Environment & Energy

CLEAN ENERGY MANAGEMENT (CEM)
ENVIRONMENTAL WATER TECHNOLOGY (EWT)
SUSTAINABLE URBAN DESIGN ENGINEERING (SDE)
Holistic approach to clean energy and energy management with focus on solar technology

Practice-oriented training and on-site experiential learning at the new Solar Technology Centre and other energy sites

Valuable local and overseas six-month internship with leading clean energy technology and energy management companies

Discover emerging clean energy technologies to meet the world’s growing energy demands

Be at the forefront in creating a more environmentally sustainable world
ABOUT THE DIPLOMA

Climate change and increasing energy costs have prompted governments and organisations to push for drastic changes in energy policies. Clean energy presents opportunities for green and cost-effective solutions to these problems. You can be a professional that addresses energy and environmental concerns with the Diploma in Clean Energy Management (CEM)!

You will be trained in the two key areas of clean energy and energy management. Learn to make the best use of the energy available to meet the needs of the transport, building and household sectors.

With your training in the application of clean technologies and energy management techniques, you can help organisations and global cities reduce dependency on fossil fuels and improve energy efficiency!

*Student on internship with Germany’s Bochum University to build a solar-powered car for the World Solar Challenge.*
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.

**Clean Energy Technologies**
Learn about the current and future state of clean energy technologies that are undergoing tremendous change due to heightened awareness of the need for cleaner alternatives to fossil fuels.

**Energy Management**
Discover how governments, businesses and industries tackle energy management issues such as energy efficiency and conservation as well as the promotion of economic, political and environmental sustainability.

**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
With more companies venturing into the energy business, your job prospects are bright. Over the next few years, the Economic Development Board projects a need for some 3500 skilled personnel in the clean-tech and energy-related companies. CEM graduates can work as energy specialists, system integrators and energy auditors, or in areas such as engineering and maintenance support, research and development, and sales and marketing. You can also be an entrepreneur who taps on the growing potential of the clean energy industry.

FURTHER STUDIES
With CEM’s firm foundation in electrical and electronic engineering, you can gain direct admission into engineering courses offered by Nanyang Technological University and National University of Singapore. You can also apply for degree courses in other fields at local universities.

You can also pursue a solar or clean energy-related degree in the following overseas universities:

- University of New South Wales, Australia
  - B.Eng in Photovoltaic & Solar Energy
  - B.Eng in Renewable Energy Engineering
- University of Adelaide, Australia
  - B.Eng in Sustainable Energy Engineering
- University of Dundee, UK
  - B.Sc in Renewable Energy
- University of Exeter, UK
  - B.Sc in Renewable Energy
- Oregon Institute of Technology, USA
  - B.Sc in Renewable Energy
- University of Otago, New Zealand
  - B.App.Sc in Energy Management

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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<th>Subject Structure</th>
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‘O’ Level Grade

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 Mr Yang Kian Giap at 6460 6109 (tel), 6467 6504 (fax) or ykg@np.edu.sg (email).
More than 20 years of experience in environmental engineering education

Supported by the National Environment Agency (NEA) and the Public Utilities Board (PUB)

Scholarships from leading companies such as PUB and Sembcorp Industries are available

Gain practice-oriented experience with industry-based projects at the Centre of Innovation in Environmental & Water Technology – the first centre of its kind

Additional certification as Noise Monitoring Officers
ABOUT THE DIPLOMA

More than one in six people around the world do not have access to safe drinking water. Each year, water-related diseases contribute to four million child deaths. Cyclones, tsunamis and earthquakes wreak havoc with our water sources, create human tragedies and affect food production. As climate change becomes more severe, the situation is expected to worsen. If you are passionate about the environment and water resources, the Diploma in Environmental & Water Technology (EWT) will allow you to help address these problems.

Jointly developed with the PUB, EWT trains you to become specialists in addressing global concerns such as water and marine pollution, air pollution, global warming, ozone depletion, and improper handling of hazardous waste.

Benefit from a good grounding in the five key areas of water technology, waste management and resource conservation, renewable energy, pollution monitoring and control, environmental management, and health and safety.

If you demonstrate good academic performance and active participation in extracurricular activities, you can apply for a bond-free PUB scholarship or a Sembcorp scholarship that assures you of a job upon graduation!
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:

Water Technology
Learn about conventional technologies as well as modern approaches in water treatment such as membrane applications, desalination of seawater, water reclamation from domestic wastewater, treatment & reuse of industrial wastewater, greywater recycling and the latest approaches in the protection of water catchments.

