

SP

SCHOOL OF
**CHEMICAL &
LIFE SCIENCES**



DISCOVERY+U

- S37 Applied Chemistry with Materials Science **Relaunched!**
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- S44 Nutrition, Health and Wellness
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WITH SP, IT'S SO POSSIBLE

SCIENCES FOR BETTER LIVING

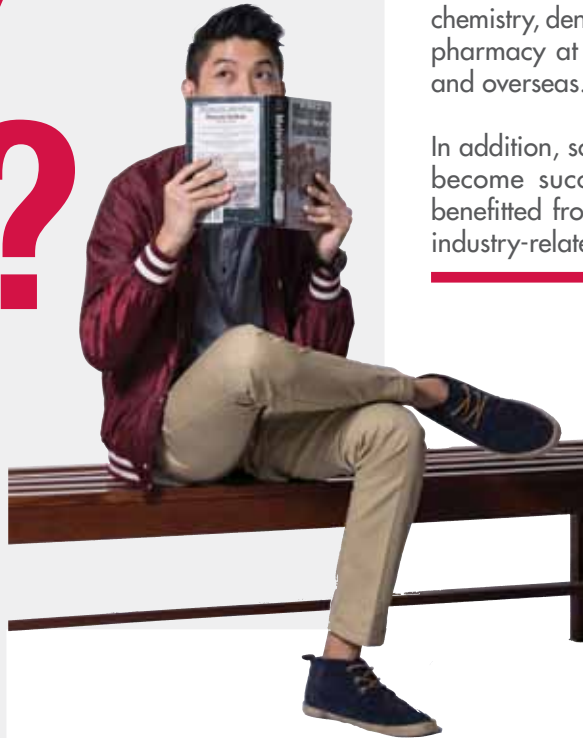


The chemical and life science industry has been experiencing exceptional growth year after year. The School of Chemical & Life Sciences (CLS) is committed to train you to be work-ready for this sector comprising materials, food, cosmetics, chemical, petrochemical, pharmaceutical, biotechnology, biomedical, optometry and healthcare industries.

We have very strong links with both local and overseas industries and educational institutions. SP is the only polytechnic that sends students for research internships in world-class universities such as Harvard, Yale, Imperial College and Massachusetts Institute of Technology.

In CLS, you will be embarking on an exciting journey to make new discoveries about science.

WHY CLS?



Our graduates have done extremely well. We have graduates who are now award-winning scientists and several others who are now doing their PhDs. Our recent graduates have also been admitted to study chemical engineering, chemistry, dentistry, life sciences, medicine and pharmacy at various universities, both local and overseas.

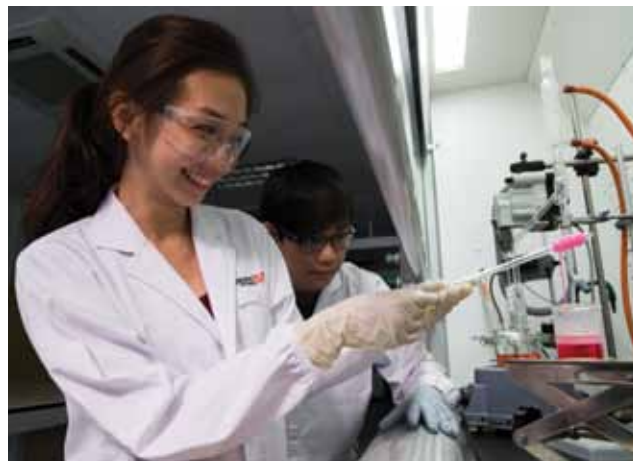
In addition, some graduates have gone on to become successful entrepreneurs, having benefitted from being exposed to numerous industry-related projects during their studies.



DIPLOMA IN

APPLIED CHEMISTRY WITH MATERIALS SCIENCE (DACM – S37)

RELAUNCHED!



The Diploma in Applied Chemistry with Materials Science (DACM) is the first diploma in Singapore to focus on building a strong foundation in chemistry with emphasis in materials science. You will learn to apply chemistry into materials to develop advanced and innovative products and technologies, like biomaterials, nanomaterials, green materials and polymeric materials to improve our living standards.

COURSE HIGHLIGHTS

- ✔ 1st diploma course in Singapore to combine applied chemistry with materials science
- ✔ Work with state-of-the-art equipment in well-designed laboratories: Materials Characterisation, Materials Chemistry, Materials Science, Polymer Processing
- ✔ Opportunity to work with researchers from the Advanced Materials Technology Centre
- ✔ Work attachment and research experience with local and overseas collaborators in China, Thailand, Ireland, England and Australia among many others
- ✔ Opportunity to join research immersion programmes with local universities



ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
<ul style="list-style-type: none">• Biology • Chemistry • Design & Technology • Physics• Science (Chemistry, Biology)• Science (Physics, Biology)• Science (Physics, Chemistry)	

COURSE MODULES

The Diploma in Applied Chemistry with Materials Science is a three-year full-time programme.

