One Degree
Unlimited Opportunities

Transformative SCIENCE Education
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I am delighted to invite you to study this careers handbook as you embark on your journey with us in our Science degree programme. It is important for you to start and plan ahead to consider your future career options from day one. Through this handbook, I hope you will not only have a better understanding and appreciation of the value of a science education, which is becoming increasingly more important in today’s innovation-driven and borderless economy, but it will also open your mind to the many possibilities and options you may have.

Although our programmes are designed to train you to meet the complex needs of the future, you will need to play an equally active part in your learning and development in the next few years that you are with us. The future workplace will not be based on what you know but on how you think. This is why a science education, which hones and develops your thinking and problem-solving skills, will always be relevant. To continue to stay relevant, future workers must also have the passion for continuous and lifelong learning to keep up with the rapid changes in technology and in the globally connected environment. You would need to be able to adapt to change, be resilient and agile, and work collaboratively in a team setting.

Our NUS Transformative Science Education is not just about deep domain knowledge and transferable skills sets acquired through your science training. It also encompasses other aspects of soft skills that you will pick up through your learning process, including the choices you make in the modules you take and the other experiences you go through. Choose your pathways carefully based on your interests and passion. At the same time, do keep an open mind to venture outside your comfort zones to pick up skills sets that you may not already have but can acquire. By embracing our Transformative Science Education, you will enjoy a holistic educational experience, which will maximise your potential and equip you to be future-proof and employable in many organisations. We would have then prepared you well, not just for a career for life but a life of careers.

Since 1929, we have produced scientists, researchers, entrepreneurs and leaders in many diverse industries who drive Singapore’s growth. Many of our alumni have made important contributions in their respective fields. We are proud to feature some of our young and illustrious alumni in this handbook. While not exhaustive, I trust you will find the employers’ comments and our alumni’s reflections informative and inspiring.

Let me take this opportunity to welcome you as a member of our Science family and I wish you a fulfilling journey with us.

Prof SHEN Zuowei
Dean, Faculty of Science
SCIENCE: DRIVER OF INNOVATION

Fourth Industrial Revolution

1960s and 1970s
Underdeveloped Economy

2000 and Beyond
Developed Economy

1980s and 1990s
Developing Economy

2015 and Beyond
Flexible Curriculum
Our flexible curriculum provides students varied learning opportunities. These include double degrees, double majors, joint degrees, concurrent bachelor’s and master’s degrees, minors, multidisciplinary and cross-faculty programmes, as well as special programmes and undergraduate research programmes. Over 70% of students participate in study abroad programmes - this broadens their intellectual and global outlook.

The breadth and depth of our educational training and the introduction of skills like statistics and programming across the curriculum will “future-proof” our students.

Career Readiness Programmes
We have enhanced our preparation of students for the workplace by providing more experiential learning opportunities.

Our flagship Undergraduate Professional Internship Programme (UPIP), Honours year Applied Project and Co-operative Education Programme comprise structured credit-bearing internship modules offering on-the-job training at renowned local and international organisations.

We regularly organise industry events, like Science Industry Day, Industry Sharing Series and recruitment talks where students meet industry practitioners from diverse sectors and hiring managers on career prospects. Programmes like the Internet of Things (IoT) Datathon enable students to apply their learning to develop solutions that address real industry challenges. NUS’ Roots and Wings’ programme will also equip undergraduates with essential life skills to succeed in today’s volatile world.

Alumni Initiatives
All alumni will be eligible for courses under the new NUS Lifelong Learners (or L³) initiative. From 2018, NUS undergraduates will be enrolled for 20 years, qualifying them for continuing education and training courses after they graduate.

We also organise initiatives to encourage alumni to stay connected, while providing them meaningful ways to engage our students. These include Alumni GO OUT excursions, Single Mingle workshops, Science Alumni-Student Networking Evening and Industry Networking Sessions where our alumni are updated on industry developments.

Our Transformative Science Education goes beyond helping students acquire knowledge, by nurturing in them the passion for lifelong learning. This prepares them for the increasingly complex workplace of the future.
TRENDING INDUSTRIES

Our graduates are employed in various high growth and high impact sectors. Many of these industries are key pillars driving Singapore’s economy.

“HSA recruits NUS graduates and post-graduates for careers in health products regulation, transfusion, forensic and analytical sciences. With their strong foundation of broad-based scientific knowledge and essential technical training, NUS Science graduates are fast learners who can master the specialised knowledge and skills required relatively quickly, and carry out their responsibilities competently. They come across as confident and adaptable. Many also possess a keen mind and good problem-solving skills. As a scientific organisation responsible for regulating health products, securing the blood supply, and providing analytical and forensic science services, such attributes and qualities are invaluable to HSA.”
Dr CHOONG May Ling Mimi
Chief Executive Officer
Health Sciences Authority (HSA)

