- Biomedical Science (N59)
- Biomedical Laboratory Technology (N59)
- Molecular Biotechnology (N49)
- Chemical & Biomolecular Engineering (N56)
- Horticulture & Landscape Management (N57)
- Pharmacy Science (N73)
The only polytechnic with graduates accepted directly into National University of Singapore’s School of Medicine

Highest paid polytechnic graduates (2006 Graduate Employment Survey)

Exclusive collaborations with industry partners such as the National University Hospital and the National Parks Board

Excellent attachment programmes with research institutions in Singapore and overseas

State-of-the-art facilities for teaching and research
Join the School that many talk about. After all, we are the first and only polytechnic to nurture graduates who have been accepted directly into the Yong Loo Lin School of Medicine at the National University of Singapore.

In the fast-evolving field of life sciences and chemical technology that is driven by constant breakthroughs, discoveries and inventions, our excellent curriculum and enriching local and overseas attachment programmes make it easier for you to be recognised by reputable universities to further your studies.

The School of Life Sciences and Chemical Technology (LSCT) is equipped with state-of-the-art facilities. These include the Centre for Biomolecular Sciences, the Centre for Aquatic Science & Technology, the Surface Chemistry and Rheology Centre and a high-tech greenhouse.

The School is renowned for its collaborative partnerships with institutions, and local and overseas attachments in key areas such as molecular biosciences, environmental technologies, pharmaceutical sciences, chemicals and petrochemicals, biomedical research, park management and landscape design.

You can look forward to exciting opportunities in research & development and industrial attachment programmes with organisations such as NUS, NTU, Genome Institute of Singapore, Temasek Life Sciences Laboratories, Institute of Molecular and Cell Biology, Institute of Chemical Engineering Services, Pfizer and National Neuroscience Institute.

With all that we offer, get ready for a fulfilling and rewarding career! In the 2006 graduate employment survey, graduates with diplomas from life science and chemical technology topped the salary scale among polytechnic graduates.

Further Studies

You could gain up to a year’s advanced standing with local universities, and up to two years’ advanced standing in top Australian and British universities. Excellent opportunities for further studies and advanced standing are also provided by American, Canadian and European universities.

Penny Tan (Biomedical Science, Class of 2005) gained direct admission to a medical school without first obtaining a degree. She is currently studying medicine at the University of Leicester, UK.

Dr Lindi Tan (Biotechnology, Class of 2000) is the first polytechnic graduate to win a full scholarship to do a PhD in infectious diseases at Johns Hopkins University. Lindi received a First Class Honours degree in Biochemistry from London’s Imperial College of Science and Technology in 2004. She recently completed her Ph.D. and is now working as a venture capitalist in the USA.

Patricia Lee Phui Suan (Horticulture & Landscape Management, Class of 2006) is the first HLM graduate to be admitted into the Architecture Faculty at the National University of Singapore (NUS).

Ron Ng (Biomedical Laboratory Technology, 2007) and Soong Junwei (Biotechnology, 2007) are the first polytechnic graduates in Singapore to be admitted directly into the Yong Loo Lin School of Medicine, NUS.

Vanessa Ding Mei Yee (Chemical Engineering, Class of 2000) was awarded an A*STAR Scholarship to undertake her Ph.D in the area of Stem Cell Biology at NUS. Vanessa graduated with a first class honours degree in Chemical Engineering from the University of Queensland in 2004.

For more information, log on to www.np.edu.sg/lsct
Diploma in Biomedical Science

- Singapore’s most established and well-recognised biomedical science programme
- Intensive, hands-on final year research project in collaboration with external institutions
- Four-month industrial attachments with top local or foreign research institutions and companies
- Excellent facilities and highly qualified teaching staff
About the Diploma

Acquired Immune Deficiency Syndrome, Severe Acute Respiratory Syndrome and Bovine Spongiform Encephalopathy – AIDS, SARS and Mad Cow Disease – are diseases that have ravaged many in present times and modern medicine has yet to find a cure for them.

The Diploma in Biomedical Science (BMS) will equip you with the skills to be at the forefront of research to discover breakthroughs in understanding human genetics and cures for diseases.

