

CONNECT

**Be a
Scientist**

**Design
Healthier
Ice Cream**

**Highest
Paying Job**

**Meet the
Eco Warrior**

**! NOT
CAREERS
INSIDE**

**School of
Applied Science**
 **Temasek**
POLYTECHNIC



**DESIGN
HEALTHIER
ICE CREAM**

YES YOU CAN!

At KoolWerkz, our facility for making frozen dessert, you will learn real-life aspects of the food manufacturing business. Equipped with complete ice cream-making facilities, you will have access to a myriad of learning opportunities, including ice cream processing, food product development and quality control tests. A really cool place to learn!

This diploma gives you the chance to learn how to develop innovative, healthier and safer foods – through the use of the latest processing technology, functional food ingredients and techniques of preservation. Who knows, your hidden talent may well be in creating unusual flavours for ice cream!



Applied Food Science & Nutrition



It's an exciting time
to be working as a ...

Dietetic Technologist
Nutrition Educator
Health Promotion Executive
Sales & Marketing Executive
Food Technologist (specialising in food
product development)
QA / QC Executive
Food Safety Officer

THE RIGHT CHOICE...

Learn more about both food science
and nutrition.

Specialise in areas of nutrition, food
science or food service.

Design wholesome foods and diets
with Science.

Create new food products.

Get hands-on skills in food
preparation, microbiological
testing of foods,
menu planning, and more...



MEET THE INNOVATOR CHRISTINE LEE

Applied Food Science and
Nutrition graduate Christine
Lee Pin Rou took her talent all
the way to a PhD in NUS after
graduating from TP in 2004.
Christine is now an R&D
Manager in the food sector.

What new food product did you create?

I was part of a team that created tropical fruit wines
from local fruits such as papaya and the durian!
We concocted exotic flavours to meet increasing
consumer demand for newer styles of wine.

Tell us more about your PhD research.

My PhD research was on alcoholic fermentation and
I focused on tropical fruit wine fermentation.
Wine-making, or alcoholic beverage production,
is an ancient biotechnological process. It is usually
applied to the production of beverages from grape or
juice or from cereals and is a complex microbiological
process where yeasts play a key role.

What's so exciting about this area of research?

More people are looking for newer styles of wine, and
researchers have been directing their attention at
non-traditional options such as fruit wine. However,
there isn't much information on the fermentation of fruit
wines, despite great interest in fruit wine from
newer generations of consumers.

In what way is our TP diploma relevant to your university programme?

The TP training is both a practical and
theoretical programme. It equipped me with both the
fundamental knowledge and skills for the
university course on Food Science & Technology.

What are you most passionate about?

Food, of course! Believe it or not, I have to look for –
and eat! – good food, especially sweet stuff such as
cakes, chocolates, ice cream.... in order to be
up-to-date with what is happening in the food industry.
It's hard work, but somebody has to eat it!

Why should students study food science?

If you are a food lover like me, you will definitely enjoy
working in this industry. Whether you are creating exciting
new products, testing products for quality, or doing
research, you will be exposed to all kinds of amazing
food. You will discover dishes and flavour combinations
you never even knew existed – and may even like!

**RUNNA
CAFE**



START HERE!

Bistro Walk is a casual dining café in TP run by students from the diploma. From as early as Year 1, you can help out in Bistro Walk in many ways, such as baking, cooking, cashiering and stock-taking, in order to learn what goes into running a food & beverage business.

This course will combine your passion for baking and cooking with scientific know-how of the cooking and preparation processes. Take your culinary talents further in both the kitchen and the laboratory!

T44
BAKING AND
CULINARY
SCIENCE

Baking & Culinary Science

MEET THE FUTURE MASTER CHEF NIXON HENG

2nd year Baking & Culinary Science student Nixon Heng loves hawker food. Here's why.

TEOCHEW PORRIDGE

I used to watch my grandfather work in the kitchen of a Teochew porridge stall and was fascinated not only by the ingredients but also by the Chinese cooking technique of using a large wok over a hot flaming stove.

The stall has since been handed down to my uncle and I regularly help out in the kitchen, where I have to meet the strict expectations of my uncle.

SECRET RECIPES

What bugs me most is that most traditional local food and recipes are vanishing as more and more hawkers wind up their family businesses. These secret family recipes are disappearing!