“NUS Science graduates are sought after for their analytical and problem-solving skills and their ability to adapt and grow in a dynamic environment. They possess the aptitude, empathy and professionalism to make impactful contributions to the health and well-being of our community through the various roles they play in healthcare organisations, be it in clinical diagnostic and research laboratories, management or operations. Science training is also useful as we partner clinicians to roll out and improve clinical services for our patients. The rigorous training enables them to mine meaningful information from data and put together strong and logical business cases to alleviate productivity issues, lower costs and increase value for our patients. These attributes put them in good stead to take on varied leadership roles in healthcare.”
Adjunct Prof Eugene Fidelis SOH
Chief Executive Officer, Tan Tock Seng Hospital and Central Health (Medical Centre), National Healthcare Group

“Science graduates are highly valued by employers for their deep scientific knowledge and problem-solving skills. NUS Science graduates have a solid foundation in their specialisation and are highly competent, always pushing the frontiers of science. They are pivotal in many areas, from specialised laboratory roles to broad-based management and operational roles. They possess commendable work ethics, with a high level of commitment, self-drive, resilience and professionalism. They can quickly integrate into our fast-paced environment. Therefore, they have many career advancement opportunities, with many progressing to senior management level.”
LIAK Teng Lit
Chief Executive Officer
Perennial Healthcare Pte Ltd

Biomedical Sciences and Healthcare
Jobs in manufacturing, medical and regulatory affairs, headquarter activities such as sales and marketing, supply chain management, research and development, quality management and product development with medical institutes, pharmaceutical and medical technology firms and essential technical training, NUS Science graduates are fast learners who can master the specialised knowledge and skills required relatively quickly, and carry out their responsibilities competently. They come across as confident and adaptable. Many also possess a keen mind and good problem-solving skills. As a scientific organisation responsible for regulating health products, securing the blood supply, and providing analytical and forensic science services, such attributes and qualities are invaluable to HSA.”

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LIAK Teng Lit
Chief Executive Officer
Perennial Healthcare Pte Ltd
“We look for outstanding graduates with well-rounded backgrounds and personalities, as well as a track record of excellence. We have NUS graduates from Statistics and Quantitative Finance. They are serving in roles that cut across functions including data analytics and risk management. They are detailed, meticulous and analytical. They have an inquisitive mind, good research techniques and a structured approach towards problem-solving. They also possess a great capacity to learn.”

Susanna LEE, Executive Director, Human Resource Department
Monetary Authority of Singapore (MAS)

Financial Services
3,000 new jobs in financial services and 1,000 in financial technology annually

- Jobs in corporate banking (e.g. structured and project financing, trade finance)
- Jobs in insurance / reinsurance (e.g. actuarial, underwriting, broking)
- Jobs in wealth and asset management (e.g. investment research, relationship management)
- Jobs in risk management (e.g. credit / market risk management)
- Jobs in compliance (e.g. anti-money laundering)
- Jobs in information technology (e.g. data and business analytics, cyber security)

“Singapore needs science teachers who are committed to developing a strong science foundation among our young. This ensures that we have a scientifically literate population and a pipeline of Science, Technology, Engineering and Mathematics (STEM) professionals who can harness science and technology to improve our lives. Many NUS Science alumni are teachers, school leaders and education specialists. They are strong in subject mastery and committed as educators.”

Clarence TANG
Divisional Director
HR Solutions & Capabilities Division
Ministry of Education (MOE)

Infocommunication Technologies
13,000 jobs by 2020 in emerging technologies like artificial intelligence, cybersecurity, data analytics, immersive media, Internet of Things, network and infrastructure etc.

“NUS Science graduates have the foundation to understand natural phenomena, a rigorous approach to problem-solving and the confidence to venture into the unexplored and the unknown. They have distinguished themselves in diverse areas including materials, lasers, optics, chemical defence, information security, artificial intelligence and signal processing. Many have achieved breakthroughs which rival the best in the world, ultimately making a difference to the defence and security of our nation.”

QUEK Gim Pew
Chief Defence Scientist
Ministry of Defence (MINDEF)

Education
Over 34,300 education officers in over 360 schools for primary, secondary and pre-university education as at end of 2016

- Other jobs include allied educators, and executive and administration staff

Safety and Security
Jobs related to development and deployment of high-technology security solutions and equipment, including sensors, biometrics, analytics, command and control, communications, systems design and integration of security systems

“NUS Science graduates have the foundation to understand natural phenomena, a rigorous approach to problem-solving and the confidence to venture into the unexplored and the unknown. They have distinguished themselves in diverse areas including materials, lasers, optics, chemical defence, information security, artificial intelligence and signal processing. Many have achieved breakthroughs which rival the best in the world, ultimately making a difference to the defence and security of our nation.”

QUEK Gim Pew
Chief Defence Scientist
Ministry of Defence (MINDEF)
**TRENDING INDUSTRIES**

“Science develops both specialists and generalists. Science also sets no limit. That is why science graduates are relevant on all fronts - from business to politics, consultants to inventors and academia to corporate executives. Your choices are limitless.”

Prof Andy HOR, Vice President and Pro Vice-Chancellor (Research), University of Hong Kong; Honorary Fellow, Agency for Science, Technology and Research (A*STAR)

“NUS Science graduates have always been able to apply their knowledge and skills at TLL. They are well-rounded individuals who continue to learn, stay interested and are effective in interacting with scientists from different parts of the world to harness the power of the life sciences to improve lives. My senior faculty and I are impressed by the quality and professionalism of NUS Science graduates. It is rewarding to see many of them become authors of high impact publications, inventors of important discoveries, and senior scientific leaders and administrators.”