Waste Management & Resource Conservation
Explore the various methods of managing wastes and ways of converting wastes into new resources.

Renewable Energy
Gain knowledge of the various sources of clean energy, with a focus on energy generation from waste materials.

Pollution Monitoring & Control
Study the different aspects of air, water, marine and noise pollution monitoring and understand the necessary control measures.

Environmental Management, Health & Safety
Learn all about the various concepts and principles of environmental management. You will be able to come up with green and sustainable solutions to environmental problems.

Gain insights into the different aspects that are critical to the provision of a safe working environment, including relevant legislation and standards that govern occupational safety.

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
In 2006, the Singapore government set aside part of a $2 billion research fund to drive the growth of the environmental and water technology industry. This translates to a doubling of employment opportunities to 11,000 positions by 2015.

Equipped with broad-based and practice-oriented knowledge and skills, you will be well-prepared for careers with government agencies, statutory boards, multi-national corporations and other private organisations. EWT graduates can become environmental technologists, research assistants, engineering assistants, water and wastewater treatment specialists, workplace health and safety auditors, as well as marketing executives for environment-related equipment and products.

FURTHER STUDIES
You will potentially enjoy one year’s exemption when you apply for environmental engineering degrees at National University of Singapore and Nanyang Technological University. Various overseas universities in Australia, United Kingdom and United States also offer advanced standing in related degree courses.

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Candidates with hearing deficiency or 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. Mariam Mathew at 6460 8690 (tel), 6466 7326 (fax) or mma@np.edu.sg (email).
A course with an eye on the future: creating cities of tomorrow

First diploma among polytechnics to focus on sustainable urban design and development of the built environment

HDB scholarships, each worth up to $19,800, are available

Exciting overseas internship opportunities such as Tianjin Eco-City Project

Endorsed by Building Construction Authority, The Institution of Engineers Singapore and URA
ABOUT THE DIPLOMA

Look around you and marvel at how towns and cities are transformed into picturesque settings that juxtapose both old and new buildings, and seamlessly integrate work, living and leisure. Such an intriguing buzz of urbanisation against the quaint backdrop of places untouched by modernisation, complete with lush roof top gardens and man-made rivers, is becoming a growing trend in urban planning and sustainable development.

Well, if you want to have a hand in creating such wonders and in protecting the environment, then the Diploma in Sustainable Urban Design & Engineering (SDE) is the course for you. Armed with knowledge in urban planning, conservation and refurbishment, you will be able to contribute to township planning. You are also equipped to handle the design and construction of buildings and infrastructure that are environmentally sustainable.

You may even have the chance to go on overseas internships with foreign property developers which lets you practise your skills in the real world and better understand the industry. For example, you may have the opportunity to intern with the developer of China’s Tianjin Eco-City Project.

You can also apply for a Housing Development Board’s (HDB) Diploma Scholarship, which covers the cost of school fees, a monthly allowance and a laptop allowance. On top of this, you are assured of a job with HDB upon graduation.

With SDE, you are on the path to creating cities of the future!
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:

Planning
Understand the concepts that govern modern city planning through modules such as Introduction to City Planning, Interior Design and Space Planning, Sustainable Urban Planning and Urban Conservation and Refurbishment.

Design
Learn the different approaches to design as well as recent developments in green building technologies through modules like Habitat Design, Green Building Basics and Sustainable Building Design.

Environment
Study how water plays an important role in a sustainable environment, the various aspects of water treatment and management through modules such as Clean Water Technology, ABC Waters Management, and Water Reclamation Technology.

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.

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WHAT YOU CAN BECOME
With the global trend towards sustainable construction, the industry is set for a new class of technologists capable of harnessing the advantages of modern technologies to achieve sustainable design and development. You can gain employment in several fields in the construction industry, such as civil and structural design, environmental research and management, township planning, and building conservation and refurbishment.

FURTHER STUDIES
You can pursue a Bachelor’s degree relating to civil engineering, construction management, project management or facilities management with potential advanced standing, either locally (Nanyang Technological University or National University of Singapore) or overseas. Some examples of overseas universities include RMIT University (Australia), Bond University (Australia), Newcastle University (UK), Heriot-Watt University (UK) and University of Strathclyde (UK).

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CONTACT US
For more information, contact Mr Teo Ee Huat at 6460 8314 (tel), 6466 7326 (fax) or teh2@np.edu.sg (email).