Most Established Biomedical Science Programme

BMS is the most established and recognised biomedical science program in Singapore. It focuses on research and development in human biomedical science, developmental biology & genetics, human diseases, cell and molecular biology, genomics and proteomics.

Enjoy a hands-on and enhanced learning experience with our small class sizes and state-of-the-art facilities. You will be guided by our highly qualified teaching staff. With many years of research and industrial experience in their chosen fields, LSCT staff continue to keep abreast with their research and have received R&D project funds totaling over S$5 million.

Attachments with Top Research & Medical Institutions

The intensive hands-on final-year research project conducted in collaboration with external institutions develops your ability to integrate theoretical knowledge with practical skills.

Select your preferred choice of local or overseas research institutions for your four-month Industrial Attachment Programme. Go on local attachments with top institutes such as the Institute of Molecular and Cell Biology, National Cancer Centre, National Neuroscience Institute, Genome Institute of Singapore, hospital research laboratories and biomedical companies.
Diploma graduands from both the biotechnology as well as the biomedical sciences courses have demonstrated that they can adapt well to the actual working environment ... They carve out successful careers in the biomedical / life sciences disciplines or in healthcare-related industries and a high proportion of them go on to attain further tertiary education that enables them to reach their potentials. Their basic training at the Polytechnic gives them a solid foundation and helps prepare them for the research or service career options available to them upon graduation.

– Associate Professor Evelyn Koay
Director, Molecular Diagnosis Centre, Dept of Laboratory Medicine, National University Hospital

What will you learn in the course?

**Year 1**
- Inorganic & Physical Chemistry
- Microbiology
- Mathematics
- Physiology
- Cell Biology
- Organic Chemistry

**Year 2**
- Medical Microbiology
- Immunology
- Cell Culture & Tissue Applications
- Developmental Biology & Genetics
- Medical Biochemistry

**Year 3**
- Life Sciences Seminar Series
- Genomics
- Proteomics
- Project
- Industrial Attachment Programme (IAP)
- World Issues: A Singapore Perspective
- Any 1 IS general module
- Interdisciplinary Studies (IS) modules

**Any 2 IS general modules**
- Instrumentation and Analytical Chemistry
- Molecular Biology
- Bioinformatics
- Innovation & Enterprise in Action
- Any 2 IS general modules

**Any 2 Elective Modules**
- Pharmaceutical Science & Clinical Trials
- Molecular Biology of Diseases
- Medical Laboratory Science
What can you achieve in your career?

The booming biomedical industry is a key pillar of Singapore's economy. It will drive the demand for trained professionals. In the recent graduate employment survey, graduates with life science and chemical technology diplomas topped the salary pool amongst polytechnic graduates.

With your fundamentals in biomedical science, you can start your career as a laboratory technologist, research assistant, R&D officer, laboratory analyst or product specialist. You can also progress on to senior positions in the research, biomedical science, healthcare, pharmaceutical and clinical labs, bioinformatics, sales and marketing sectors.

Further Studies

Our BMS course is internationally recognised. Enjoy up to two years of exemption for three- or four-year degree courses, from local and overseas universities.

Further your studies at prestigious overseas universities such as Imperial College, University of Melbourne, University of Queensland, Edinburgh University, University of Manchester, McGill University and Cornell University. For example, with a GPA of 3.5, you potentially enjoy two years of exemption when you apply for the Bachelor of Science programme at the University of Queensland.

BMS graduates have won many awards and prestigious scholarships. Many have earned first class honours degrees from renowned universities and further pursued Masters of Science and PhD programmes. Several have gone on to medical schools.

Entry Requirements

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examinations (or equivalent) results:

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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology and two other subjects.