Peter CHIA, Chief Executive Officer, Temasek Life Sciences Laboratory (TLL)

“NUS Science graduates are adept at analysing issues from a systems perspective, backed with facts and data. These skills are valuable in the work environment and enable them to handle wide-ranging work challenges. Those who joined us have taken on diverse roles, ranging from customer services, to the management of CPF schemes, and specialised fields such as business intelligence and data analytics. Besides being resilient and resourceful in our dynamic work environment, they also demonstrate leadership qualities, zest and commitment. Some have progressed to leadership positions in the Board.”

NG Chee Peng, Chief Executive Officer, Central Provident Fund Board (CPF)

“Maritime Singapore is evolving rapidly on many fronts. New technologies such as artificial intelligence, autonomous systems and robotics are changing the way the maritime industry, port and shipping companies work. With digitalisation, the industry players are venturing into Internet of Things (IoT) opportunities and adopting blockchain technology in maritime logistics to ship smarter and faster. The future mega-port in Tuas will also feature state-of-the-art technologies - from unmanned automated guided vehicles to the automation of terminals through smart algorithms and sensors. These provide career opportunities for graduates who are keen to be a part of this exciting transformation journey in the maritime sector.”

Andrew TAN, Chief Executive, Maritime and Port Authority of Singapore (MPA)

“We value our science graduates’ strengths in analytical thinking and resourcefulness. With their versatility, they undertake roles ranging from research and statistical analysis, to data analytics, corporate planning and human resources. They also serve at the frontline, implementing housing policies and engaging residents in our heartlands. Many of them have grown with us and have taken up leadership positions.”

Dr CHEONG Koon Hean, Chief Executive Officer, Housing & Development Board (HDB)

**Government**

Research and Development

Jobs in universities and research institutes in varied areas including the physical sciences and engineering, biomedical sciences and growth areas like food and nutrition, environmental technologies, consumer care, and digital media.
Urban Solutions and Sustainability

Focus areas include clean energy, environment and water, built environment, urban mobility etc.

Jobs in urban solutions and sustainability, research and development, sales and marketing, smart city technologies, product development, and system integration in areas like energy efficiency, pollution control, water treatment, waste management etc.

“Many NUS Science graduates are responsible for managing our nature reserves, gardens, parks and verdant streetscapes, playing a part in achieving Singapore’s vision of a City in a Garden. They exhibit a strong foundation in the natural sciences and have a passion for the environment, made possible by the all-rounded curriculum in biology and environmental science.”

Kenneth ER, Chief Executive Officer National Parks Board (NParks)

“A significant number of our staff are from NUS’ Faculty of Science. Besides relevant content knowledge on the environment, they have life skills which enable them to be effective in multidisciplinary areas. This includes research, operations, policy-making, regulation, public engagement and corporate development. Their evidence-based scientific approach puts them in good stead to address different challenges. With their structured and systematic thinking, ability to frame issues, resourcefulness, independent learning and their ongoing quest for outcomes, they can readily take on varied roles in our rapidly evolving operating environment.”

Ronnie TAY, Chief Executive Officer National Environment Agency (NEA)

Jobs information and figures from government agencies including Agency for Science, Technology and Research, Economic Development Board, Info-Communications Media Development Authority, Ministry of Education, Ministry of Finance, Ministry of Health, Monetary Authority of Singapore, National Research Foundation

Consumer Businesses

Expected to create 2,000 PMET jobs (e.g. food manufacturing) from 2016 to 2020

Jobs in branding, consumer insights, design and analytics, marketing and sales, research and development etc. in household and personal care companies, food, beverage and nutrition companies, specialty ingredient companies and flavours and fragrances houses

Pharmaceuticals

“Employees who can grasp and analyse problems or opportunities, identify contributing causes and synthesise effective solutions, are a valuable asset in today’s disruptive workplace. NUS Science graduates are confident, analytical and smart. They can apply their knowledge at the workplace with minimal supervision. They are also independent and resourceful and can solve workplace issues, individually and in teams.”

KWAN Yew Huat, Managing Director Pharmaforte Singapore Pte Ltd
I Will Be **Future-Proof**

Analytical & Creative Thinker • Effective Communicator • Scientifically Proficient
Technologically Savvy • Lifelong Learner • Dynamic Leader
Problem Solver • Globally Minded • Enterprising • Resourceful
Systematic • Innovative • Adaptable
Versatile • Resilient
Some science graduates choose to enter the teaching profession. They have educated generations of students and enjoy good career progression as educators. By imparting knowledge, they help to inspire and nurture the next generation of scientists and leaders.

Resma Bte GULZAR MOHD
Subject Head (Biology)
Anderson Junior College
B.Sc. in Biology (2003); NUS-Australian National University Joint M.Sc. in Science Communication (2011)

Resma plans and implements the Biology curriculum at Anderson Junior College. Previously, as a Curriculum Development Officer at the Ministry of Education, she worked on aligning syllabi to global and local industry trends.

