Intelligent Systems [MTECH IS]
 - 2.3.3 Master of Technology in Digital Leadership [MTECH DL]
 - 2.3.4 Master of Technology in Software Engineering [MTECH SE]
 - 2.3.5 Graduate Diploma in Systems Analysis [GDIPSA]
- 2.4 Programme Requirements
 - 2.4.1 Master of Technology
 - 2.4.2 Graduate Diploma in Systems Analysis
- 2.5 Financial Assistance and Awards

2.1 Institute's Commitment

The Institute of Systems Science, National University of Singapore (NUS-ISS) is committed to developing business and digital leaders and professionals for the future economy, through our Graduate & Executive Programmes.

Established in 1981, the Institute of Systems Science at the National University of Singapore (NUS-ISS) develops digital talent for the industry through graduate education, professional development programmes, consultancy, applied research and career services. NUS-ISS is widely recognized as a champion of the national Skills Future movement, enabling a digital economy that is always learning and always leading.

NUS-ISS has implemented a unique portfolio of multiple learning pathways, with a wide spectrum of programmes in critical industry disciplines such as software development, data science, artificial intelligence, cybersecurity, smart health, digital government and digital innovation.

NUS-ISS offers a myriad of pathways to help individuals around the world acquire new skills and knowledge. These holistic pathways enrich lives, grow careers and provide more opportunities for advancement in the industry. We help professionals and students stay relevant and competitive in an increasingly digitised world. With our range of immersive programmes, courses and services, we equip students with the necessary knowledge and relevant skills they need to embark on a lifelong journey of learning.

Our practice oriented graduate programmes create leaders and technology innovators looking to carve out a successful career in the Tech industry. Students learn from experienced lecturers with strong industry background and a record of applying their experience to solve real world problems. A hallmark of our programmes are the key internship and capstone project modules, which allow our students to learn as they deliver real outcomes in organisations in Singapore and overseas. We offer multiple graduate degrees strongly aligned to building the smart nation.

Please visit the NUS-ISS website at: http://www.iss.nus.edu.sg for more details.

2.2 Key Contact Information

For up-to-date information, please visit the Faculty's website at: $\underline{\text{http://www.iss.nus.edu.sg}}$

Tittle & Name	Designation/Responsibility	Telephone	Email
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Ms TAY Chia Lee	Senior Executive, Graduate Programme Administration	6516 5037	isstcl@nullnus.edu.sg

2.3 Programmes Offered

The Programme offers the following graduate degrees by coursework:

- 2.3.1 Master of Technology in Enterprise Business Analytics [MTECH EBAC]
- 2.3.2 Master of Technology in Intelligent Systems [MTECH IS]
- 2.3.3 Master of Technology in Digital Leadership [MTECH DL]
- 2.3.4 Master of Technology in Software Engineering [MTECH SE]
- 2.3.5 Graduate Diploma in Systems Analysis [GDIPSA]

2.3.1 Master of Technology in Enterprise Business Analytics [MTECH EBAC]

Overview

The MTech EBAC programme prepares students for specialist, expert and leadership roles in enterprise business analytics to create business value through strategic use of data, analytics, models and frontline tools.

By contributing to more effective utilisation and management of data analytics, you can help your enterprise to focus on big decisions so that they gain better predictive ability that can translate to higher profits. Helping enterprises to build better and more effective models will lead to improved outcomes such as more attractive pricing, higher levels of customer care, better market segmentation and highly-efficient inventory and supply chain management.

Graduates of the programme will be capable of undertaking tasks such as:

Discovering insights from data
Applying concepts and techniques to solve major business problems
Designing and customizing targeting marketing campaign
Analysing sales channels
Optimising the marketing mix of their organisations
Improving decision-making to increase returns on investments for their organisations
Predicting the future profitability of their organisations

Learning outcomes:

Help enterprises move towards a stronger emphasis on computer tools and statistical techniques to develop high-performance analytics capability

Translate massive and complex unstructured data into insights

Produce predictive models to solve a broad range of problems across various business functions and units Contribute to the development of more effective business strategies and plans for sustainable growth and competitive advantage

Recognition:

Top student is awarded the IBM Medal and Book Prize Best Project Prize

2.3.2 Master of Technology in Intelligent Systems [MTECH IS]

Overview

The MTech IS programme emphasises the concepts, techniques and methods of Artificial Intelligence, and their application to the development of Intelligent Systems applications. The programme provides you with the essential knowledge and practical experience needed to become an Artificial Intelligence and Intelligent Systems specialist, and prepares you to be able to lead the development of Intelligent Systems in providing effective and optimal business solutions for your organisation.

