What is Engineering Science Programme?

Jointly offered by NUS Engineering and the Faculty of Science, the Engineering Science Programme provides the scientific and mathematical tools for the fundamental study of engineered systems. It is an exciting cross-disciplinary field, which incorporates mathematics, physics, computer science, and biological and chemical sciences to classical engineering studies.

Students have the opportunity to engage in nanomaterials and structures, microelectronic devices, transportation systems, energy, as well as chemical and biological systems. Students can look forward to become a new class of engineer-scientists better prepared to solve multidisciplinary problems of a high-tech world.
Specialisations

**NANOSCIENCE AND TECHNOLOGY**
Engineering at the nanometer scale allows creation of smaller, lighter and better performing materials or systems. Some inventions include stronger and lighter materials for construction, special films for electronic gadgets or applications in the medical industry.

**COMPUTATIONAL ENGINEERING SCIENCE**
Focuses on the creation of predictive mathematical models and simulations through the use of mathematics, physics and mechanics. Widely used in discovery process, visualisation and computation of complex scientific and engineering.

**ENERGY SCIENCE AND TECHNOLOGY**
Addressing renewable and non-renewable energy sources is of crucial concern today. Understanding the production, conversion, storage and management of various forms of energy is important to achieve efficiency and maintain urban sustainability.

**ENGINEERING SCIENCE IN MEDICINE**
Be future engineers and scientists in the healthcare industry, in various areas such medical instrumentation like small diagnostic sensor systems, to large-scale focused ion beam rings in cancer therapy.
Career Prospects

Our graduates are valued for their creativity, critical thinking, good teamwork ethics, and great communication skills. Ample employment opportunities are available in traditional engineering, business markets, and emerging technologies, such as nanotechnology, photonics and renewable/sustainable energy technologies.

Career prospects for our graduates in the 4 specialisations are wide and varied, for example:

- **Nanoscience and Technology**: Applied Materials, Merck, Micron, SIMTech
- **Computational Engineering Science**: DSO, Micron Semiconductor Asia Pte Ltd, Strategic Infocomm & Technologies
- **Energy Science and Technology**: Schlumberger, Schneider Electric, SIA Engineering
- **Engineering Science in Medicine**: Clinical Imaging Research Centre, Clinical Nutrition Research Centre, National Neuroscience Research Institute, POLARIS (Personalised OMIC Lattice for Advanced Research and Improving Stratification)

Engineering Science Programme provides special arrangements with Electrical & Computer Engineering, Mechanical Engineering, Physics and Biomedical Engineering to provide post-graduate opportunities, linking up to specialisations in Engineering Science Programme.

“**Engineering Science Programme graduates from NUS Engineering are creative and innovative, and have shown themselves to be willing to take up challenging tasks and solve problems.**”

*Wilvan Wee*
REC Business System Director,
REC Solar Pte. Ltd.
Choosing NUS Engineering Science Programme was a wise decision. The rigour of the curriculum, the exposure to different streams of information, and the multiple opportunities that NUS Engineering Science Programme offered allowed me to grow holistically and challenged me to go beyond my comfort zone. Having a close-knit class throughout the four years was definitely a great plus point, as it gave me comfort and reassurance when the going got tough. I owe my success today to my knowledgeable professors, caring staff and a bunch of wonderful classmates.

Gwee Chia Hong, Class of 2016  
Assistant Director, Energy Division, Ministry of Trade and Industry

Although it may appear unrelated, all the modules in NUS Engineering Science Programme integrate together to give the big picture. That’s what the industry would be like. Definitely helpful to those who wish to be scientists and engineers. NUS Engineering Science Programme has honed my critical thinking skills and I’m more disciplined in the way I work.

Foo Wei Jian, Class of 2012  
Engineer, DSO National Laboratories

I’m glad to have chosen to read the Engineering Science Programme at NUS. I truly enjoyed the experience. As the cohort was small, we were a tight-knit group.

The multidisciplinary nature of the course also gave me the option to choose an extremely interesting final year project that has real-world applications.

Choo Min, Class of 2010  
Physician Researcher, KK Women’s and Children Hospital

NUS Engineering Science Programme broadens your horizon and exposes you to a wide field of sciences and technology, allowing you to seek out where your passion and aptitude lie in. At the same time, the many design projects allow you to pick up important practical aspects of engineering that all engineers should possess and refine. All in all, NUS Engineering Science Programme provides you with the strong foundations and flexibility that are both paramount in this ever-changing world of science and technology.

Ling Evan, Class of 2016  
MSc in Computing (Machine Learning), Imperial College London