“With my science background, I learnt to always look for ways to improve teaching and learning. I also integrated more experiential learning, through field trips to Bishan Park and biodiversity trails to Sungei Buloh.”

WEE Chorng Shin
Senior Teacher (Chemistry)
Hwa Chong Institution
B.Sc. (Hons) in Chemistry (2006); M.Phil. in Chemistry (2008), Hong Kong University of Science and Technology

In addition to teaching, Chorng Shin mentors new teachers, experiments with new teaching pedagogies and collaborates with schools and the Ministry of Education on curriculum matters.

“I have a passion in helping our youths realise their potential and aspirations. I would like to continue nurturing young minds to stay receptive to learning opportunities and to improve the chemical education landscape in Singapore.”

GOH Hock Leong
Deputy Principal (Academic)
NUS High School of Mathematics and Science
B.Sc. (Hons) in Physics (1998); M.Sc. in Physics (1999)

Hock Leong oversees academic matters including curriculum development, nurturing student talent, research, global partnerships and admissions.

“I gained mentorship experience through NUS Science’s Special Programme in Science. As an educator, I can pay it forward for what I received from my own education. It is fulfilling to be able to play a part in grooming world-ready scientific minds for the future.”
The NUS Department of Chemistry offers a broad-based curriculum grounded in both experimental applications and theoretical studies. You will acquire a strong foundation in each of the four key branches of chemistry, namely: Analytical, Inorganic, Organic and Physical Chemistry. You will have the opportunity to undertake research in areas like renewable energy, food sustainability, better medicines and next-generation materials, to address global challenges such as climate change, the energy crisis and diseases.

From Academic Year 2017/2018, we are offering direct admissions to a new Double Major programme in Chemistry-Food Science to prepare students for the fast-growing food industry.

Chemistry, a key economic pillar in Singapore, is vital to the petroleum, pharmaceutical, chemical processing and manufacturing industries. This programme will prepare you for a wide range of career opportunities, in both scientific and non-technical domains.

### Discipline-Based Careers

#### CHEMISTRY

Possible Careers
- Chemical scientist/engineer
- Environmental protection scientist
- Educator
- Forensic scientist
- Materials scientist
- Patent specialist
- Quality control scientist
- Researcher
- Water treatment scientist

Examples of Industries / Sectors
- Biochemicals
- Chemicals
- Education
- Energy
- Engineering
- Government agencies¹
- Manufacturing
- Pharmaceuticals
- Research and development
- Specialty chemicals

Kelvin LING
Sales Manager
Oiltanking Singapore Ltd
B.Sc. (Hons) in Chemistry, Minor in Management (2011)

Kelvin maintains client relationships, negotiates storage and service agreements, reviews market developments and customer portfolios, and contributes to improving the terminal's performance.

“The versatility of science training enables me to adapt and multitask in areas beyond my expertise. This is crucial to navigate the complex and fast-paced world of business.”

Kenneth ANG
Technical Development Chemist
Glaxo Wellcome Manufacturing Pte Ltd
B.Sc. (Hons) in Chemistry (2008); M.Sc. in Chemistry (2010)

Kenneth optimises chemistry processes to support manufacturing activities. This ensures a sustainable supply of quality medicines to meet global demand, and compliance of manufacturing activities to required standards.

“My hands-on exposure to chemistry experiments equipped me with the skills to make specific observations which I relate to analytical data generated by advanced instrumentation. I am able to determine root causes of failure events or deviations from normal process parameter trends. This contributes to good manufacturing practices.”

Dr Wendy LEONG
Patent Scientist
Yusarn Audrey
B.Sc. (Hons) in Chemistry (2009); Ph.D. in Chemistry (2013), Nanyang Technological University

Wendy assists clients on intellectual property (IP) strategies. Her work includes registering patents locally and overseas, drafting patent specifications, as well as protecting, commercialising and realising value from her clients’ IP assets.

“My education in polymer chemistry, pharmacokinetics and chemical biology serves me well in carrying out patent work for local and international companies, universities and research institutes. I help clients secure patents for their inventions. In a knowledge economy, IP is an investment asset that empowers business growth.”
The Data Science and Analytics programme offered by the NUS Department of Mathematics and the Department of Statistics and Applied Probability in the Faculty of Science, in conjunction with the Department of Computer Science in the School of Computing, is the first in Singapore. The four-year direct Honours programme is designed with sufficient technical depth to equip you with analytical tools and techniques to solve complex data-science problems in various sectors and domains, and the skills to communicate insights using visualisation tools. You can opt for the NUS Co-operative Education Programme, which relates theory to real-world issues through a structured sequence of credit-bearing internships.

A new Second Major in Data Analytics is being offered from Academic Year 2017/2018 for Academic Year 2016/2017 and subsequent cohort.

The programme grooms data scientists with interdisciplinary expertise in statistics, mathematics and computer science, to turn data into actionable insights for businesses. There are career opportunities in Smart Nation-related work and diverse industries and organisations that require extensive data collection, processing and analysis for informed decision-making.

