Electrical, Electronics & Computer
diploma in electrical engineering (N43)

Broad-based training that integrates electrical, computer and electronic engineering

Specialisation options in Power Engineering, Solar Technology, Engineering Management and Electronics

Local and overseas internships with leading companies like ST Aerospace, ST Electronics and Power Grid Ltd

One of the most flexible diplomas that is in high demand – opening doors to wide career choices in industries such as electrical, aerospace, media, high-tech manufacturing and integrated resorts

Eligibility for an Electrical Technician Licence, which is issued by the Energy Market Authority

A business management minor that equips you with management and entrepreneurship skills, and widens your career path NEW!
ABOUT THE DIPLOMA

Are you awed by how Changi Airport operates like clockwork 365 days – with lights, changing information displays and massive security systems all powered up? Then the power-packed Diploma in Electrical Engineering (EE) will be the course for you.

This highly flexible diploma will also plug you into a wide range of professions. You will learn to manage modern power systems, as well as sophisticated electronic and computer systems. With electrical engineering forming the backbone technology of diverse industries like electricity, electronic, aerospace, biomedical, communications, arts and entertainment, tourism and financial services, you have diverse career choices!

In your final year, you can choose to work on a full-time design project or join a local or an overseas internship programme that will hone your skills, and cultivate an innovative and entrepreneurial spirit.

To give you an added edge, you can opt for our new Business Management Minor. Delivered by Ngee Ann’s School of Business & Accountancy – the most established polytechnic business school – the business modules will equip you with knowledge and skills in entrepreneurship, management and marketing. A strong engineering foundation in electrical engineering and competency in business knowledge will stand you in good stead in your career and degree pursuits. Armed with skills that are well sought-after, you can be sure of a wide range of career options and exciting opportunities ahead!
WHAT YOU WILL LEARN
Under our broad-based curriculum which aims to train you to be a competent and well-rounded professional, you will take modules in the following different areas:

Engineering
Be exposed to the breadth of engineering fields such as electrical, mechanical, computer programming and mathematics.

Electrical Engineering
Be equipped with the knowledge and skills to analyse, measure and troubleshoot electrical circuits, machines and drives.

Electronics
Learn the fundamental principles and workings of digital and analogue electronic circuits and acquire the skills to construct, analyse, measure and troubleshoot electronic circuits.

Control Systems and Networking
Acquire the knowledge and skills to develop instrumentation, control and automation systems, be it a PC-based or a Programmable Logic Controller (PLC)-based system. You will also enjoy practice-oriented training in many aspects of Local Area Network.

Power Engineering Option
Gain an understanding of Singapore’s electricity distribution system, operating principles of switching devices, distribution transformers, circuit breakers and industrial control systems. You will also learn to design residential and commercial electrical systems.

Solar Technology Option
Learn how the solar cell is manufactured and acquire knowledge of the operation principles and performance of various types of solar panels. You will also be able to design and install a grid-tied PV system as well as a stand-alone PV system.

Engineering Management Option
Acquire the expertise needed to design residential and commercial electrical systems and understand the various aspects of electrical contracting procedures and manage projects. You will also be introduced to the structure, operation and regulations of the Singapore’s electricity market.

Electronics Option
Learn how to design basic electronic system and power conversion circuits using power semiconductor devices. You will build practice-oriented experience in developing applications using the microcontroller.

Minor in Business Management  NEW!
Gain business knowledge and skills by pursuing this Minor. The modules covered include Starting & Managing an Enterprise, Marketing Fundamentals and Effective People Management.

Project or Internship
Go on an internship that allows you to practise your skills and knowledge in the real world, or undertake a project that enables you to apply the know-how you have gained.

Interdisciplinary Studies
Going beyond your core discipline, these modules aim to empower you with multidisciplinary skills, and nurture an innovative and entrepreneurial spirit to meet the challenges of the new economy. Take modules that fall under categories such as Communication, Innovation & Enterprise, Culture & Community, Arts and Humanities, Business, and Design.

For more information about the course modules, log on to www.np.edu.sg/soe
WHAT YOU CAN BECOME
Upon graduation, you may apply for the Electrical Technician Licence, which is issued by the Energy Market Authority. This will be an asset when you start work in electrical contracting business, set up your own contracting business, or join a variety of industries such as electricity consultancy, aerospace, media, high-tech manufacturing, and world-class resorts. EE graduates enjoy one of the highest employment rates and starting salaries. Many have also risen to managerial positions or have become entrepreneurs.

FURTHER STUDIES
EE graduates can enrol in top local and overseas universities. Your diploma will allow direct entry into the second year of related engineering courses at National University of Singapore and Nanyang Technological University. It is also recognised by Singapore Management University and will also enable you to apply for other degree programmes like business, accountancy, and arts and sciences.