** Candidates with English as a second language (EL2) must have attained a minimum grade of 6.

The first year of Biomedical Science and Biomedical Laboratory Technology is common to all students. At the end of the first year, students interested in the Diploma in Biomedical Laboratory Technology will attend an interview conducted by the Department of Laboratory Medicine, National University Hospital. Students not selected for the Diploma in Biomedical Laboratory Technology will remain in the Biomedical Science course.
Diploma in Biomedical Laboratory Technology

- Exclusive joint programme with the National University Hospital (NUH) – offered to first-year students of the Diploma in Biomedical Science course

- Only course of its kind with two years’ intensive on-the-job training at NUH, Tan Tock Seng Hospital and the National Healthcare Group (NHG) polyclinics

- Excellent qualification that is well recognised by local and overseas tertiary institutions – fresh graduates have been accepted for medical studies in the National University of Singapore (NUS) and Leicester University, UK
About the Diploma

You have discovered in yourself a passion for the practical applications of human biomedical sciences. You wonder: What comes next? Where do you go to develop your passion into a skill highly demanded by the healthcare industry?

The answer: A diploma in Biomedical Laboratory Technology (BLT) at Ngee Ann Polytechnic!

Exclusive two-year Internship with NUH

BLT lets you learn through a unique two-year internship programme – so you can be career-ready upon graduation.

The diploma is jointly offered by Ngee Ann Polytechnic and National University Hospital (NUH). A limited number of places will be offered each year to first-year Diploma of Biomedical Science (BMS) students. You then undergo intensive on-the-job training at NUH, Tan Tock Seng Hospital and the National Healthcare Group (NHG) polyclinics. This translates into valuable experience, giving you a head start in your career or further studies.

BLT exposes you to the various divisions within the NUH Department of Laboratory Medicine, including Clinical Chemistry, Clinical Microbiology, Clinical Haematology; and the Molecular Diagnosis Centre. The NUH Department of Laboratory Medicine is the first diagnostic laboratory in Singapore to be fully automated. Under the guidance of senior clinical laboratory staff and doctors, you will experience first-hand, the life of the professional you will eventually become.
**What will you learn in the course?**

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**Year 2**
- Advanced Topics in Biomedical Science
- Laboratory Techniques & Instrumentation

**Year 3**
- Genomics & Proteomics
- Clinical Chemistry 2
- Clinical Haematology 2
- Clinical Microbiology 2
- Molecular Diagnostics
- Laboratory Endocrinology

**Interdisciplinary Studies (IS) modules**
- Integrative Module
- Bioinformatics
- Laboratory Management
- Project
- Singapore’s Perspectives of World Issues

“*We are very fortunate to have your graduates working for us as they are all-rounders and are able to adapt to our environment very quickly.*”

- Mr Yap Kwee Chuah  
  Laboratory Manager, Quest Laboratories Pte Ltd
What can you achieve in your career?

Secure your future with a job in the growing healthcare industry. Singapore aims to be Asia's healthcare service hub, with one million foreign patients annually by 2012. This translates to 13,000 new jobs and a bright future ahead for you.

As a medical technologist, you will be highly sought after. Due to the intensive and on-location training, you will find excellent careers with medical laboratories, research institutions and diagnostic companies.

Further Studies

Local and overseas universities recognise the BLT course, and you can expect up to two years of exemption. They include the National University of Singapore, Nanyang Technological University, Singapore Management University, Leicester University, Imperial College of Science & Technology, Queensland University of Technology, McGill University and Queen’s University Belfast.

Enjoy three years’ exemption from the four-year Bachelor of Applied Science (Laboratory Medicine) at the Royal Melbourne Institute of Technology. With a B+ average, complete a Bachelor of Science degree at the University of Melbourne in one and a half years instead of three. Gain two years’ exemption from the three-year Bachelor of Science degree at the University of Queensland.

Our diploma also offers an alternative path to a medical degree. Three of our graduates have directly entered medical faculties in NUS, and Leicester University, UK. In 2006, Ms Penny Tan gained direct admission to a medical school without first obtaining a degree. In 2007, Soong Jun Wei and Ron Ng became the first polytechnic graduates to be accepted directly into NUS to pursue medical degrees. Throughout the years, a number of BLT graduates have also entered medical degree programmes after obtaining their first degree.

Entry Requirements

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examinations (or equivalent) results:

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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology and two other subjects.

