COMPUTER ENGINEERING

Nurturing Holistic Engineers, Impacting Lives
What is Computer Engineering?

Technology is an integral part of our lives, and NUS Computer Engineering prepares our graduates to embark on a lifelong journey in designing computing systems for a smarter world.

Computer engineers introduce greater intelligence in increasingly smaller but more powerful devices; from the ubiquitous smartphone to the myriad networked electronic systems in a modern car, to industrial control systems that power economies.

Computer engineering is a multidisciplinary programme, transcending the traditional boundaries of computer science and electrical engineering. Computer engineers have a balanced education in electrical engineering, software design and hardware/software integration. Students get to be involved in many aspects of computing, from component-level circuit design to large-scale integration involving intelligent systems; energy management, monitoring and supervision; and information processing systems and communications.
NUS Computer Engineering has six areas of concentrations:

**Communications & Networks**
Learn about wireless and wired networks, e.g. optical networks, and networked devices and protocols, such as the Internet of Things.

**Embedded Computing**
Focus on embedded systems that are tiny computers in every day objects such as smart watches, autonomous vehicles and drones.

**Large-scale Computing**
Concentrate on cloud computing and high performance computing such as big data analytics and databases.

**Intelligent Systems**
Covers machine learning, robotics and artificial intelligence, including video, image, text and language understanding.

**Interactive Digital Media**
Learn about multimedia, graphics and animation, computer games and human-computer interaction.

**System-on-a-Chip Design**
Design of low-power integrated circuits with multiple functions, which forms the main chip in advanced devices such as smartphones.
Career Prospects

The NUS Computer Engineering programme gives our graduates the flexibility of building a career in the IT industry or in other allied sectors. Past graduate employment surveys have consistently shown that computer engineers have some of the highest employment rates and best starting pays among all graduates. Here are some of the exciting companies that our graduates work in:

- Accenture
- Barclays Capital
- DSO National Laboratories
- Facebook
- Google
- Lucasfilm
- Microsoft

“Hexagon Manufacturing Intelligence, a leading company in CAE, CAD/CAM, metrology solutions as well as quality management software, values graduates from NUS Electrical and Computer Engineering for their training in software, and electrical and electronics hardware.”

Lim Boon Choon,
APAC President
Hexagon Manufacturing Intelligence

“The march of technology and how it impacts human society is very strongly entwined in how software and hardware work together seamlessly. And for that, a strong and rigorous understanding of both realms is fundamental. The NUS Computer Engineering programme is unique with its rigour in combining computer science and electrical engineering, which prepares graduates to contribute towards realising and innovating in a device and computational rich and connected world.”

Harish Pillay,
Global Head, Community Architecture & Leadership
Red Hat APAC Pte Ltd

“As we embrace the 4th Industrial Revolution, the role of the computer engineer continues to grow as they are part of the change-makers fuelling this paradigm change. At HOPE Technik, we had the privilege of having NUS computer engineers as part of our teams that work on robotics and system-of-systems. They are strongly rooted in good fundamentals, have the tenacity to keep pushing till they see success and are really awesome teammates to work with!”

Peter Ho,
Chief Executive Officer
HOPE Technik Pte Ltd
Words from our Graduates

Being in a multidisciplinary programme constantly challenges the boundaries of software and hardware. The holistic experience at NUS Computer Engineering helped to increase my avenues for job opportunities as I could target different roles in many different industries. The rigour that the course had put me through instilled creativity and problem-solving skills that are very relevant in today’s industry where one is not only expected to be an expert in their own field, but also to be able to provide insights from different perspectives.

Audrey Tiah, Class of 2017
Marketing Executive, NEC Asia Pacific Pte. Ltd

Undergraduate studies are about exploring and strengthening your basics and should not be overly restrictive in breadth. The multidisciplinary nature of NUS Computer Engineering programme got me really excited about this course. The CG-coded modules are newly designed, keeping in mind present-day applications of computer engineering, while covering essential basics. These fundamentals served me well as a Systems Engineer at Twitter and continue to do so as I build large infrastructures for Viki.

Angad Singh, Class of 2013
Software Engineer, Viki, Inc.

The NUS Computer Engineering programme has given me in-depth knowledge and hands-on experience in both hardware platforms and software technologies. With this solid foundation, I am confident when approaching real-world problems and effecting a change in people’s lives through engineering solutions.

Phan Shi Wen, Class of 2013
Research Engineer, Saw Swee Hock School of Public Health