FIRST YEAR

- Analytical Chemistry
- Basic Biochemistry
- Basic Mathematics
- Engineering Mathematics I
- Environmental Studies
- Inorganic Chemistry
- Laboratory Skills in Analytical and Physical Chemistry
- Laboratory Skills in Inorganic and Organic Chemistry
- Materials and its Applications
- Organic Chemistry
- Physical Chemistry
- General Education 1
- General Education 2

SECOND YEAR

- Materials Science
- Basic Instrumental Analysis
- Communication for Professional Effectiveness
- Corrosion Science
- Engineering Materials
- Engineering Mathematics II
- Industrial Training Programme
- Laboratory Management
- Organic Chemistry - Reaction Mechanism
- Pharmaceutical Microbiology
- Polymeric Materials
- Quality Assurance & Statistics
- Social Innovation Project
- General Education 3

THIRD YEAR

- Materials Characterisation and Failure Analysis
- Materials Processing
- Mechanics of Materials
- Microdevices & Materials
- Nanomaterials & Biomaterials
- Physics
- Polymer Science
- Project

CAREER OPTIONS

- Marketing and Sales Executive
- Materials Characterisation / Failure Analysis Specialist
- Materials/Process Researcher and Developer
- Process Designer
- Production Supervisor
- Purchaser / Procurement Engineer
- Quality Control / Quality Assurance / Laboratory Analyst
- Research Assistant
- Teacher/ Educator



“ The Materials Science course gave me many opportunities to enhance my learning experience. The lab work, assignments and research programmes have definitely equipped me with the education I need for the future. I have made the right choice! ”

Eric Ooi Chong Yih, Class of 2013, Course Medallist 2013, NYAA 2013 Recipient, enrolled into Chemistry & Biology Chemistry programme in Nanyang Technological University.

FURTHER STUDIES

You can gain direct entry into the second or third year of degree programmes in local and overseas universities. You are also eligible to apply for a two-year part-time Advanced Diploma in Polymer Technology programme which qualifies you for direct entry to a one-year Masters programme at several overseas universities.

DIPLOMA IN

APPLIED CHEMISTRY WITH PHARMACEUTICAL SCIENCE (DACP – S64)



Chemistry has improved lives by revealing the secrets behind how medicine works and how to make our world greener. These are just some of the things that you will learn from the Diploma in Applied Chemistry with Pharmaceutical Science (DACP) course.



The DACP provides the learning environment for you to conduct research on, test and synthesise new chemicals and drugs. By the end of the course, you will be able to solve problems independently and experience what it is like to work at the frontiers of investigative chemistry.

Through a specially developed progressive learning strategy, you will be imparted with knowledge acquisition skills on fundamental Chemistry principles during your first year. In the second year, you are equipped with the skills to perform chemical investigations and interpretation of results using real-life situations. During your third year, you will be able to develop and optimise new products or methods to improve lives, igniting your creativity skills.

Upon graduation, you will be ready to contribute to the chemical and pharmaceutical industry or further your studies in tertiary institutions.

COURSE HIGHLIGHTS

- ✓ Only diploma course in Singapore that combines applied chemistry with pharmaceutical science
- ✓ Forensics is offered in the curriculum
- ✓ Specialise in either Medicinal Chemistry Research option or Industrial Chemistry option
- ✓ Work attachment or dedicated research experience with local and overseas institutions



ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
• Chemistry • Science (Chemistry, Biology)	
• Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Applied Chemistry with Pharmaceutical Science is a three-year full-time programme.

FIRST YEAR

Common

- Analytical Chemistry
- Basic Biochemistry
- Basic Mathematics
- Engineering Mathematics I
- Environmental Studies
- Inorganic Chemistry

- Laboratory Skills in Analytical and Physical Chemistry
- Laboratory Skills in Inorganic and Organic Chemistry
- Materials and its Applications
- Organic Chemistry
- Physical Chemistry

- Communicating for Personal and Team Effectiveness
- Communicating for Project Effectiveness
- General Education 1
- General Education 2

SECOND YEAR

Common

- Basic Instrumental Analysis
- Communicating for Professional Effectiveness
- Corrosion Science
- Engineering Mathematics II
- Laboratory Management
- Pharmaceutical Microbiology
- Social Innovation Project
- General Education 3

Medicinal Chemistry Research Option

- Basic Pharmacology and Pharmaceutical Chemistry
- Environmental Systems and Management
- Forensic Chemistry
- Industrial Training Programme
- Organic Chemistry – Reaction Mechanism
- Quality Assurance & Statistics

Industrial Chemistry Option

- Basic Pharmacology and Pharmaceutical Chemistry
- Environmental Systems and Management
- Forensic Chemistry
- Organic Chemistry – Reaction Mechanism
- Quality Assurance & Statistics

THIRD YEAR

Medicinal Chemistry Research Option

- Advanced Instrumental & Lab Technique
- Advanced Physical Chemistry
- Advanced Organic Chemistry
- Bioinorganic and Medicinal Chemistry
- Bioprocess Engineering Principles

- cGMP and Validation
- Drug Discovery, Design & Development
- Medicinal Chemistry Research Project
- Nanomaterials and Biomaterials
- Pharmaceutical Manufacturing

Industrial Chemistry Option

- Advanced Instrumental & Lab Techniques
- Advanced Physical Chemistry
- Advanced Organic Chemistry
- Bioprocess Engineering Principles
- cGMP and Validation
- Industrial Chemicals & Processes
- Industrial Training Programme
- Pharmaceutical Manufacturing
- Project

CAREER OPTIONS

- Analyst
- Assistant Engineer
- Chemist
- Chemical Technologist
- Environmental, Safety & Health Officer
- Production Chemist
- Quality Control/ Quality Assurance Personnel
- Regulatory & Compliance Officer
- Research Assistant



“ This diploma course provides students with a comprehensive coverage of fundamental chemistry as the main course and a basket of applied chemistry modules.