** Candidates with English as a second language (EL2) must have attained a minimum grade of 6.
Diploma in Molecular Biotechnology

- A strong foundation in biology with an emphasis on molecular biosciences
- Career options in a very wide range of areas including research, biopharmaceuticals, engineering, chemistry, medicine, marine biology and plant science
- Two specialisation options – bio-entrepreneurship (issues related to product development and marketing) and biopharmaceuticals (drug discovery and development)
- Four-month attachments with R&D laboratories in local universities, research institutes and life science companies
Are you fascinated by the idea of creating useful products through living cells? Imagine creating genetically-altered bacteria to solve medical problems!

If you have a passion for science, the Diploma in Molecular Biotechnology (MBIO) is the course for you.

**Strong Emphasis On Molecular Bioscience**

MBIO provides a foundation in modern biological science. This foundation is built on core topics in areas like chemistry, biochemistry, microbiology, cell culture, genomics, proteomics and bioinformatics. In line with advancements in life sciences, our course has a strong emphasis on molecular biosciences.

Develop your area of interest, when you choose from a selection of electives, and two specialisation options in your second and third year of study. With the Bio-Entrepreneurship Option, you will address issues related to product development and marketing, as well as intellectual property management – areas gaining importance in a knowledge-driven economy. Alternatively, gain insights into the ground-breaking science of drug discovery and development, from the Biopharmaceutical Option.

**The Most Established Life Science Programme**

As the most established life science program in Singapore, MBIO gives you valuable experience from a large pool of existing industrial collaborations. Final-year students work on research projects, while undertaking their Industrial Attachment Programme (IAP) at the research and development laboratories of local universities, research institutes and life science companies. Through the school’s unique IAP-linked project scheme, students will be able to continue their research throughout their final year.

Our MBIO diploma is highly regarded. Dr. Teo Hsiang Ling received the Philip Yeo Award (2007) in recognition of her research contributions. She completed her PhD in Structural Biology at Cambridge University and was a recipient of an A*STAR scholarship.
“In the course of my career, I’ve met and worked with many former Biotechnology graduates. They’ve proven themselves to be bright, enthusiastic, capable people...and perhaps more importantly, able to cope with demanding schedules and ever-changing responsibilities.”

- Patrick W.P. Ng
  Ph.D., Research Scientist, Genome Institute of Singapore

What will you learn in the course?

**Year 1**
- Mathematics
- Microbiology
- Inorganic & Physical Chemistry
- Physiology
- Organic Chemistry
- Cell Biology
- Information Technology for the Life Sciences
- Biostatistics
- Creativity & Applied Thinking Skills
- Sports & Wellness
- Individual & the Community
- Communication Toolkit

**Year 2**
- Applied Microbiology
- Immunology
- Cell Culture & Bioprocess Engineering
- Biochemistry
- Instrumentation & Analytical Chemistry
- Molecular Biology
- Bioinformatics
- **Any 1 Elective Module**
  - Agrotechnology & Plant Tissue Culture
  - Aquaculture
- Innovation & Enterprise in Action
- Any 2 IS general modules

**Year 3**
- Life Sciences Seminar Series
- Genomics
- Proteomics
- Industrial Attachment Programme
- Project
- World Issues: A Singapore Perspective
- Any 1 IS general module
- Interdisciplinary Studies (IS) modules

**Entrepreneurship Option**
- Biotech Innovations & Business Ventures
- Bioscience Sales & Marketing

**Biopharmaceutical Option**
- Drug Discovery & Development
- Biomanufacturing Practices
What can you achieve in your career?

MBIO graduates continue to play important roles in the local and overseas life science industry. They have established careers in a great variety of positions ranging from those in R&D, quality control, sales and marketing, education, marine biology, health care, clinical trials, as well as pharmaceutical and biologics manufacturing.