### Possible Careers

- Actuary
- Artificial intelligence specialist
- Big Data analyst
- Big Data engineer
- Biostatistician
- Business analytics specialist
- Business intelligence specialist
- Consumer insights analyst
- Data analytics specialist
- Data scientist
- Data visualisation scientist
- Educator
- Machine learning scientist
- Market intelligence specialist
- Statistician

### Examples of Industries / Sectors

- Biomedical sciences
- Consumer businesses
- Clean technology
- Education
- Energy
- Financial services
- Government agencies¹
- Healthcare
- Infocommunication technologies
- Insurance
- Manufacturing
- Media
- Pharmaceuticals
- Research and development
- Safety and security
- Telecommunications
- Transportation

Some of our graduates have established successful careers in data science-related fields.

Arnold DORAY
Chief Executive Officer
Terra Weather
*B.Sc. in Physics, Minor in Fluid Dynamics (1994)*
*Master of Technology in Knowledge Engineering (2002)*

Arnold’s team utilises weather modelling technologies to support offshore oil and gas operations through timely advice on global weather conditions. His team also develops predictive deep-learning models for weather-based phenomena.

“Their data analytics and artificial intelligence, we provide reliable weather forecasts and predictive solutions that ensure the safety and success of our clients’ operations worldwide.”

Dr Eric SANDOSHAM
Founder and Partner
Red & White Consulting Partners LLP
*B.Sc. (Hons) in Mathematics (1995); M.Sc. in Statistics (2002)*
*Ph.D. in Business (General Management) (2017), Singapore Management University*

Eric’s boutique consulting firm specialises in transformational business intelligence and analytics that enable organisational growth.

“I provide data-driven solutions for clients across the Asia Pacific in diverse industries. I blend the art and science of analytics to ‘connect the dots’ between People, Products and Profits.”
The internationally accredited NUS Food Science and Technology programme is a multidisciplinary course which enables you to acquire specialised and hands-on knowledge of the science and technology of food, especially in the areas of food safety, new food product development, food processing and nutrition.

Our new Second Major in Food Science, offered through direct admissions from Academic Year 2017/2018, provides training and applied perspective in food analysis, and flavour science and nutrition. Upon graduation, you will be well-equipped for specialised and broad-based management and operational careers in today’s booming food industry, which has an average annual turnover of more than $10 billion.

Possible Careers
Educator
Flavourist
Food scientist
Food specialist
Food technologist
Nutritionist
Regulatory affairs officer
Researcher

Examples of Industries / Sectors
Consumer insights and marketing
Consumer products
Education
Flavours and fragrances
Food ingredients
Food production and processing
Food testing laboratories
Government agencies¹
Healthcare
Pharmaceuticals
Quality control
Research and development

¹Agency for Science, Technology and Research, Agri-Food & Veterinary Authority of Singapore, Health Promotion Board, Health Sciences Authority, Ministry of Education, Ministry of Health are some examples.
YAP Pei Yi
Associate Scientist
Mondelēz International
*B.Appl.Sc. (Hons) in Food Science and Technology (2014)*

Pei Yi develops products for gum and candy brands in Asian markets, such as Japan, Thailand and China. She designs and executes stability and analytical studies for formula development, and ensures the successful scale-up of laboratory prototypes in factories.

“As food scientists, we develop nutritious food products to promote health, ensure sustainability by sourcing new ingredients, and reduce wastage by prolonging shelf life. This ensures that food is safe and wholesome for consumption.”

Angela LI
Deputy Laboratory Director (Food Safety Division)
Applied Sciences Group
Health Sciences Authority (HSA)
*B.Appl.Sc. (Hons) in Food Science and Technology (2005)*
*M.Sc. in Chemistry (2012)*

HSA’s food safety laboratory complements the Agri-Food & Veterinary Authority of Singapore’s national food safety programme and supports emerging food safety concerns. Angela develops analytical testing methods and leads research and development work to assess food safety.

“Science is the driver behind the entire food chain, from farm to fork. This includes the use of agricultural science, to post-harvest technology, food engineering, food quality assurance and human metabolism. My career is meaningful as it directly impacts Singapore’s food safety.”
The NUS Life Sciences programme is an interdisciplinary course covering biomedical science, environmental biology, and molecular and cell biology. It is jointly taught by eight departments at the Faculty of Science (Departments of Biological Sciences, Chemistry, and Statistics and Applied Probability) and Yong Loo Lin School of Medicine (Departments of Anatomy, Biochemistry, Microbiology and Immunology, Pharmacology, and Physiology). You can choose to specialise in any of these areas.

You will acquire a solid foundation in the fundamental concepts vital to all areas of life sciences, as well as the latest laboratory and research techniques relevant to the rapidly changing world of biosciences.

A new four-year Joint Degree Programme combining NUS’ B.Sc. (Hons) in Life Sciences and University of Dundee’s B.Sc. (Hons) in Biological Sciences / Biomedical Sciences will equip students with drug discovery and design expertise. A Concurrent Degree Programme combining NUS’ B.Sc. in Life Sciences and the Doctor of Veterinary Medicine by the Faculty of Veterinary and Agricultural Sciences, University of Melbourne will equip students with veterinary medicine / science expertise. Both programmes are offered from Academic Year 2018/2019.

The life sciences industry is one of the key pillars of our economy. Upon graduation, you can consider diverse career opportunities in government agencies and the private sector, locally and internationally, spanning many areas including biotechnology, environmental sustainability, etc.