Students are equipped with a strong foundation in chemistry and a good appreciation of its application particularly in the pharmaceutical field, which better prepare them for university education. ”

Associate Prof Yao Shao Qin, Deputy Head, Department of Chemistry,
National University of Singapore.

FURTHER STUDIES

You can gain direct entry into the second or third year of degree programmes in local and overseas universities.

DIPLOMA IN

BIOMEDICAL SCIENCE (DBS – S98)



The Diploma in Biomedical Science is an SP APEX Programme specially designed to inspire and help you reach the peak of your ability. For details, visit www.sp.edu.sg and click on the APEX banner.



Biomedical Science is all about science that “saves lives” - from the science of human functionality to research activities for knowledge and development of diagnostic tools and finally to medical testing for diagnosis, management and prevention of diseases.

Learn from the only curriculum in Singapore recognised by both the American and British accreditation institutions, such as the American Society for Clinical Pathology and the Institute of Biomedical Science, UK.

COURSE HIGHLIGHTS



- ☑ Internships at top-notch clinical laboratories or premier research laboratories including A*STAR Institutes and top-ranked universities in US
- ☑ Training Partnership with National Heart Centre Singapore for cardiac technology option
- ☑ Opportunity to gain an additional Certificate in Phlebotomy or Biorisk Management
- ☑ Opportunities to work with research scientists and clinicians on current research projects
- ☑ Fantastic network of students and graduates

SCHOLARSHIPS AVAILABLE

- Singapore Polytechnic Scholarships
- A*STAR Science Award
- MOH Holdings Scholarships

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
• Biology • Chemistry • Science (Chemistry, Biology) • Science (Physics, Biology) • Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Biomedical Science is a three-year full-time programme.

FIRST YEAR

- Analytical & Physical Chemistry
- Anatomy & Physiology
- Basic Biochemistry
- Basic Immunology
- Basic Microbiology
- Cell Biology
- Inorganic & Organic Chemistry
- Mathematics A
- Mathematics B
- Communicating for Personal and Team Effectiveness
- Communicating for Project Effectiveness
- General Education 1
- General Education 2

SECOND YEAR

Medical Technology Option

- Basic Pathology
- Clinical Chemistry 1
- Clinical Instrumentation & Automation
- Flow Cytometry & Proteomics
- Genetics and Molecular Biology
- Haematology 1
- Industrial Training Programme
- Laboratory Management & Biosafety
- Medical Microbiology A
- Organic Chemistry - Reaction Mechanism
- Social Innovation Project

Cardiac Technology Option

- Applied Cardiac Anatomy & Physiology
- Biostatistics
- Clinical Attachment
- Clinical Chemistry 1
- ECG & Rhythm Disorders
- General Cardiology & Cardiac Disorders 1
- Genetics and Molecular Biology
- Introductory Pharmacology
- Laboratory Management & Biosafety
- Medical Microbiology A
- Social Innovation Project
- General Education 3

Biomedical Research Option

- Advanced Immunology
- Biochemistry
- Biostatistics
- Clinical Biochemistry
- Fundamentals in Instrumentation Analysis
- Genetics and Molecular Biology
- Haematology
- Integrated Pathology & Case Analysis
- Introductory Pharmacology
- Laboratory & Biorisk Management
- Medical Microbiology
- Organic Chemistry - Reaction Mechanism
- Social Innovation Project
- General Education 3

THIRD YEAR

Medical Technology Option

- Applied Immunology
- Biochemistry
- Biostatistics
- Blood Banking
- Clinical Chemistry 2
- Haematology 2
- Histological Techniques
- Medical Microbiology B
- Project
- Techniques in Clinical Molecular Diagnostics
- General Education 3

Elective Modules

- Bio-entrepreneurship
- Clinical Research Management
- Cytogenetics
- Forensic Biology
- Introductory Pharmacology

Cardiac Technology Option

- Basic Pathology
- Biochemistry
- Cardiac Drugs and Calculation
- Clinical Attachment
- Clinical Chemistry 2
- Clinical Research Management
- Diagnostic & Interventional Cardiac Catheterisation

- Echocardiography
- Electrophysiology & Pacemakers
- General Cardiology & Cardiac Disorders 2
- Immunohaematology

Biomedical Research Option

- Advanced Cell Biology
- Clinical Research Management
- Current Topics in Biomedical Research
- Project
- Research Internship 1
- Research Internship 2

CAREER OPTIONS

- Cardiac Technologist
- Medical Technologist
- Research Assistant
- Sales and Marketing Executive
- Technical Specialist



“My learning environment in SP Diploma in Biomedical Science course was and still is supportive and challenging in nature; a combination that best suits many learning abilities. Through lecturers who are well-versed in their field of expertise, students like me are continuously challenged to think out-of-the-box and discover new things in a fun, interactive and well-structured manner. I think it is this conducive and caring environment that has helped me to perform consistently well over the past three years to reach my dream of becoming a doctor.”