Our graduates are employed by:

- R&D laboratories at the Genome Institute of Singapore, Institute of Molecular and Cell Biology and the National Cancer Center
- Life science and analytical support companies like Research Biolabs, Biorad and GE Healthcare
- Food and pharmaceutical companies like Kikoman, Yakult, Merlion Pharmaceuticals, Schering Plough and GlaxoSmithKline
- Government bodies like the Agroveterinary Authority, the National Environment Agency, the Health Sciences Authority, and the Defence, Science & Technology Agency
- Hospitals like the Singapore General Hospital and National University Hospital
- Companies involved in the sales and marketing of scientific products and pharmaceuticals

Dr. Lindi Tan who graduated in 2000 with a Diploma in Biotechnology recently completed her Ph.D. with Johns Hopkins University and is now working as a venture capitalist in the USA.

Further Studies

Receive prestigious scholarships to further your studies. MBIO (formerly known as Diploma in Biotechnology) graduates have been awarded scholarships from A*STAR, Economic Development Board, Defence Science & Technology Agency, University of New South Wales, Cambridge University, University of Melbourne and Leicester University. In 2007, Denise Tan received a Public Service Commission Scholarship.

Each year, 30-40% of our graduates enter into local universities. At the National University of Singapore, Nanyang Technological University and the Singapore Management University, our graduates can take a wide range of programmes from biological science, medicine, chemistry, chemical engineering and bioengineering to architecture, dentistry and business. In 2007, Soong Junwei was one of two LSCT graduates to be accepted directly into MBBS degree programme offered by the Yong Loo Lin School of Medicine at the National University of Singapore.

Many head on to overseas universities such as the University of Melbourne, University of Queensland, Australian National University, University of Manchester, Leeds University, Imperial College, Edinburgh University, Cornell University, University of California, Davis, University of Michigan, McGill University and the University of Toronto. As an internationally recognised qualification, they receive up to two years’ exemption from degree programmes.

Entry Requirements

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examinations (or equivalent) results:

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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology and two other subjects.

** Candidates with English as a second language (EL2) must have attained a minimum grade of 6.
Diploma in
Chemical & Biomolecular Engineering

- First such course in Singapore that combines biological and chemical sciences with engineering concepts
- Versatile curriculum with environmental and life sciences components to give graduates an extra edge
- Pharmaceutical specialisation to capitalise on the vast biomedical industry
- Internationally recognised and first diploma to be fully accredited by the Institute of Chemical Engineers, UK

“Ngee Ann Polytechnic students from Chemical Engineering, who were attached to Shell Eastern Petroleum Bukom Laboratory, have shown a great attitude for learning, accountability and dedication in testing. They integrated well into our Laboratory family and participated in our recreational activities and dinners. Recently, Bukom Laboratory was so impressed by one student that we recruited her immediately after her graduation.”

- Dr. Simon Chooi
  Pulau Bukom Laboratory Manager, Shell Eastern Petroleum (Pte) Ltd
About the Diploma

Chemical & Biomolecular engineers change raw materials into valuable products. They design, construct and manage process operations, while ensuring that these processes are safe, profitable and sustainable. Chemical & Biomolecular engineers are problem-solvers who play key roles in the development of hugely successful oil & gas, petrochemicals, chemicals, environmental, pharmaceutical, biomedical and bioprocessing industries.

Powerful Combination of Sciences and Engineering

The Diploma in Chemical & Biomolecular Engineering (CBE) is the first such course in Singapore that combines biological and chemical sciences with engineering concepts. It includes environmental and life sciences disciplines, making it one of the most versatile engineering course available. You can choose to take on a pharmaceutical specialisation in your final year to capitalise on the rapidly growing biomedical science industry.

Practical Exposure

Our entire curriculum has a strong focus on hands-on practice. In addition to the six-month local or overseas industrial attachment, you will undertake an essential six-week module in practical training at the Chemical Process Technology Centre in Jurong Island. Opportunities to go on overseas industrial attachments and our many overseas programmes enhances your educational experience. Our Diploma is internationally recognised and is the first to be fully accredited by the Institute of Chemical Engineers, UK.

With all these benefits, you are likely to secure employment even before you graduate!
What will you learn in the course?