Learning outcomes:

- Apply Intelligent Systems concepts, techniques and methods to solve varied problems across multiple domains including: business, manufacturing, engineering, heathcare etc.
- Lead the development of Intelligent Systems using contemporary tools and techniques, including Artificial Intelligence, Machine Learning, Prediction, Forecasting, Classification, Clustering and Optimisation
- Design and customise algorithms to solve complex business problems and create strategic advantage

Recognition:

- Top student is awarded the SPH Medal and Prize
- Best Project Prize

2.3.3 Master of Technology in Digital Leadership [MTECH DL]

Overview

This MTech DL programme focuses on digital strategy, transformation and leadership. It will equip students with the critical thinking, process and people skills to become an effective digital leader to take on new exciting job roles and drive breakthrough changes for organizations in the new economy. The curriculum provides for an intensive industry oriented and practice based learning environment with strong engagement with practicing digital and business leaders.

Learning outcomes:

Understand the practice of digital business models
Develop leadership skills to lead the digital journey and drive breakthrough change for organization
Create effective plans to bring about digital transformation in the business for competitive advantage
Embrace strategic thinking, innovation and effective communication

The programme is offered on:

Part-time basis: Minimum of two years to maximum of four years

2.3.4 Master of Technology in Software Engineering [MTECH SE]

Overview

The MTech SE programme emphasises the skills required for architecting scalable, secure and smart systems and platforms. The focus will also be exploitation of software technologies, methodologies and management techniques. It focuses on the practical and systematic construction of software systems, using innovative and state-of-the-art techniques. The programme will equip you with the essential knowledge and practical experience to architect, design, build and manage the delivery of robust software systems for your organisation and customers.

Learning Outcomes:

- Become software architects capable of architecting and designing systems that exploit major contemporary software platforms, technologies and methodologies
- Become software architects capable of architecting and designing smart and secure systems
- Become data architects equipped with data engineering skills to engineer big data from a variety of sources

Recognition:

- Top student is awarded the Accenture Medal and Prize
- Best Project Prize

2.3.5 Graduate Diploma in Systems Analysis [GDIPSA]

Overview

The GDipSA programme is best suited for non-IT graduates intending to craft a new career path in the IT industry. IT graduates who wish to advance their careers in their current field and recognise the need to equip themselves with the latest IT knowledge and skills to stay relevant may apply as well.

Having graduated 46 batches of students, this programme is going into its 49th intake. Many of our graduates are now prominent senior IT professionals, who have benefited from this programme.

Students who embark on this hands-on programme will be exposed to lectures, workshops, laboratory sessions, projects and a 5-month internship. We have designed numerous projects into the programme. The aim is to equip them with the necessary foundation to code, test, implement and troubleshoot IT solutions covering web and mobile platforms.

By the end of the programme, you will be equipped with sought-after technical skills and valuable soft skills.

Graduates of this programme may choose to upgrade your skills after gaining a few years of work experience in the IT industry. You will be fully eligible to take up a Master degree with NUS and universities. Our Master of Technology programmes, offered in full-time and part-time formats, are designed for working IT professionals and managers who wish to advance their knowledge and skills.

Technical learning outcomes:

Gather user requirements
Systematically analyse and design feasible IT solutions
Select the right technology
Code, test and implement proposed solutions
Trouble-shoot problems

Non-technical learning outcomes:

Problem solving Project management Teamwork Leadership

2.4 Programme Requirements 2.4.1 Master of Technology 2.4.2 Graduate Diploma in Systems Analysis

2.4.1 Master of Technology

Course Objective

The Master of Technology (MTech) programme offers degrees in Digital Leadership, Enterprise Business Analytics, Intelligent Systems and Software Engineering. Key elements of the MTech programme are the internship and capstone project modules. All students will undertake a team-based project or internship to acquire relevant real world experiences and gain further insights into the realities and challenges of the industry.

The MTech programme is designed to produce highly employable digital, IT professionals and data scientists who will be comprehensively equipped with the knowledge and skills required by the local and regional industry. In addition to full-time study, they provide digital, IT, science and engineering professionals the opportunity to upgrade their skills by studying part-time while pursuing their careers.

This programme will lead to the award of a Master's degree by the National University of Singapore.