Meettra D/O Seyher, Class of 2013, Biomedical Science Course Gold Medallist, admitted to the Yong Loo Lin, School of Medicine, NUS

FURTHER STUDIES

A high percentage of our graduates is offered admission to local universities. You can also be granted direct entry into the second or third year of degree programmes in Australian and British universities. You also have the flexibility to pursue other disciplines such as Medicine, Dentistry and Pharmacy at the National University of Singapore or Biomedical Sciences and Chinese Medicine at the Nanyang Technological University.

DIPLOMA IN

BIOTECHNOLOGY (DBT – S72)

An inquiry-focus curriculum for bio-enthusiasts who love to learn through self-discovery, the diploma equips students with current and relevant skills for application in the field of translational and life sciences, research and the bio-pharmaceutical industries.

Biotechnology is the science for this century and SP is the pioneer in offering the Diploma in Biotechnology (DBT). With Singapore's positioning as a Bio-Hub, the rapidly expanding biosciences and biologics industries will open the door to many career possibilities.



COURSE HIGHLIGHTS

- ✓ Hands-on training in specialised laboratories on campus and through internships and research projects
- ✓ Work with prominent scientists and researchers in local and overseas top-ranked universities and research institutions during internships
- ✓ Opportunity to gain an additional Certificate in Biorisk Management
- ✓ A career in biologics, biopharmaceutical, commerce, food or teaching industries or as biosafety coordinators



SCHOLARSHIPS AVAILABLE

- Singapore Polytechnic Scholarships
- A*STAR Science Award
- MOH Holdings Scholarships

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
• Biology • Chemistry • Science (Chemistry, Biology)	
• Science (Physics, Biology)	
• Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Biotechnology is a three-year full-time programme.

FIRST YEAR

- Physiology and Biochemistry
- Microbiology
- Immunology
- Cell and Molecular Genetics
- Bio-explore
- Bio-conceptualise
- Analytical and Physical Chemistry
- Inorganic and Organic Chemistry
- Communicating for Personal and Team Effectiveness
- Communicating for Project Effectiveness
- General Education 1
- General Education 2
- Mathematics A
- Mathematics B

SECOND YEAR

- Laboratory Diagnostic Techniques
- Flow Cytometry and Proteomics
- Biostatistics
- Advanced Cell Biology
- Bioprocess and Biologics Technology
- Bio-discover
- Cell and Tissue Engineering
- Organic Chemistry - Reaction Mechanism
- Communicating for Professional Effectiveness
- Independent Study Project and Presentation
- Social Innovation Project
- Elective Modules**
 - Agrobiotechnology
 - Bio-entrepreneurship
 - Cytogenetics
 - Introductory Pharmacology

THIRD YEAR

- Biorisk and Laboratory Management
- Drug Discovery and Bioinformatics
- Biophysics
- Internship

CAREER OPTIONS

- Laboratory Technologist
- Research Assistant
- Sales and Marketing Executive
- Technical Specialist



“My three years of study at SP Biotechnology has equipped me well with knowledge and hands-on skills to develop and pursue my passion in scientific research in the life sciences. The established SP Biotechnology alumni network has also provided me with numerous opportunities to work alongside people in the exciting and dynamic frontiers of research.”

*Tan Tze Kai, Class of 2013, A*STAR Overseas National Science Scholarship*

FURTHER STUDIES

Many of our graduates continue their studies in the universities. You can gain direct entry into second or third year degree programmes in local and overseas universities. You also have the flexibility to pursue other courses such as biomedical and life sciences, biomedicine, pharmacy, medicine, dentistry, teaching, tissue engineering and biomedical science and Chinese Medicine at the National University of Singapore and Nanyang Technological University.

DIPLOMA IN

CHEMICAL ENGINEERING (DCHE – S70)



Chemical engineering is the discipline where sciences are combined with applied mathematics and engineering principles. It takes laboratory ideas and turns them into value-added products in cost-effective, safe and cutting-edge processes for the chemical industry.

Some famous chemical engineers in history include John McKeen, who designed the first industrial-scale production of penicillin that saved thousands of soldiers' lives during World War II; and Carl Bosch who invented the Haber-Bosch process to produce ammonia, a critical ingredient in synthetic fertilisers that enable us to produce enough food to feed the Earth's growing population.

Join us if you aspire to be like the above prominent chemical engineers who make real, significant impacts in improving our world for a better tomorrow!