Year 1
- Engineering Drawing & Computer Applications
- Engineering Mathematics 1 & 2
- Introduction to Chemical & Biochemical Engineering
- Biomolecular Science
- Organic & Biological Chemistry
- Inorganic & Physical Chemistry
- Thermodynamics
- Individual & the Community
- Sports & Wellness
- Creativity & Applied Thinking Skills
- Communication Toolkit

Year 2
- Chemical Engineering Laboratory 1 & 2
- Engineering Mathematics 3
- Occupational Health & Safety
- Reaction Engineering
- Transfer Processes - Fluid Flow
- Electrotechnology
- Analysis of Chemical Engineering Processes
- Bioprocess Technology
- Environmental Technology
- Transfer Processes - Heat & Mass
- Engineering Materials
- Innovation & Enterprise in Action
- Any 2 IS general modules

Year 3
- Chemical Engineering Laboratory 3
- Process Engineering Design
- Process Instrumentation & Control
- Unit Operations
- Petrochemical Technology
- Industrial Chemical Processes
- Chemical Process Training Program
- Industrial Attachment & Project
- World Issues: A Singapore Perspective
- Any 1 IS general module
- Pharmaceutical Option
- Chemical Engineering Laboratory 3 (Pharmaceuticals)
- Process Engineering Design
- Process Instrumentation & Control
- Unit Operations
- Pharmaceutical Technology & Processes
- Current Good Manufacturing Processes
- Chemical Process Training Program
- Industrial Attachment & Project
- World Issues: A Singapore Perspective
- Any 1 IS general module

Interdisciplinary Studies (IS) modules
What can you achieve in your career?

In 2006, the chemicals cluster was the largest contributor to Singapore’s total manufacturing output. With strong growth in the chemical and biomedical sector, your skill and knowledge will be in high demand.

CBE provides you with the foundation and flexibility to enter into various industries – from chemical, petrochemical, biochemical, biotechnology, biomedical and pharmaceutical to food & beverage, electronics and environment-related industries.

You can be a technologist, technical officer, project supervisor or assistant engineer in process, design, control, operations or maintenance units; work as a laboratory technologist, pollution control or plant safety officer; or venture into technical marketing as a sales engineer. Enjoy an attractive pay package – a recent graduate employment survey revealed that NP’s CBE graduates have one of the highest average salaries.

Further Studies

Our CBE course is highly recognised by local and overseas universities such as the National University of Singapore, Nanyang Technological University, Singapore Management University, University of Manchester, Imperial College of Science and Technology, University of Birmingham, University of Melbourne and University of Queensland. All of them offer up to two years of exemption for three- or four-year degree courses.

For example, with a B+ grade average, you potentially enjoy two years’ advance standing when you apply for the Chemical Engineering course at the University of Queensland, Australia.

Entry Requirements

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examinations (or equivalent) results:

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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology and two other subjects.

** Candidates with English as a second language (EL2) must have attained a minimum grade of 6.
Diploma in Horticulture & Landscape Management

- The only diploma programme of its kind in Singapore offered at the tertiary level
- A unique hybrid of plant science, horticulture, landscape design & management
- Jointly conducted by Ngee Ann Polytechnic and the National Parks Board - focus on horticultural science with hands-on practical training, field visits and outdoor lessons at parks like the Singapore Botanic Gardens
- Acquire your skills at the first and only ‘learning park’ of its kind - an outdoor classroom at Clementi Woods Park
- Graduate with an additional Workforce Skills Qualification (WSQ) Certificate in Landscape Operations from the Workforce Development Agency
About the Diploma

In Greek mythology, King Midas was given the ability to turn everything around him to gold. In our Diploma in Horticulture & Landscape Management (HLM), you will have the ability to turn all (well, at least most of) the greenery around you into works of art! If you have a love for nature, an eye for design and an entrepreneurial spirit, you could well be a ‘natural’ in our HLM course. Grab the opportunity to be part of an exciting team of professionals who keep our Garden City flourishing.

The Only Course Of Its Kind

A unique hybrid of plant science, horticulture, landscape design and management, our course is the only formal educational programme of its kind in Singapore, offered at the tertiary level. Jointly conducted by Ngee Ann Polytechnic and the National Parks Board, HLM provides hands-on practical learning, complemented by a team of industry experts and professionals.

