

Master of Science in Industrial & Systems Engineering Tuition Fees and Curriculum information for Cohort August 2023

Curriculum

Degree Requirements	At least 40 units – typically ten courses	
Candidature	Full-time [^]	minimum 1 year – maximum 2 years
	Part-time	minimum 2 years – maximum 4 years
Continuation Requirements	https://cde.nus.edu.sg/graduate/graduate-programmes-by-coursework/graduation-requirements/	
Graduation Requirements	GPA [#] of at least 3.00 (equivalent to an average of B-) for a general MSc ISE degree GPA [#] of at least 3.50 (equivalent to an average of B) for a MSc ISE degree with area of specialization in DA, ESM, OR, SE or DCA.	

[^]If you are an international applicant who does not have permanent residency in Singapore, you are eligible to apply only for the full-time programme; if offered admission, you will be registered as a full-time student.

[#]Grade Point Average (GPA) – students that obtain a GPA of less than 3.00 but at least 2.25 will receive a Graduate Diploma.

Courses

Students have to complete at least 16 units from core courses. The remaining 24 units can be from the core or elective courses.

Course Code	Type	AOS	Title & Brief Description
IE5001	Core	OR	Operations Research for Decision Making
IE5002	Core	DA / DCA	Applied Engineering Statistics
IE5003	Core	ESM	Cost Analysis and Engineering Economy
IE5004	Core	OR	Stochastic Models and their Applications
IE5005	Core	DA / OR / DCA	Data Analytics for Industrial Engineers
IE5006	Core	ESM / SE	Large Scale Systems Engineering
IE5105	Elective	OR	Modelling for Supply Chain Systems
IE5107	Elective		Operations Analysis and Management
IE5108	Elective		Facility Layout and Location
IE5121	Elective	ESM	Quality Planning and Management
IE5123	Elective	SE	Reliability Engineering and Asset Management
IE5202	Elective	DA	Applied Forecasting Methods
IE5203	Elective	OR	Decision Analysis
IE5205	Elective	OR / SE	Healthcare System and Analytics

IE5206	Elective	SE / DCA	Energy and Sustainability
IE5207	Elective	DCA	Energy Systems Modelling and Market Mechanisms
IE5208	Elective	ESM	Systems Approach to Project Management
IE5209	Elective	DCA	ESG and Net Zero : Principles and Cases
IE5213	Elective	ESM	Service Innovation and Management
IE5221	Elective	SE	Transportation Modeling and Economics
IE5231	Elective	DA	Statistical Methods for Process Design and Control
IE5301	Elective		Human Factors in Engineering and Design
IE5504	Elective	OR / SE	Systems Modelling and Advanced Simulation
IE5600	Elective	DA	Applied Programming for Industrial Systems
IE5602	Elective	DA	Statistical Learning in Engineering I
IE5881	Elective		Selected Topics in Industrial Engineering
MT5006	Elective	ESM	Value Creation Through Product Development
MT5024	Elective	ESM	Maximising Innovation Value through Patent Analytics
IE5766	Elective		Industrial & Systems Engineering Attachment (8 units) We envisage students to seek their own internship companies and submit the completed form (Section A & B) to ISEM office at least 3 weeks prior to start of attachment.
IE5909A	Elective		Research Project in Industrial & Systems Engineering I
IE5909B	Elective		Research Project in Industrial & Systems Engineering II

*Please take note not all courses will be offered.

Area of Specialization

To graduate with an Area of Specialization (AOS), you will need to complete at least 16 units from core courses and at least 16 units from the AOS basket. You may double-count a course as fulfilling both core and AOS if they fall in both categories. The remaining units can be from the core or elective courses.

To be considered for the award of specialization, a student must complete a minimum of 40 units with a graduating GPA of at least 3.50. Upon successful completion of the AOS, the specialization will be reflected in your official transcript.

Data Analytics (DA)

1. IE5002 Applied Engineering Statistics (**compulsory**)
2. IE5005 Data Analytics For Industrial Engineers (**compulsory**)
3. IE5202 Applied Forecasting Methods

4. IE5231 Statistical Methods for Process Design and Control
5. IE5600 Applied Programming for Industrial Systems
6. IE5602 Statistical Learning in Engineering I

Engineering and Service Management (ESM)

1. IE5003 Cost Analysis And Engineering Economy (**compulsory**)
2. IE5006 Large Scale Systems Engineering
3. IE5121 Quality Planning and Management
4. IE5208 Systems Approach to Project Management
5. IE5213 Service Innovation and Management
6. MT5006 Value Creation Through Product Development
7. MT5024 Maximising Innovation Value through Patent Analytics

Operations Research (OR)

1. IE5001 Operations Research for Decision Making (**compulsory**)
2. IE5004 Stochastic Models and Their Applications (**compulsory**)
3. IE5005 Data Analytics For Industrial Engineers
4. IE5105 Modelling for Supply Chain Systems
5. IE5203 Decision Analysis
6. IE5205 Healthcare System and Analytics
7. IE5504 Systems Modelling and Advanced Simulation