ChemEng SingPoly



ChemEng_SP

COURSE HIGHLIGHTS

- ✓ First diploma programme in Singapore to be fully accredited by the Institution of Chemical Engineers, IChemE, United Kingdom. The full IChemE accreditation signifies worldwide recognition by universities and industries of the rigour and quality of our programme
- ✓ First chemical engineering diploma course in the world to adopt the Conceive-Design-Implement-Operate (CDIO) education framework which is in collaboration with top universities such as Massachusetts Institute of Technology, United States and Tsinghua University, China
- ✓ Industrial Training Programme at local and overseas chemical processing companies and institutions

SCHOLARSHIPS AVAILABLE

- Singapore Polytechnic Engineering Scholarships
- Singapore Chemical Industry Council Scholarships

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
<ul style="list-style-type: none">• Biology • Chemistry • Design & Technology • Physics• Science (Chemistry, Biology)• Science (Physics, Biology)• Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Chemical Engineering is a three-year full-time programme.

FIRST YEAR

- Analytical and Physical Chemistry
- Materials in Practice
- Introduction to Chemical Engineering
- Introduction to Chemical Product Design
- Communicating for Project Effectiveness
- Critical Reasoning and Argumentation
- Basic Math
- Inorganic and Organic Chemistry
- Fundamentals of Molecular and Cell Biology
- Chemical Engineering Principles and Simulation
- Introduction to Chemical Thermodynamics
- Critical Reasoning and Persuasion
- Engineering Math I

SECOND YEAR

- Heat Transfer and Equipment
- Fluid Mechanics
- Rotating Equipment
- Biopharmaceutical Engineering
- Social Innovation Project
- Engineering Math IIA
- Chemical Product Design and Development
- Green Engineering and Alternative Energy
- Separation Processes
- Process Instrumentation and Control
- Independent Study Project and Presentation
- Engineering Math IIB

THIRD YEAR

- Environmental Engineering
- Chemical Reaction Engineering
- Thermodynamics
- Plant Safety and Loss Prevention
- Plant Design Economics and Sustainable Development
- Communicating for Professional Effectiveness
- **Concentration Track:**
 - Organisation Management and Statistics
 - 4 Elective Modules
 - Capstone Project
- **Internship Track:**
 - Internship (15-week)
 - Internship Project
 - Organisation Management
 - 2 Elective Modules
- **Elective Modules:**
 - Basic Instrumental Analysis
 - Biopharmaceutical Manufacturing
 - Corrosion and Materials Selection
 - Current Good Manufacturing Practice (cGMP)
 - Higher Engineering Mathematics
 - Industrial Waste Management
- Membrane Science & Technology
- Numerical Computing for Chemical Engineers
- Organic Chemistry - Reaction Mechanism
- Petroleum & Petrochemicals
- Pharmaceutical Manufacturing
- Specialty Chemicals & Biodevices
- Workplace Safety and Health (WSH) for Chemical Engineers

CAREER OPTIONS

- Business Development Executive
- Engineering, Procurement and Construction (EPC) Engineer
- Health, Safety Environmental (HSE) officer
- Laboratory Technologist
- Logistics and Supply Chain Specialist
- Maintenance Specialist / Technician
- Process Engineer/ Technician/ Technologist
- Project Management Engineer
- Quality Assurance / Control Engineer
- Sales and Marketing Engineer



“DCHE@SP has equipped me with the fundamental knowledge that prepared me to be a technically competent engineer. I had numerous out-of-classroom opportunities varying from an internship attachment in Newcastle University (UK) to a community-based project in Cambodia, which in turn led to an international competition held in Massachusetts Institute of Technology (US). The past three years in SP was truly an exciting and fruitful journey for me.”

Ng Pey Ling, Class of 2013, recipient of Chemical Engineering Course Gold Medal, Singapore Chemical Industry Council Award, The Institution of Engineers (Singapore) Prize, and DPS Engineering Award; currently pursuing chemical engineering in University of Cambridge (United Kingdom)

FURTHER STUDIES

Each year, more than half of our graduates are successfully accepted into well-established local and overseas universities. Many of them are also offered module exemptions or direct entry into the second or third year of their university degree programmes.

Starting from July 2011, our graduates can also apply for either a 2.5-year degree programme in chemical engineering that is offered by Technical University of Munich (TUM), Germany and Singapore Institute of Technology (SIT) or a 2-year degree programme in chemical engineering that is offered by Newcastle University (NU), United Kingdom and SIT.

DIPLOMA IN

FOOD SCIENCE & TECHNOLOGY (DFST – S47)



Be a part of the team that designs food to excite the taste and imagination through food science and technology. Come join the ranks of food scientists and technologists to launch innovative new products to meet the needs of today's ever curious and adventurous consumers!

Through Design Thinking, innovative teaching and industry-linked projects, you will discover the world of food – from raw materials to ingredients, processes and packaging to finished consumer products! As a food scientist or technologist, you can play an important role in making our foods more appealing yet healthier and safer!

Come journey through DFST on a D.I.E.T. (Discover, Integrate & Express with Technology) by honing your skills through basic science modules and uncovering the mysteries of food in Year 1.

In Year 2, you will integrate your food science knowledge through opportunities in ideating food concepts, performing sensory evaluation and conducting shelf-life studies, to transform raw materials into consumer focused end-products.

In Year 3, you develop processes and design food packaging that reduce food wastage and achieve sustainability of future food products. You can do this by choosing your DFST path through internship or through actual experience by taking a B.I.T.E.* in commercial projects.