### Possible Careers
- Aquatic biologist
- Biotechnologist
- Clinical analyst
- Clinical trial coordinator
- Conservation biologist
- DNA profiling scientist
- Educator
- Environmental sustainability specialist
- Forensic scientist
- Medical technologist
- Parks manager
- Process engineer
- Public health officer
- Quality control specialist

### Examples of Industries / Sectors
- Agriculture
- Biomedical sciences
- Biotechnology
- Education
- Environmental technology
- Food production
- Government agencies
- Healthcare
- Horticulture-related agencies
- Pharmaceuticals
- Research and development
- Scientific services

Sylvia CHIANG
Cluster Training and Compliance Manager
Novartis Asia Pacific Pharmaceuticals Pte Ltd
B.Sc. (Hons) in Life Sciences (2011)

Sylvia specialises in monitoring early phase oncology clinical trials. She also supports the implementation and improvement of Novartis’ training and compliance programmes, focusing on trial monitoring, training and excellence.

“I gained a firm foundation in clinical trial monitoring across various therapeutic areas, especially oncology. My studies in drug discovery, cancer pharmacology and clinical trials are highly relevant to understanding the scientific background in clinical trial protocols. This puts me on the frontline, bringing innovative medicine to patients.”

Dr Karenne TUN
Director (Coastal and Marine Branch)
National Biodiversity Centre
National Parks Board
B.Sc. (Hons) in Zoology (1994); Ph.D. in Biological Sciences (2013)

Karenne specialises in coral reef monitoring, restoration and management. She undertakes conservation efforts of Singapore’s coastal and marine environment, to safeguard our biodiversity. Her team also organises public engagement initiatives to encourage environmental stewardship.

“My interest in the marine environment was ignited as an undergraduate. Field trips allowing interaction with the environment developed my love for nature. Singapore’s marine ecosystem is becoming even more prolific today. I hope to continue enhancing coral reef areas in Singapore and around the world, and pushing the blue agenda.”

SEK Jun-Yan
Veterinarian
Queensland Veterinary Specialists (Pet Emergency)
B.Sc. in Life Sciences (2007); Bachelor of Veterinary Science (2016), James Cook University

Jun-Yan contributes to improving animal welfare and health as a veterinarian at an emergency and critical care / specialist hospital.

“I can impact animal lives firsthand, which makes this career truly special. The synergism between scientific disciplines, medical professionals and veterinarians will improve society’s scientific knowledge of human and animal health.”
The NUS Mathematics Department offers a wide range of modules and a broad spectrum of mathematical research activities, some multidisciplinary in nature, in the areas of Pure Mathematics, Applied Mathematics and Quantitative Finance.

In Applied Mathematics, you can choose to specialise in either Mathematical Modelling and Data Analytics, or Operations Research and Financial Mathematics. Upon graduation, you will be competent in dealing with abstract concepts, modelling physical and social phenomena, designing algorithms, analysing and interpreting data, as well as formulating solutions methodically.

The knowledge and transferable skills acquired are relevant to specialists contemplating careers in mathematical science education and research, as well as those interested in applications of advanced mathematics to science, technology and commerce.

**Possible Careers**
- Actuary
- Computer programmer
- Cryptanalyst
- Data analyst
- Educator
- Financial analyst
- Financial engineer
- Fund manager
- Quantitative modelling analyst
- Researcher
- Risk management analyst
- Software engineer

**Examples of Industries / Sectors**
- Education
- Financial services
- Government agencies¹
- Healthcare
- Infocommunications technologies
- Insurance
- Operations management
- Research and development
- Safety and security
- Transportation
- Wealth management

¹Accounting and Corporate Regulatory Authority, Agency for Science, Technology and Research, Central Provident Fund Board, Info-Communications Media Development Authority, Ministry of Education, Ministry of Finance, Ministry of Transport, Monetary Authority of Singapore, Singapore Department of Statistics are some examples.
**GUO Zhijian**  
Equity Derivatives Trader  
Macquarie Group  
*B.Sc. (Hons) with Double Majors in Quantitative Finance and Statistics, Minor in Management (2015)*

Zhijian’s work includes pricing, trading and market-making portfolios of stocks and index options stemming from warrants and institutional flows, as well as hedging risks on foreign exchange and interest rates.

“The quantitative and qualitative analytical skills I acquired give me an edge in my career. I price derivatives using mathematical models, seek potential opportunities with statistical methods, maximise risk-adjusted profits, develop front-office trading strategies and analyse market data and trends.”

**LIU Jiang**  
Senior Actuarial Consultant  
Deloitte Southeast Asia  
*B.Sc. (Hons) with Double Majors in Applied Mathematics and Statistics (2011)  
M.Sc. in Quantitative Finance (2014)*

Liu Jiang provides technical analysis and specialised advice to create business value and improve the performance of clients’ finance and actuarial portfolios. His work includes mergers and acquisitions, valuation and reserving, and management consulting.

“My course equipped me with specialised financial knowledge, and keen computing and analytical skills that are highly relevant in my work. I provide actuarial modelling services to forecast, assess and plan for future risks. This enables me to manage the financial consequences of risks and secure financial stability for my clients.”