You may also be granted credit exemptions or direct entry into the second or third year of study for related degrees by leading universities in Australia, Canada and the United Kingdom. These universities include the University of Manchester, Imperial College, University of Sheffield, University of New South Wales and Queensland University of Technology.

Besides engineering degrees, you are also eligible to apply for non-engineering degree courses. With our Business Management Minor, you will certainly have a head-start in applying for business-related degree courses.

ENTRY REQUIREMENTS
To be eligible for consideration, candidates must have the following GCE ‘O’ Level examination (or equivalent) results and fulfil the aggregate computation requirements.

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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology or Food & Nutrition (Grade 1-9) or a relevant OSIE / Applied Subject and two other subjects.

* Candidates with English as a second language must have attained a minimum grade of 6.

Candidates with severe vision deficiency should not apply for the course. Those with colour appreciation deficiency may be considered, subject to an in-house test.

CONTACT US
For more information, contact Ms Chin Siet Choo at 6460 6774 (tel), 6467 6504 (fax) or csc2@np.edu.sg (email).
One of the most established electronics diploma courses in Singapore with strong links with the industry as well as local and overseas universities

Specialisation options in Aerospace Electronics, Computer & Communication Systems and Microelectronics

Aerospace specialisation that is aligned with the Singapore Airworthiness Requirements (SAR) as set out by the Civil Aviation Authority of Singapore (CAAS)

Six-month local and overseas internship with established universities, research institutes and leading companies like Creative Technology and Chartered Semiconductor

A business management minor that equips you with management and entrepreneurial skills, and widens your career path.
ABOUT THE DIPLOMA

From mobile phones to mp4 players, laptops to aircrafts, electronic products play an integral part in our daily lives, be it at work or play. If you want to shape the lives of people, then the Diploma in Electronic & Computer Engineering (ECE) is the course for you.

You will gain a strong foundation and knowledge in electronic circuit design, telecommunications, computer architecture and computer programming, among others. You can also specialise in one of these three areas – Aerospace Electronics, Computer & Communications Systems and Microelectronics.

To give you an added edge, you can opt for our new Business Management Minor. Delivered by Ngee Ann’s School of Business & Accountancy – the most established polytechnic business school – the business modules will equip you with knowledge and skills in entrepreneurship, management and marketing. A strong engineering foundation in electronic and computer engineering, and competency in business knowledge will stand you in good stead in your career and degree pursuits. Armed with skills that are well sought-after, you can be sure of a wide range of career options and exciting opportunities ahead!
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Engineering
Be exposed to the breadth of engineering fields such as electrical, mechanical, computer programming and mathematics.

Electronics
Be equipped with the necessary practical skills for electronic circuit construction, troubleshooting, measurement and analysis. Gain an in-depth understanding of the design and application of electronics in daily life.

Aerospace Electronics Option
This option may exempt you from some of the SAR avionics papers to become a Licensed Aircraft Maintenance Engineer with further training in the aerospace industry.

Computer & Communications Option
Learn about the advanced technologies in computer system architecture and communication systems.

Microelectronics Option
Acquire comprehensive skills in solar cell, LCD and wafer fabrication, integrated circuit (IC) design and layout as well as the as packaging and testing of integrated circuits.

Minor in Business Management
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WHAT YOU CAN BECOME
Electronics’ position as the world’s largest industry translates to diverse and exciting career opportunities for ECE graduates. You can work as Assistant Engineers, Product Specialists, Software Developers, Sales and Marketing Specialists and Technical Officers in the private and public sectors. You can also provide engineering support in the aerospace industries or work in the manufacturing sector, which is one of the largest employment sectors in Singapore.

FURTHER STUDIES
You may gain advanced standing at local and overseas universities when you apply for related degree courses. For example, National University of Singapore (NUS) and Nanyang Technological University (NTU) grant credit exemptions of up to almost a year to ECE graduates who pursue courses such as computer science, computer engineering and electrical & electronics engineering. Here are some examples of the advanced standing offered:

- NTU & NUS
  - Electrical & Electronic Engineering: up to 1 year exemption
- NTU
  - Mathematical Sciences, Physics & Applied Sciences, Mathematics and Economics: credit exemption
  - Materials Engineering: up to 1 year exemption for ECE (Microelectronics Option)
- University of New South Wales, Australia
  - Electrical Engineering: up to 1.5 year exemption

Many ECE graduates have successfully enrolled into local and overseas universities. Some have even received scholarships and attained their Masters and Doctorates.

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CONTACT US
For more information, contact Mr Ho Jen Chan at 6460 6166 (tel), 6460 1730 (fax) or hjc@np.edu.sg (email).