While other horticulture courses focus mainly on the technical or management aspects of horticulture, our Diploma in HLM will give you added flexibility to adapt, perform and solve tasks relating to both horticulture and landscape projects. You will learn to create gardens, landscapes, urban greenscapes and green spaces!

To top it all, you can receive an additional Workforce Skills Qualification certificate in landscape operations that will enhance your technical competence, and give you a boost in the industry.

Outdoor Classrooms

Park and nursery grounds such as those at the Singapore Botanic Gardens are where you will acquire the necessary skills in managing horticultural and landscape projects. Clementi Woods Park is our latest ‘Learning Park’ – it will serve as an outdoor classroom offering you a real park setting.
Year 1
- Chemistry
- Plant Anatomy & Morphology
- Taxonomy & Plant Identification
- IT Applications
- Digital Graphics Applications
- Landscaping Workskills 1 & 2
- Environmental Science
- Plant Nutrition & Hydroponics
- Landscape Studio 1 - Design Fundamentals
- Graphics & Communication 1
- Soil Science
- Floristry & Interiorscapes
- Creativity & Applied Thinking Skills
- Sports & Wellness
- Individual & the Community
- Communication Toolkit

Year 2
- Plant Biochemistry & Physiology
- Plant Pathology & Entomology
- Planting & Maintenance
- Computer Aided Drafting
- Landscape Construction Principles
- Softscape Design Principles
- Landscaping Workskills 3 & 4
- Genetics & Plant Breeding
- Propagation & Nursery Management
- Arboriculture
- Landscape Studio 2 - Design Process
- Graphics & Communication 2
- Innovation & Enterprise in Action
- Any 2 IS general modules

Year 3
- Landscape Studio 3 - Independent Projects
- Leisure & Park Management
- Project Management
- Turf Management
- Horticultural Engineering
- Plant Identification 2
- Landscaping Workskills 5
- World Issues: A Singapore Perspective
- Any 1 IS general module
- Any 1 Elective Module
  - Project
  - Plant Tissue Culture
  - Industrial Attachment Programme (IAP)

Interdisciplinary Studies (IS) modules
What can you achieve in your career?

What better place to carve out a career in horticulture than in Singapore, the Garden City? With the development of three massive gardens at Marina Bay, in addition to the two Integrated Resorts, you will find that career opportunities abound. Enjoy good prospects with the large number of golf and country clubs, hotels, and property developments here.

Pursue a career starting as a technologist or as a nursery supervisor in the horticultural industry. Consider being a landscape project executive or landscape designer, and work your way up to successfully manage a company of your own.

If you have a strong sense of aesthetics, set up your own landscape design firm or join one as a garden architect. Or be an architect – Ms Patricia Lee became our first HLM graduate (2006) to be admitted to the National University of Singapore’s architecture course.

Further Studies

HLM graduates enjoy up to two years of exemption in relevant degree courses in horticulture, plant science, agriculture, botany, environmental science, landscape architecture, architecture, turf management and business management offered by local and overseas prestigious universities such as the National University of Singapore, Nanyang Technological University, University of Melbourne, University of New South Wales, University of Queensland, and University of Georgia.

Entry Requirements

To be eligible for consideration, candidates must have the following GCE ‘O’ Level examinations (or equivalent) results:

<table>
<thead>
<tr>
<th>Subject</th>
<th>‘O’ Level Grade</th>
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<tr>
<td>English</td>
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The aggregate computation for selection is based on grades obtained for English, Mathematics, Science or Design & Technology and two other subjects.