Systems Engineering (SE)

1. IE5006 Large Scale Systems Engineering (**compulsory**)
2. IE5123 Reliability Engineering and Asset Management
3. IE5205 Healthcare System and Analytics
4. IE5206 Energy and Sustainability
5. IE5221 Transportation Modeling and Economics
6. IE5504 Systems Modelling and Advanced Simulation

Decarbonization Analytics (DCA)

1. IE5002 Applied Engineering Statistics (**compulsory**)
2. IE5005 Data Analytics For Industrial Engineers (**compulsory**)
3. IE5206 Energy and Sustainability
4. IE5207 Energy Systems Modelling and Market Mechanisms
5. IE5209 ESG and Net Zero: Principles and Cases

Fees and Financial Information

The full programme fee for Academic Year (AY) 2023/24 is illustrated in the following table. Programme fees are reviewed yearly and thus subjected to revisions. Payment schedule, due on the first week of every semester, is as follows:

Full Programme Fees (inclusive of GST)		Acceptance Fee (inclusive of 8% GST)	1 st semester (inclusive of 8% GST)	2nd semester (inclusive of 9% GST)	3rd semester (inclusive of 9% GST)	4 th semester (inclusive of 9% GST)
Full-time Students	S\$53,697.50	S\$2,160	S\$25,650	S\$25,887.50	N.A.	N.A.
Part-Time Students	S\$53,816.25	S\$2,160	S\$12,825	S\$12,943.75	S\$12,943.75	S\$12,943.75

- The fees listed are in Singapore Dollars (S\$) and **inclusive of 8% GST in 2023 and 9% GST from 2024 onwards**
- A non-refundable application fee of S\$60 (inclusive of GST) must accompany your online application.
- Payment of fees will be on an instalment basis, paid over 2 semesters for full-time students and (up to) 4 semesters for part-time students. Complete fee must be paid before a student can graduate from the programme.
- Students need to separately pay for **Miscellaneous Student Fee (MSF)** directly to the University on a semester basis. Fees are reviewed annually. For the latest Miscellaneous student fees, please refer to Registrar's Office website [here](#).
- Acceptance Fee of S\$2,160 – which will be credited towards your programme fees – is payable upon acceptance into the programme. Fee is non-refundable and non-transferable.
- Students may utilise SkillsFuture Credit (SFC) to offset tuition fees: <https://www.myskillsfuture.gov.sg/content/portal/en/training-exchange/course-directory/course-detail.html?courseReferenceNumber=TGS-2015502879>
Refer to the SFC application guide
here: <https://www.nus.edu.sg/finance/students/student-finance-matters.html>
- Programme fee is for 40 units only. To graduate, a student has to complete 40 units. Students reading more than 40 units will incur additional prorated programme fees (without subsidy/rebate) at the prevailing rate of the Academic Year in which the course is read.
- Programme fees do not include the cost of recommended textbooks and readings.
- The cost of travel, accommodation and miscellaneous expenses are not included and are to be borne by the participant. For an estimated cost of living, please click [here](#).

AY2023/2024 Fee Rebate

Fee rebates will be awarded to deserving applicants based on merit. Applicants will be notified of their awarded fee rebate quantum when they receive their offer letter.

Nationality	Fee Rebate
Singapore Citizen (SC)	Up to 65% of Programme Fees
Singapore Permanent Residents (SPR)	Up to 50% of Programme Fees
International	Up to 30% of Programme Fees, for top students

All NUS Alumni will enjoy a minimum 15% tuition fee rebate.

All Non-NUS Alumni SC and PR will enjoy a minimum 10% tuition fee rebate.

Illustration of Programme Fees with fee rebates

Programme Fees with fee rebate (inclusive of GST)			Acceptance Fee (inclusive of 8% GST)	1 st semester (inclusive of 8% GST)	2nd semester (inclusive of 9% GST)	3rd semester (inclusive of 9% GST)	4 th semester (inclusive of 9% GST)
65% fee rebate	Full-time Students	S\$18,787.63	S\$2,160	S\$8,275.50	\$8,352.13	N.A.	N.A.
	Part-Time Students	S\$18,825.94	S\$2,160	\$4,137.75	S\$4,176.06	S\$4,176.06	S\$4,176.06
50% fee rebate	Full-time Students	S\$26,843.75	S\$2,160	S\$12,285.00	\$12,398.75	N.A.	N.A.
	Part-Time Students	S\$26,900.63	S\$2,160	S\$6,142.50	S\$6,199.38	S\$6,199.38	S\$6,199.38
30% fee rebate	Full-time Students	S\$37,585.25	S\$2,160	S\$17,631.00	S\$17,794.25	N.A.	N.A.
	Part-Time Students	S\$37,666.88	S\$2,160	S\$8,815.50	S\$8,897.13	S\$8,897.13	S\$8,897.13