With so many choices, what's holding you back from choosing DFST?

*Business design Infused with Technology Experience

COURSE HIGHLIGHTS



- ✓ Well-equipped facilities such as the Food Creation Lab, Consumer Insight Suite, Food Analysis Lab, Food Processing Lab and Food Packaging Lab
- ✓ Work with the Food Innovation & Resource Centre (FIRC) at SP, a one-stop centre that provides integrated consultancy, advice and training for food companies
- ✓ Successful commercialisation of a portfolio of food products including the Lemon & Kalamansi drink, Two-Ply Noodles, XO Kaya, Yamie Rice, Rainbow Rice and the Love Letter Latte coffee blend

SCHOLARSHIPS AVAILABLE

- Pokka Scholarship
- SIFST Best Student Award cum Rintoul Memorial Scholarship
- SFMA – Pek Cheng Chuan Scholarship
- Tai Hua Scholarship

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
• Biology • Chemistry • Physics • Science (Chemistry, Biology) • Science (Physics, Biology) • Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Food Science & Technology is a three-year full-time programme.

FIRST YEAR

- Analytical Chemistry
- Basic Mathematics
- Cell Biology
- Communicating for Personal and Team Effectiveness
- Communicating for Project Effectiveness
- Engineering Mathematics I
- Food Chemistry
- Food Processing
- Inorganic Chemistry
- Introductory Food Science
- Laboratory Skills for Analytical and Physical Chemistry
- Laboratory Skills for Inorganic and Organic Chemistry
- Physical Chemistry
- Physics
- General Education 1
- General Education 2

SECOND YEAR

- Applied Statistics
- Engineering Mathematics II
- Food Ingredients
- Food Microbiology
- Food Preservation
- Food Process Engineering
- Food Product Design & Development
- Food Safety & Quality Management
- Instrumental Analysis
- Internship
- Introduction to Biochemistry
- Nutrition
- Organic Chemistry – Reaction Mechanism
- Study trip
- Social Innovation Project
- General Education 3

THIRD YEAR

- Communicating for Professional Effectiveness
- Food Biotechnology
- Packaging & Design
- Process Design
- Process Implementation
- Project
- Elective Modules**
- Food Marketing
- Introduction to Nutrition & Disease

CAREER OPTIONS

- Food Technologist
- Food Safety Officer
- Laboratory Technologist
- Packaging Technologist
- Production Superintendent
- Quality Assurance Executive
- R&D Technologist
- Teacher/Educator

“ While reading the Diploma in Food Science and Technology at Singapore Polytechnic, I acquired a strong foundation in both food science and food technology. The course covers a comprehensive range of modules with a multi-faceted approach to modern food technology which reinforced my interest in this realm of study. Being a practical course, it has imbued me with good hands-on skills through lab sessions in the well-equipped facilities including food analysis, product innovation, pilot plant and packaging labs. The final-year project allowed me to integrate the theories and skills learnt to culminate in the creation of an innovative, healthier food product. Another important facet of the course is the Industrial Training Programme (ITP) which gave me the opportunity to experience working in the food industry and inspired me to a career in food research. DFST at SP is a great choice for those who have passion in food science & technology and this diploma makes it possible for better careers and further study opportunities!

Li Mo, Class of 2008, recently graduated from Massey University's (Singapore) Bachelor in Food Technology with 1st class Honours and currently pursuing a doctorate degree at Massey University, New Zealand.

FURTHER STUDIES

You can apply for related degree programmes at local or overseas universities such as the Degree in Applied Science - Food Science and Technology at the National University Singapore; or the Degree in Biological Sciences with a Second Major in Food Science and Technology or the Degree in Chemical and Biomolecular Engineering with a Second Major in Food Science and Technology or the Degree in Chemistry and Biological Chemistry with a Second Major in Food Science & Technology at the Nanyang Technological University. They can also apply for admission to the Bachelor in Food & Human Nutrition (Honours) programme or the Bachelor of Professional Studies in Culinary Arts Management offered by the Singapore Institute of Technology.

DIPLOMA IN

NUTRITION, HEALTH & WELLNESS (DNHW – S44)



You are a people person. You care about health and want to make a positive impact on the lives of people you meet. If you believe that good health comes from the inside, the Diploma in Nutrition, Health & Wellness (DNHW) is tailored just for you.

This course is the only full-time diploma course in Singapore that combines nutrition, health and wellness. The science-based curriculum will let you explore the factors that contribute to disease prevention and control; as well as the promotion and maintenance of good health.



COURSE HIGHLIGHTS

- ☑ Advanced facilities such as the Nutrition, Health and Wellness Centre, which houses the physical fitness and exercise physiology laboratories; food science, health food preparation and demonstration laboratories
- ☑ Participate in health and wellness outreach programmes
- ☑ A 15-week local or overseas internship programme



ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6

- Biology • Chemistry • Food & Nutrition • Physics
- Science (Chemistry, Biology)
- Science (Physics, Biology)
- Science (Physics, Chemistry)

COURSE MODULES

The Diploma in Nutrition, Health & Wellness is a three-year full-time programme.