Admission Requirements

To gain admission to the programmes, applicants must possess the following pre-requisites:

- Bachelor's degree preferably in Science or Engineering and a grade point average of at least B
- Proficiency in the English Language (written and spoken)*
- Have passed an entrance test (applicable only for EBAC/IS/SE)
- NUS-ISS may, at its discretion, accept GRE general test in lieu of NUS-ISS entrance test in genuine cases e.g. a candidate lives in a country where NUS-ISS does not administer entrance tests or candidate had valid reasons that prevented him/her from attending the NUS-ISS entrance test when it was administered
- Have received a favourable assessment at admissions interview conducted by NUS-ISS

*English Language Proficiency

• Applicants who graduated from universities where English is not the medium of instruction should submit TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) score as evidence of their proficiency in the English language.

TOEFL	Paper-based test (580) Computer-based test (237) Internet-based test (85)
IELTS	Result of 6.0

• Institution code of NUS-ISS for TOEFL is 2432

• TOEFL and IELTS are only valid for five years after the test and the validity should not expire before the beginning of the application period for the coursework programme.

MTech EBAC:

- Preferably two years relevant working experience
- IT, engineering and scientific professionals would make ideal candidates
- Candidates with highly relevant degrees in Mathematics, Statistics, Econometrics, Management Science, Operational Research or similar, with consistently good academic records may be granted a work experience waiver

MTech IS:

- Preferably two years relevant working experience
- As an IT professional, e.g. software developer, business analyst, or as a domain expert working in an area where Intelligent Systems and Knowledge Engineering can be applied
- Candidates with highly relevant IT degrees, with consistently good academic records and good practical software development knowledge gained either through course work, course projects or professional IT certifications may be granted a work experience waiver

MTech DL:

- A bachelor's degree from an accredited institution preferably in Science, Engineering, Computing, Business or a related discipline and a grade point average of at least B
- A minimum of 5 years of full-time relevant work experience after first degree
- Presently holding a senior or management position
- Demonstrate digital acumen and work exposure to digitalization
- Have the passion and potential to assume a digital leadership position
- A passionate learner with an ambition to shape the future and the ability to make things happen

MTech SE:

- Preferably four years relevant working experience
- As a software engineer e.g. programmer, designer, technical team lead
- Candidates who have lesser than four years relevant experience with good practical software engineering knowledge gained either through course work, course projects or work experience may be considered.

Period of Candidature

MTech EBAC/IS/SE:

The Master's Programmes are available in full-time, part-time and stackable formats. The duration for the full-time programme is 1 year, and for the part-time programme, 2 years. The programmes are also available via the stackable pathway.

MTech DL:

The MTech DL is a two-year part-time programme.

Student Commitment

MTech EBAC/IS/SE:

Candidates must complete and pass the mandatory certificate/s from the fundamental areas, any 2 certificates from the specialist areas as well as complete a capstone project.

MTech DL:

Candidates must complete and pass all the nine course modules as well as deliver a digital leadership capstone project.

Assessment/Examinations

MTech EBAC/IS/SE:

Students are evaluated through a combination of course work, project work and examinations. All students are required to complete a three-hour examination for each fundamental and specialist module taken.

A minimum average grade across all examinations and practice assessments must be achieved to be awarded the degree.

MTech DL:

All candidates will be assessed by a combination of continuous assessment assignments, class participation and mid-term assessments, as well as the satisfactory output produced for the digital leadership capstone project module.

A minimum average grade across all examinations and practice assessments must be achieved to be awarded the degree.

2.4.2 Graduate Diploma in Systems Analysis

Course Objective

The Graduate Diploma in Systems Analysis programme is designed for graduates who recognise the need to equip themselves with the latest IT knowledge and skills, and wish to advance their careers in their current field. It also provides an opportunity for non-IT graduates in crafting a new career path in the IT industry.

Admission Requirements

Applicants must possess the following pre-requisites:

- Bachelor degree from a recognised university
- Proficiency in the English Language (written and spoken)
- Some work experience preferred

All applicants are required to take an aptitude test. Shortlisted applicants will also need to attend an interview. Foreigners are welcome to apply.

Student Commitment

This is a full-time one-year programme consisting of two semesters and an industry attachment. Classes will be held from Mondays to Fridays, 9.00 am to 5.00 pm.

Examinations

To be awarded the graduate diploma, trainees must possess a satisfactory performance in continuous assessments, examinations, projects, industrial attachment and meet the minimum Cumulative Average Point (CAP) set by NUS.

2.5 Financial Assistance and Awards

The Accenture Gold Medal and Book Prize is awarded to the best student successfully completing the Master of Technology (Software Engineering) course. The SPH Gold Medal & Book Prize is awarded to the best student successfully completing the Master of Technology (Intelligent Systems) course.

The IBM Gold Medal & Prize is awarded to the best student in the Graduate Diploma in Systems Analysis course. The ISS Prize is awarded to the student who is second in the examination. The Accenture Prize is awarded to the best internship team in the course.