** Candidates with English as a second language (EL2) must have attained a minimum grade of 6.
Diploma in Pharmacy Science

- Broad-based training in pharmaceutical sciences, from drug manufacturing, medicinal chemistry and pharmaceutics to drug discovery and clinical trials
- More versatile graduates for hospital and retail pharmacies and the pharmaceutical industry
- Covers clinical areas (anatomy and physiology, pathology, pharmacology and pharmacotherapeutics), so graduates can enter medical-related courses in the universities
- Exclusive internship programme with National University Hospital (NUH) – students will work alongside practising healthcare professionals like doctors and pharmacists
- Exposure to actual clinical trials at NUH’s Clinical Trials Unit
- Exciting electives on growing sectors in the healthcare industry – choose between Nutraceuticals & Functional foods; and Complementary Medicine & Traditional Chinese Medicine (TCM)
About the Diploma

An antibiotic seems to be a miracle drug when it comes to curing various illnesses. But have you ever wondered how it is created? What ingredients go into a tiny capsule? How does it work? How do you administer drugs - in pill, capsule or liquid form? Do you know that drugs can be prepared from natural and semi-synthetic sources?

If you have a natural curiosity about medicine and are filled with questions of this nature, our Diploma in Pharmacy Science (PHARM) is the course for you!

Unique and Versatile

Unlike other pharmacy-related courses, which have a greater focus on drug manufacturing, our PHARM diploma provides a broad-based training - so you are more versatile. This will open doors to jobs in hospital or retail pharmacies, as well as the pharmaceutical industry.

The course covers a wide area of pharmaceutical sciences, ranging from drug manufacturing, medicinal chemistry, pharmaceutics, drug discovery and clinical trials. Learn about anatomy and physiology, pathology, pharmacology and pharmacotherapeutics; and enter medical-related courses in the universities if you decide to further your studies.

In your final year, you can choose between two elective modules, Complementary Medicine & Traditional Chinese Medicine (TCM) or Nutraceuticals & Functional Foods. This equips you with knowledge to enter these growing sectors in the healthcare industry.

Work Alongside Practising Professionals

Benefit from our exclusive partnership with the NUH’s Department of Pharmacy - and our emphasis on clinical training. Work alongside practising healthcare professionals during your attachment. Under the supervision of pharmacists and doctors, you will have a chance to work on your own research project at NUH. You will obtain your certification in aseptic dispensing and compounding of medicines in sterile conditions. You will be rotated among sections like retail pharmacy, in-patient satellite pharmacy, and pharmacy store. Your practical experience will include interaction with actual patients during ward visits.

Your one-year attachment at NUH gives you an edge over graduates from similar courses, who either have shorter attachments or none at all. The exposure you get from actual clinical trials at NUH’s Clinical Trials Unit is also unique to this course.
"The one-year training attachment at NUH is valuable, as it gives students insight, experience in and exposure to clinical pharmacy and pharmacy practice in actual care delivery setting guided by pharmacists."

- Mr. Wu Tuck Seng
  Manager, Pharmacy Department. NUH.
What can you achieve in your career?

PHARM was launched to meet the shortage of qualified pharmacy technologists in the healthcare industry. With your hands-on training at NUH, you will be in high demand upon graduation.

In recent years, many of the world’s clinical research organisations and pharmaceutical companies such as Eli Lilly and Glaxo SmithKline, have set up clinical trial centers in Singapore. Six out of 10 of the world’s top pharmaceutical companies have manufacturing facilities in Singapore. As Singapore moves towards becoming a hub for drug development and clinical trials, you will quickly find employment in these areas.

You may hold positions in quality control / quality assurance or work as a process technologist with your broad-based training in microbiology, pharmaceutical analysis, good manufacturing practice and pharmaceutics.

You can also work in the sales and marketing of pharmaceuticals. You can be an entrepreneur in healthcare products and services, or a regulatory executive dealing with pharmaceutical and other legislation (e.g. TCM and cosmetic products).

Further Studies

PHARM graduates will receive up to two years’ exemption for three- and four-year degree courses internationally, in countries like Australia (particularly with the University of Queensland and University of Melbourne), New Zealand, UK, France, Germany, USA and Canada.

Entry Requirements

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Join Us

If you took the 2007 GCE ‘O’ Level examinations as a school candidate, you may apply on-line through the Joint Admissions Exercise (JAE). Details will be available in the JAE information booklet which you will receive when collecting your results.

Applicants who are not eligible to apply under the JAE and holders of other qualifications may refer to our website at http://www.np.edu.sg/aa/info.html for application details.

Fees
S$2,100 per academic year (for local students)