FIRST YEAR

- Analytical & Physical Chemistry
- Anatomy and Physiology
- Cell Biology, Microbiology and Immunology
- Communicating for Personal and Team Effectiveness
- Fitness and Wellness throughout the Lifespan
- Fundamentals of Food Science
- Inorganic & Organic Chemistry
- Introduction to Health & Wellness
- Introduction to Psychology
- Mathematics A
- Mathematics B
- Nutrition
- General Education 1
- General Education 2

SECOND YEAR

- Applied Nutrition
- Biostatistics
- Communicating for Project Effectiveness
- Diet and Nutrition Assessment
- Exercise Physiology
- Food Chemistry
- Health Education and Health Promotion
- Introduction to Biochemistry
- Nutrition and Disease
- Organic Chemistry – Reaction Mechanism
- Organisational Management & Marketing Communications
- Physics for the Biomedical Sciences
- Social Innovation Project
- General Education 3

THIRD YEAR

- Communicating for Professional Effectiveness
- Health and Ageing
- Internship
- Project

Nutrition and Dietetics Option

- Alternative and Complementary Health and Nutrition
- Clinical Nutrition
- Public Health and Community Nutrition

Health & Fitness Option

- Health Practices & Delivery
- Physical Fitness Assessment
- Sports and Exercise Nutrition

CAREER OPTIONS

- Assistant Nutritionist
- Healthy Lifestyle Promotion Coordinator
- Health Promoter
- Lifestyle Coach
- Marketing and Sales Executive
- Nutrition, Health and Wellness Technologist
- Public Health Coordinator
- Wellness Coordinator



“ I chose this course over JCs because it is the only course of this nature that is available in Singapore and more importantly, I have interest in both the nutrition and dietetics areas. This course has been the right choice for me as it contains many interesting modules. I am proud to be in the pioneer batch and I really enjoyed every aspect of the course! ”

Song Shang Qian, Class of 2012, MOH Health Sciences Scholar, SP Scholar, Chua Chor Teck Gold Medallist, Singapore Food Manufacturers' Association Gold Medallist, Shell Companies in Singapore Prize, SP Model Student

FURTHER STUDIES

You can pursue further education at local and overseas universities offering courses in nutrition and dietetics, health promotion, sports science, education as well as in other disciplines. Graduates can gain direct entry into the second year of degree programmes in Australian and British universities.

DIPLOMA IN

OPTOMETRY (DOPT – S67)



Take a moment to consider the importance of eyesight and the impact it can cause once it is lost. Indeed, caring for the health of others is a noble calling, especially when it comes to something as important as eye care.

The scope of Optometry includes the detection of common eye diseases and problems. It also covers the prescription of spectacles and contact lenses.

Our three-year Diploma in Optometry (DOPT) course aims to produce professionally competent optometrists who are in good demand. Due to high prevalence of myopia in children and a rapidly ageing population, quality optometrists are highly sought after.



COURSE HIGHLIGHTS

- ☑ First tertiary institution in Singapore since 1994 to offer this course
- ☑ Our students start working with patients in the first year and continue with greater responsibilities in the subsequent years
- ☑ Excellent clinical and laboratory facilities and SP Optometry Centre provide you with hands-on experience using state-of-the-art precision instruments and equipment
- ☑ Register as a qualified optometrist with the Optometrists and Opticians Board when you graduate
- ☑ Industrial attachment at hospitals, optometric practices, contact lens or ophthalmic lens companies to widen your scope and experience in optometry
- ☑ Opportunities for overseas exposure via community service projects or attachments to optometry schools and research institutions abroad

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
<ul style="list-style-type: none">• Biology • Chemistry • Science (Chemistry, Biology)• Science (Physics, Biology)• Science (Physics, Chemistry)	

COURSE MODULES

The Diploma in Optometry is a three-year full-time programme.

FIRST YEAR

- Analytical & Physical Chemistry
- Clinical Optometry 1
- Clinical Optometry 2
- Communicating for Project Effectiveness
- Geometrical and Physical Optics
- Human Physiology & Cell Biology
- Inorganic & Organic Chemistry
- Mathematics A
- Mathematics B
- Ocular Anatomy & Physiology
- Physiological & Visual Optics
- General Education 1
- General Education 2

SECOND YEAR

- Binocular Vision & Paediatric Optometry
- Clinical Optometry 3
- Clinical Optometry 4
- Contact Lenses 1
- Contact Lenses 2
- Industrial Training Programme
- Ocular Disease 1
- Ocular Disease 2
- Ocular Pharmacology
- Ophthalmic Dispensing
- Ophthalmic Optics
- Social Innovation Project
- General Education 3

THIRD YEAR

- Biostatistics
- Brain & Behaviour
- Business Management for Optometry Practice
- Clinical Practice 1
- Clinical Practice 2
- Contact Lens Practice 1
- Contact Lens Practice 2
- Environmental & Community Health Optometry Project

CAREER OPTIONS

- Lens Consultant
- Marketing & Customer Development Executive
- Optometrist
- Professional Affairs Executive
- Research & Development Optometrist



“ The Diploma in Optometry (DOPT) course in Singapore Polytechnic equipped me with up-to-date knowledge and skills in Optometry. The stimulating environment and enthusiastic lecturers made learning engaging and fun. Their passion for Optometry was infectious and ignited in me a desire to know more, which is why I am currently pursuing a PhD in Neuroscience at the University of Manchester, UK. ”

Teresa Tee, Class of 2008

FURTHER STUDIES

With this SP diploma, you may be granted credit exemptions for some degree programmes.