WOK THIS WAY

I am fascinated by hawker food – I try to find out as much as I can about the local hawker dishes and replicate these dishes in my own kitchen!

OUR HERITAGE

Hawker food is a big part of our heritage. My dream is to keep this heritage alive!

I hope to improve my skills by working with local hotels and hotels abroad, in places like China as well.

My experience in Baking & Culinary Science so far has helped me understand the science behind the traditional cooking techniques that have been handed down to me in my family business.

THE RIGHT CHOICE...

Learn the cooking techniques of different local cuisines, such as dim sum, fried hokkien noodles and chilli crab.

Prepare a wide range of bakery products, as well as Asian and Western cuisines with scientific knowledge and methods.

Learn to develop innovative recipes, such as finger food for a café, and how to evaluate, improve and market it.

*Find a passion.
Keep the flame
alive with
determination!*

**HOT
CAREERS!**

There is a high demand for staff with strong culinary skills & good knowledge of Science!

Junior Chef
R&D Executive
Baking Technologist
Entrepreneur
Junior Development Chef
Sales & Marketing Executive



HELP
DOCTORS
TO SAVE LIVES

MAKE A DIFFERENCE!

What hidden secrets lie in an innocent-looking urine sample – unseen by the naked eye? Enter the world of a medical laboratory where the mysteries of disease and the human body are unlocked!

Passionate about helping to heal the sick? You will acquire the scientific skills to help doctors save lives! Learn how microbes - those organisms usually too small to be seen by the naked eye, such as bacteria and viruses - influence and interact with humans, animals, plants, and the environment...and much, much more.

T27
BIOMEDICAL
SCIENCE

Biomedical Science

FUNKY FACT

In medieval England, patients with mental illnesses were often “treated” by having a hole cut into their skull to release evil spirits trapped in their heads. These “surgeons” were typically butchers and barbers by profession.



THE RIGHT CHOICE...

Learn all about the nature and cause of diseases, including abnormalities of diseased organs.

Learn how bacteria and viruses influence and interact with humans, animals, plants, and the environment.

Get to work in a real hospital setting in a year-long programme.

MEET THE RESEARCHER NISHA MOHD RAFIQ

Biomedical Science graduate Nisha Mohd Rafiq is the first student to be accepted into the inaugural NUS-King's College Joint PhD Programme, after graduating from NUS with a first class honours degree in Life Sciences. She is also the first recipient of the scholarship awarded under the programme.

“TP gave me a **great start** in research! I had my first taste of research when I took part in the Differential Research Programme at the School of Applied Science.

I later did my internship at the Institute of Bioengineering and Nanotechnology. These initial experiences really **sparked** my passion for research!

The Biomedical Science diploma course gives me an edge at University. I have a better understanding of diseases and the **medical purpose of research.**

Cancer and infectious diseases – my interest lies in these areas. My current research work involves studying the movement of cancer cells in the human body.

My dream is to work closely with doctors.

I would like to do my part to **make healthcare better,** and to make my work relevant to patients!”



Singapore is a medical hub with world class healthcare services ... and that puts you in demand!

Medical Technologist
R&D Technologist
QA / QC Technologist
Phlebotomist
Health Screening Officer
Scientific Officer
Product Specialist
Life Science Educator



GET THE SKILLS!

Begin your journey as a Research Technologist – and future Scientist – here! Be trained in ways to discover new biological knowledge, and apply it to make life better. Our graduates have gone on to become Scientists!

FOR A
BETTER
WORLD

TRANSFORM
BIOLOGICAL
DISCOVERIES INTO
PRODUCTS



Biotechnology

WHO

I am a stem cell researcher. Officially, my title is "Research Fellow". I run an independent research team which consists of two research assistants, four PhD students and one or two Honours students in my team.

HOW

TP prepared me well! The work ethic, the integrity, the expectation of excellence...!

WHY

Regenerative medicine is moving at a breakneck pace. Stem cell banking will be a given come 2020. I am on the cutting edge of science and I wake up each day a little closer to a cure, a little closer to offering parents a chance for the little babies.... That is what excites me. I'm always meeting new people and bringing ideas into reality.

WHAT

I have been working on the human amnion epithelial cells and their applications in regenerative medicine... Put simply, my research team is pioneering a stem-cell-like treatment to find out if introducing cells harvested from a baby's amniotic membrane could save premature babies suffering severe lung conditions.