**Dr Zenton GOH**  
CEO  
Cadi Scientific Pte Ltd  
*B.Sc. (Hons) in Mathematics (1992); Ph.D. in Physics (2000)*

Zenton’s company specialises in wireless sensing and tracking devices for the healthcare sector. Its award-winning flagship product, SmartSense™ uses radio frequency identification technology for real-time location tracking of patients, hospital equipment and contact tracing.

“My science training equipped me with useful life skills such as resilience, adaptability, effective stakeholder communications and business acumen. This enabled me to tap on the growing healthcare sector to develop our breakthrough technologies which improve hospitals’ productivity.”
The NUS Pharmacy Department, the sole provider of university-level pharmacy education in Singapore, trains pharmacists for the local healthcare and pharmaceutical sectors through the B.Sc. in Pharmacy programme. Its theme-based and multidisciplinary curriculum equips students with knowledge and skills to prepare drug substances from natural and synthetic sources, suitable and convenient forms for distribution, and disease management. You will learn how to provide quality care for patients through pre-employment clinical training and internship programmes.

A new B.Sc. in Pharmaceutical Science, a four-year direct honours programme, will be offered through direct admissions from Academic Year 2018/2019, providing broad-based knowledge on drug design, discovery and development, and the regulatory and commercial environment.

Upon graduation, you can register with the Singapore Pharmacy Council and become a licensed pharmacist. You can also opt for careers in non-patient care domains.

### Possible Careers

**[Patient-Care Practice]**
- Pharmacist

**[Non Patient-Care Areas]**
- Clinical research coordinator
- Quality assurance scientist
- Regulatory specialist
- Research associate

(Some positions in Non Patient-Care areas may also require you to be a registered pharmacist with the Singapore Pharmacy Council)

### Examples of Industries / Sectors

**[Patient-Care Practice]**
- Community pharmacies
- Healthcare services
- Hospitals
- Polyclinics

**[Non Patient-Care Areas]**
- Clinical research
- Government agencies
- Health product development
- Health product regulation
- Health product research
- Pharmaceutical manufacturing
- Sales and marketing

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1 Health Promotion Board, Health Sciences Authority, Ministry of Health, Singapore Pharmacy Council are some examples.
Anson Lim
Senior Pharmacist
Watson’s Personal Care Stores Pte Ltd
B.Sc. (Hons) in Pharmacy (2011); Masters of Health Administration, Flinders University (2017)

Anson is the Chief Preceptor in charge of recruiting and training pre-registration pharmacists. He provides advice on the efficacy and safety of medications / health supplements to customers and also supports public education.

“My course equipped me with patient counselling skills and understanding of the entire drug process, from drug discovery to formulation and pharmacology. This enables me to advise consumers on medication usage. As our population ages, community pharmacists play a vital role in providing accessible primary and preventive care to the public.”

Dr OH Ching Mien
Deputy Manager (Healthcare Business Development) and Pharmacist
ST Healthcare (Subsidiary of ST Logistics Pte Ltd)
B.Sc. (Hons) in Pharmacy (2009); Ph.D. in Pharmaceutical Sciences (2014)

Ching Mien identifies business opportunities, develops supply chain transformational strategies and undertakes stakeholder engagement for the company’s integrated healthcare solutions. He also provides pharmaceutical expertise in clinical decision-making.

“My clinical training, regulatory background and specialist knowledge in issues ranging from solid dosage form manufacturing to executing process validations, can be applied to advanced logistics systems for the healthcare sector. Supply chain technologies reduce healthcare costs by better resource management of drugs and medical devices.”

Dr THAM Lai San
Principal Research Scientist (Global Pharmacokinetics, Pharmacodynamics and Pharmacometrics)
Eli Lilly and Company
Lilly-NUS Centre for Clinical Pharmacology Pte Ltd
B.Sc. (Hons) in Pharmacy (1993); M.Sc. in Clinical Pharmacy (1995), University of Manchester; Doctor of Pharmacy (2003), Albany College of Pharmacy, Union University

Lai San is a project leader and research scientist for global drug development. She utilises pharmacometrics to influence decisions in the clinical development of small and large molecules in various therapeutic areas.

“My basic degree provided me a broad-based foundation to be adept in various areas. These include modelling and simulation techniques, applications of quantitative pharmacology approaches, competitive landscape awareness, and understanding of regulatory requirements, prescribing habits as well as unmet medical needs. These skills serve me well in finding the right dose for the right patient.”
The NUS Physics programme provides a solid foundation covering core topics such as Atomic and Nuclear Physics, Electromagnetism, Nanophysics, Quantum Mechanics, Relativity, Condensed Matter Physics, Thermodynamics and relevant mathematical methods.

You can choose to specialise in either Astrophysics or Nanophysics. You will gain knowledge in advanced numeracy and mathematical literacy, as well as good reasoning skills. Upon graduation, you will be proficient in handling complex ideas and problem-solving. The range of skills acquired can be applied in both scientific and non-technical domains, in the areas of research and development, information technology, engineering and commerce.

