FAQ for Prospective Students
(February 2023)

What is unique about NTU Materials Engineering?

Besides being one of the largest Materials Engineering programme in the world, Materials Science in NTU is ranked #1 by the US News Global Universities Rankings and #3 by QS World University Rankings by Subject. Her large and diverse faculty allows students to leverage on the expertise of our internationally-renowned professors in the field of Materials Engineering. You will also be in the company of a larger cohort that translates to a larger industry network because of our alumni numbers.

In addition, NTU MSE offers the Work-Study Degree programme, an opportunity to connect you to industries as early as possible, and for a longer duration. Aside from work terms with companies, you will be undertaking an industry-sponsored final year project.

What is the advantage of Materials Engineering over other engineering fields?

MSE students have the advantage of gaining a degree that offers adaptability for employment across a range of industries. The robustness of the programme provides graduates with in-depth knowledge in fundamental sciences and engineering. Through this, our graduates value-add to the industry and the future economy by filling the gaps of other engineering disciplines. In addition, materials engineers provide expertise in materials for real-world applications that forms the foundation of products and services offered by many industries.

Academic Matters

Information about the curriculum is available in the MSE Website:
https://www.ntu.edu.sg/mse/admissions/undergraduates/current-students/academic-matters/curriculum

How can we get to know more about materials engineering or materials science field before application?

You may read about MSE courses and what you will learn in each class in our website.
Course summary:
https://www.ntu.edu.sg/mse/admissions/undergraduates/current-students/academic-matters/course-summary

We also recommend “Stuff Matters” by Mark Miodownik, to find out more about materials science, which is available in the National Library.

How do I prepare myself for this course before school starts? / Bridging Course/ Refresher Course

The School's Academic Office will send an email to all students before they begin their semester with information on bridging courses. Module summaries and suggested readings are also available on the MSE website.

Refresher courses for freshmen (Math and Physics) are conducted by College of Engineering (CoE). The lessons normally commence around July (in-person or e-learning). More information will be released by CoE at a later date.

Additionally, for MSE students, all freshmen will be enrolled on a preparatory course on topics relevant to MSE. More information on the preparatory course will be sent around mid-July

What is the difference between Professional Internship and Professional Attachment?

The Professional Internship is a compulsory core module at Year 3 which is approximately 20 weeks. The Professional Attachment is a shorter work-term with companies that students could opt to take during the special semesters which are approximately 10 weeks.

How do you secure a position in internship?

The Career and Attachment Office (CAO) and School's Academic Office will provide students with the relevant information about internship opportunities and procedure for application. An internship portal will be used to help students apply and secure internship placements. Internship is mandatory for all NTU MSE students.

Is FYP a group or individual project and what are the options available for students?

FYP is a project that is undertaken individually. The School's Academic Office will provide a list of topics offered by faculty. Students may select a topic and subsequently contact the professor in-charge. Alternatively, they may choose to continue their FYP with their internship company.

What are the options to learn about entrepreneurship in MSE?

Materials Engineering with a 2nd Major in Entrepreneurship has been offered from AY2021/22.

Students may also take elective modules that focus on entrepreneurship. In addition, the Nanyang Technopreneurship Center (NTC) equips its students with the requisite knowledge and skills in entrepreneurship competence through the Overseas Entrepreneurship Programme (OEP) for undergraduates.

Students can hone their entrepreneurial mindset and skills by submitting a project in the annual Ian Ferguson Innovation Challenge. These are projects that are relevant to materials science and engineering. Teams must demonstrate creativity and provide original and practical solutions to an engineering problem. Link

Is there a course exemption?

The course exemption(s) will be available after matriculation. It will be subject to the School's approval. More information will be provided during freshmen orientation. https://www.ntu.edu.sg/mse/admissions/undergraduates/current-students/academic-matters/course-exemptions

What is the Work Study Degree Programme (WSDeg)?

It is approximately 80 weeks of on-the-job training with companies that is integrated into the 4-year undergraduate curriculum. It is aimed at enhancing students' readiness for the workplace upon graduation. Students learn on the job, develop soft skills and cultivate an understanding of real-world practices through multiple internships (professional internship and professional attachments), culminating in an industry-sponsored final year project. MSE is the only engineering School in NTU that offers the WSDeg for its main/flagship programme – Bachelor of Engineering (Materials Engineering). Matriculated students can apply for the Work Study Degree Programme in Year 2.

What opportunities for overseas exchange are available?

Students typically go for semester exchange in Year 3. Office of Global Education and Mobility (OGEM) offers long- and short-term exchange programmes to overseas university partners in Americas, Europe, ASEAN, China, India, and Asia-Pacific. Career & Attachment Office (CAO) lists opportunities for overseas internship and Nanyang Technopreneurship Centre offers the Overseas Entrepreneurship Programme. MSE also informs students of overseas internships or short global exposure activities such as international competitions and week-long cultural exchanges.

Career Prospects

What is the overall employment rate of MSE graduates?

The overall employment rate for 2021 graduates is 96.3% (Source: Graduate Employment Survey 2021)

What are the career prospects for MSE graduates?

MSE students have the advantage of gaining a degree that gives adaptability to work in different types of industries as the programme combines all fundamental sciences and engineering.

- Aerospace / Defense
- Biotechnology / Pharmaceuticals
- Consumer Business
- Energy & Chemicals
- Electronics / Electronics Manufacturing
- Industrial Engineering
- Public Service
- Oil & Gas
- Renewables & Sustainability
- Research & Development

What are the typical roles of MSE graduates in companies?

Materials Engineer, Production Engineer, Quality Control/Assurance Engineer, Manufacturing Engineer, Research Officer/Manager, Technical Services Manager, Development Scientist, Technology Manager, Structural Engineer, R&D Engineer.

Admissions

What are the subjects I must have taken before university to qualify for MSE programmes? (Minimum Subject Requirements)

The minimum subject requirements for A-level, IB, international and other qualifications, as well as acceptable polytechnic diplomas are available in the NTU Admissions website.

https://www.ntu.edu.sg/admissions/undergraduate/admission-guide

Is physics required to take up an MSE programme?

Minimum physics requirement is needed for 2nd major in Medical Biology and 2nd major in Pharmaceutical Engineering.

For polytechnic diploma qualification, applicants can apply based on eligible diploma as listed in the NTU Admissions website. There are no additional subject requirements.

What are the cut-off points for different programmes? What is the u-score needed to get into MSE?

The Indicative Grade Profile (IGP) varies year to year based on cohort size and their profiles. This information is available on the NTU Admissions website.

What are the criteria to be able to start at Year 2?

The eligibility for direct entry to year 2 is competitive and merit-based, taking into consideration all eligible applicants (e.g., polytechnic students) of the year. For polytechnic students offered Y2 direct entry but want to start at Y1, applicant must submit an online appeal during the appeal period.

Applicants are encouraged to accept the current offer first at the Joint Acceptance portal by the stipulated deadline to reserve your place.