Most recently I have been awarded the Hugh Rogers Fellowship where I will be taking a sabbatical at Harvard to work alongside a world leading expert in lung regeneration. This year alone I attracted over AUD\$1 million in research funding where I am developing cell therapies for lung and liver diseases.

MEET THE SCIENTIST DR REBECCA LIM

Biotechnology graduate Dr Rebecca Lim and her team at the Ritchie Centre for Translational Medicine, Monash Institute of Medical Research, are pioneering breakthrough research that could save premature babies.

Majored in Medicine and Pharmacology at the Faculty of Medicine, University of Western Australia

PhD had a strong focus on adult stem cells

Always been interested in understanding how the body heals itself



Many companies have set up facilities in Singapore to manufacture drugs, medical devices, research products or conduct clinical trials – they need your skills!

Research Technologist
Scientific Officer
Science Educator
Laboratory Biologist
Laboratory Technologist
Marketing / Product Specialist

THE RIGHT CHOICE...

Find out how we can use biotechnology to prevent food shortages, obtain clean water, grow healthy tissues to replace damaged ones, clean up the environment, and more.

Learn how to analyse fingerprints, body fluids (eg. blood) and other crime scene evidences.

Delve into the fascinating world of genes, forensics, diseases, and more.



**APPLY CHEMISTRY
TO CREATE
A BETTER WORLD**

REIMAGINE THE FUTURE!

You like Chemistry and you dream of using your knowledge of Chemistry to create new products or materials. Chemical engineering, in essence, is applied Chemistry. About 30% of our core curriculum is related to Chemistry.

T33
CHEMICAL
ENGINEERING

Chemical Engineering

FUNKY FACT

Did you know? The hardest chemical in your body is your tooth enamel!

Further your interest in Chemistry through our Applied Chemistry Specialisation.

Have fun learning the practices and processes in making medicines through our Pharmaceutical Technology Specialisation.

Learn all the skills and knowledge in chemical processing that is required to join the Chemical Industry - whether it is designing a chemical reactor to produce perfumes, or fine-tuning (or optimising) a method to separate petrol from crude oil.

THE RIGHT CHOICE...



The Chemical industry is the largest and highest paying manufacturing industry in Singapore.

Process Technician
Assistant Engineer
Laboratory / Research Technologist
Safety, Health & Environment Officer
Technical Sales Executive
Research Officer



MEET THE ECO WARRIOR & INTERNATIONAL CHAMPION KEVIN LEE

A 3rd year Chemical Engineering student, Kevin was recently crowned international winner at the Bayer Young Environmental Leader competition in Germany.

"I chose to study Chemical Engineering because it is at the heart of many industries – water, petrochemicals, pharmaceuticals, environment, etc. It is a highly versatile course, and I knew it would give me a good, solid foundation.

At the School of Applied Science, I've had the privilege of working with highly experienced lecturers. I am inspired by my lecturer Dr Wong Sook Fun's research projects. For the Bayer Young Environmental Leader award, we recycled wood, as well as leaves and twigs from parks into building materials. What this means is that instead of using cement and gravel, we can turn twigs into solid walls, and even furniture such as park benches!

My elective subjects (Industrial Waste Water Treatment / Environmental Management) and my experience with the Global Bayer Young Environmental Leader Award have reinforced my passion to work on environmental issues and sustainable technologies. If you ask me what is the one big thing I want to achieve in future... I hope to get involved in activities with organisations such as the United Nations Environmental Programme (UNEP), or help schools in Singapore to achieve "School Green Awards" awarded by the Singapore Environmental Council. Well, these are my dreams My training as a Chemical Engineer is perfectly aligned to my aspirations and desire to make the planet cleaner and greener."



**LEARN HOW
MEDICINES WORK
TO CURE DISEASES**



TAKE YOUR TALENT FURTHER

When you have a headache, the pill you pop into your mouth reacts with your body in a certain way. Come and learn how various medicines work on the body to treat various ailments and diseases. Also, discover sophisticated techniques to identify and analyse various medicines!

Pharmaceutical Science

MEET THE FUTURE DOCTOR DEBORAH KHOO

"Love the interaction with people on a daily basis."

"I learn new things everyday from very knowledgeable people."

"Always give value-added service wherever you are."

Have a teachable spirit."