DIPLOMA IN

PERFUMERY AND COSMETIC SCIENCE (DPCS – S38)



Would you like to learn how to formulate products that will give you age-defying looks? Learn the secrets of fragrance creation? Create brands that celebrities will endorse? Then join the lucrative and recession resistant fragrance and cosmetics industries that even some dermatologists cannot resist. Begin your journey at SP with the Diploma in Perfumery and Cosmetic Science (DPCS).

The Diploma in Perfumery and Cosmetic Science is the only local diploma programme that provides training in chemistry with applications in perfumery and cosmetic science. You will have an integrated learning experience where you will build a strong chemistry foundation and apply your knowledge in specific applications using your senses. Your training with us will distinguish you from other local diplomas as SP is the only institute of higher learning that offers such training locally. The training you receive will be highly sought after not just locally but internationally.

COURSE HIGHLIGHTS

- ✓ Specialisations in Chemistry, Perfumery and Cosmetic Science
- ✓ State-of-the-art Perfumery and Cosmetic Science Centre
- ✓ Collaborations with our industry partners to commercialise the only local student formulations: the Romance Singapore series of perfumes as well as various types of room scents
- ✓ Real and exciting experiences in the making of perfumes and cosmetic products, synthesise fragrance raw materials through organic synthesis and even extract essential oils from plants
- ✓ Internship with perfumers, chemists, product formulators or dermatologists at chemical or cosmetic companies or fragrance and flavour houses

SCHOLARSHIPS AVAILABLE

- Singapore Society of Cosmetic Scientists Merit Award
- Nuance Watson Scholarship

ENTRY REQUIREMENTS

Aggregate Type: ELR2B2-C

Subject	Grade
a) English Language	1 - 7
b) Mathematics (Elementary/Additional)	1 - 6
c) One of the following 3rd relevant subjects:	1 - 6
<ul style="list-style-type: none">• Biology • Chemistry • Physics• Science (Chemistry, Biology)• Science (Physics, Biology)• Science (Physics, Chemistry)	

Applicants must not suffer from colour appreciation deficiency.

COURSE MODULES

The Diploma in Perfumery and Cosmetic Science is a three-year full-time programme.

FIRST YEAR

- Analytical Chemistry
- Basic Mathematics
- Cell Biology
- Colloid Chemistry
- Communicating for Personal & Team Effectiveness
- Communicating for Project Effectiveness
- Engineering Mathematics I
- Inorganic Chemistry
- Introduction to Fragrances and Flavours
- Laboratory Skills in Analytical & Physical Chemistry
- Laboratory Skills in Inorganic & Organic Chemistry
- Organic Chemistry
- Physical Chemistry
- Skin Care Raw Materials and Products
- General Education 1
- General Education 2

SECOND YEAR

- Advanced Physical Chemistry
- Basic Instrumental Analysis
- Communicating for Professional Effectiveness
- Engineering Mathematics 2
- Environmental Studies
- Formulation Science of Cosmetics
- Fragrance and Flavour Chemistry
- Hair Care Raw Materials and Products
- Organic Chemistry – Reaction Mechanism
- Principles of Marketing
- Quality Assurance & Statistics
- Social Innovation Project
- General Education 3

THIRD YEAR

FEEL Programme

- Advanced Instrumental and Laboratory Techniques
- Advanced Organic Chemistry
- Consumer Psychology
- Industrial Training Programme
- Laboratory Management

- Project
- Safety Assessment, GMP and Cosmetic Regulations
- The Art of Perfumery

SENSE Programme

- Industry Immersion Programme
- Laboratory Management
- Safety Assessment, GMP and Cosmetic Regulations
- The Art of Perfumery

CAREER OPTIONS

- Buyer and Fragrance Evaluator
- Chemist
- Formulator
- Product Development Specialist
- Product Application Chemist
- Quality Control/ Assurance Chemist
- Regulatory and Product Safety Personnel
- Sales/ Business/ Marketing Executive
- Trainee/ Assistant Perfumer



“ Being the pioneer batch of DPCS students was one of the best choices I’ve made thus far. The unique curriculum was thoroughly planned out and not only gave us theoretical lessons but also valuable insights to the fragrance & formulation industries. I wholly enjoyed both my internships in Oxford and Sillage Chemicals (perfumer) from which I learnt many things and was also introduced to many wonderful friends. These 3 years have been an amazing experience and I’m looking forward to the future opportunities this diploma has to offer. ”

Alethea Joy Han Hui En, Class of 2013, SP Institutional Medallist
2013 Currently reading Chemistry in University Edinburgh, UK

FURTHER STUDIES

You can pursue further studies at local or overseas universities in the areas of cosmetic science, perfumery and chemistry.

For more information regarding entry requirements and course information, please contact:

School of Chemical and Life Sciences

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The Polytechnic reserves the right to alter the information in this publication.
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