"Working on drug disease during my internship at the University of Western

Australia affirmed my passion for medicine! I am grateful to TP for providing

this eye-opening experience."

Pharmaceutical Science Graduate

Pursuing MBBS

School of Medicine University of Queensland

FUNKY FACT

Ancient Egyptians were adept at using medicinal prescriptions for healing purposes. One of the most popular ingredients in prescriptions was animal dung, which patients consumed in the hope of curing certain diseases.



Leading pharmaceutical companies manufacture some of their best-selling products here. Today, biomedical companies manufacture about S\$23 billion worth of medicines, nutritional products and medical devices for international markets every year - in Singapore! They need you!

Pharmacy Technician
Specialist Investigator in Criminal Forensics
Forensics Technologist
Laboratory Technologist (QA / QC)
Research Technologist
Clinical Research Coordinator
Process Technologist
Associate Chemist



THE RIGHT CHOICE...

Learn how to collect and analyse crime scene evidence (fingerprints, blood, semen, saliva stains, skeletal remains, etc) to solve crimes!

Discover how to design and develop new medicines.

Explore sophisticated techniques to identify and analyse various medicines!

Be trained in how to counsel and advise patients on medications.

**OWN
A FISH FARM OR
ANIMAL CLINIC**

T45
VETERINARY
TECHNOLOGY

DREAM BIG.

Experience the excitement of learning and working in a unique environment - an animal hospital, and even a fish farm! We are the first and only poly to provide real-life training in a hospital setting, and the first and only poly to have an on-site veterinary clinic for student training, as well as an off-shore aquaculture research station at a floating foodfish farm!

Veterinary Technology

FUNKY FACT

A snail can sleep for 3 years at a time...

THE RIGHT CHOICE..

Get experiential training at a fish farm - apply what you learn about aquaculture, aquatic care and disease control/prevention, farm operation and farm management.

Assist in real life animal sterilisations at the TP Animal Clinic.

Be trained at the Mount Pleasant Veterinary group of clinics and animal centre under the guidance of the hospital veterinary staff.

HOT CAREERS!

It's an exciting time to join the industry - there is a high demand for trained veterinary and animal technologists in the veterinary, biomedical and pet retail industries.

- Veterinary Technologist
- Marine Conservation Officer
- Laboratory Animal Technologist
- Medical Research Technologist
- Aquarist
- Animal Care Management Officer
- Animal Welfare Educator
- Fish Biologist
- Pet Care Support Technologist
- Pet Nutrition Assistant Advisor

MEET THE VETERINARY STUDENT KENT SOON

Veterinary Technology graduate Kent Soon is taking the Bachelor of Veterinary Medicine and Surgery (BVMS) degree programme in University of Glasgow, Scotland.

ANIMAL LOVER

I've wanted to work with animals ever since I was a little boy. And now, I get to experience working on farms, stables and research facilities - with animals like sheep, horses, cattle, exotic animals, home pets and much more.

NO HORISING AROUND

If you have the opportunity, volunteer so you have an understanding of what it's like to be in a particular industry. I was a horse handler at the 2010 Youth Olympic Games in Singapore while studying at the School of Applied Science in TP. I gained so much from the experience!

@TP

During my time at TP, I was not only introduced to the foundation of clinical and laboratory skills but also exposed to learning techniques that now help me to perform self-study and research independently.

SAVING PUFFINS

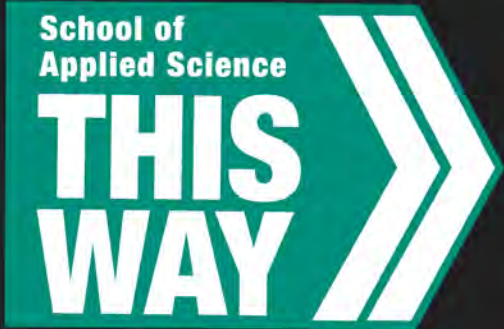
For my Major Project at TP, I was involved in collaborative research work with Jurong Bird Park. The research focused on the behaviour and breeding habits of Atlantic puffins. As an animal lover, I really appreciated the chance to study these animals at close range.

IN 10 YEARS...

I'd like to gain more experience, continue learning, and eventually to specialise in one area.

PASSION GIVES YOU POWER

Take action. Be persistent. Your passion will give you power and drive you further!



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