### Possible Careers
- Aerospace analyst
- Computer architecture designer
- Educator
- Engineer
- Geophysicist
- Industrial design planner
- Industrial scheduler
- Instrumentation specialist
- Medical and radiation physicist
- Medical technologist
- Meteorologist
- Quality engineer
- Researcher
- Semiconductor analyst

### Examples of Industries / Sectors
- Education
- Engineering
- Government agencies¹
- Healthcare
- Infocommunication technologies
- Microelectronics
- Physical sciences
- Research and development
- Scientific services
- Semiconductors

Dr LEE Kean Loon
Software Developer
CGG Services (Singapore) Pte Ltd
B.Sc. (Hons) in Physics (2007); Ph.D. in Physics (2011)

Kean Loon maintains the software used by geophysicists to produce subsurface images of the Earth accurately and efficiently. This supports the company's geological and geophysical capabilities, to help clients from the global oil and gas industry.

“I understand mathematical results from the physics perspective and the accuracy of computation from the mathematical perspective. My combined knowledge of physics, mathematics and computing gives me a differentiating edge in seismic processing, which is important to reduce costs and risks in oil and gas exploration.”

Dr James C L LEE
Chief Radiation Physicist (Division of Radiation Oncology)
National Cancer Centre Singapore
B.Sc. (Hons) in Physics (1990); Ph.D. in Physics (1996)

Dr Lee is a medical physicist specialising in radiotherapy physics. He serves on the Ministry of Health advisory committee on Proton Beam Therapy. He is involved in various projects with the International Atomic Energy Agency, and is currently President of the Southeast Asian Federation of Organisations for Medical Physics.

“My physics team pioneered and implemented Intensity Modulated Radiotherapy in 2001, which introduced advanced radiotherapy treatment in Singapore. This treatment destroys cancer cells while significantly sparing nearby healthy tissue, hence improving the quality of life for our patients. We have implemented new technologies like Image-guided Radiotherapy and Volumetric Modulated Arc Therapy, while preparing for Proton Beam Therapy.”

Dr WONG Loke Yuen
Global Product Manager
Applied Materials
B.Sc. (Hons) in Physics, Minor in Computing with Scientific Data (2006)
Ph.D. in Physics (2011)

Loke Yuen manages capital equipment products for the semiconductor industry. He is responsible for business planning, and developing marketing strategies and technology roadmaps of his products.

“NUS Science’s flexible curriculum allowed me to take experimental modules, which equipped me with useful skills like laboratory management and organisational skills. My multidisciplinary research projects covering physics, chemistry and materials science prepared me well for industry projects which involve solving technical problems and product development.”
The NUS Department of Statistics and Applied Probability, the only university-level statistics department in Singapore and one of the largest in the world, offers a wide array of modules ranging from theoretical and applied statistics to applied probability.

You can choose to specialise in either Data Science, or Finance and Business Statistics. You will learn principles of, and skills in data analysis that are increasingly important for informed business decision-making and scientific research. Examples include: how to design an experiment to answer a scientific question within resource constraints; how to conduct a survey on citizens’ health that will yield reliable conclusions; and how to put together knowledge from experiments and surveys to make predictions about an organisation’s future business needs.

A new Second Major in Data Analytics is being offered from Academic Year 2017/2018 for Academic Year 2016/2017 and subsequent cohort.

Upon graduation, you will possess strong statistical and analytical skills and will be well-prepared to manage the deluge of Big Data in diverse businesses and organisations.

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<th>Possible Careers</th>
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TAY Yu Xuan
Data Scientist
Lazada Group
B.Sc. (Hons) in Statistics, Minor in Financial Mathematics (2014)

Yu Xuan develops automated data transformation pipelines to enable data-driven insights and business improvements. He also builds machine learning models to enhance the personalised customer experience.

“My science training provided a strong technical foundation to understand data science advancements and developments. In this fast-moving field, the aptitude to conduct research, experiment and apply new techniques is essential. My statistics course equipped me with skills to develop robust methods for analysing a large amount of customer interaction data.”

NEO Han Wei
Data Scientist
DBS Bank
B.Sc. (Hons) in Statistics (2015)

Han Wei works in the Regional Business Analytics team, where he is in charge of building predictive models for the Consumer Banking Groups in Hong Kong, China, Taiwan and Singapore.

“My statistical training equipped me with the skills to build predictive models to manage the bank’s voluminous consumer data. I draw insights from these models to better understand our customers in their journey with us, including their personal needs, life stages and experiences. We can therefore offer them the right products and services at the appropriate time.”

Dr ZHAO Wanting
Principal Statistician
Singapore Eye Research Institute

Wanting conducts large-scale epidemiological, genetics and population-based research projects on major eye diseases. This provides insights into eye health, enabling detection and prevention of key eye diseases in children and ageing populations in Singapore and Asia.

“My Ph.D. training in statistics prepared me well for career development. I acquired statistical knowledge, as well as critical thinking and complex problem-solving skills. The ability to identify problems and find solutions to address these issues is a crucial skill in my current research field.”
NUS offers a four-year programme in Computational Biology, one of the most exciting fields of modern science. This multidisciplinary programme is offered by the Faculty of Science, involving 10 departments across three faculties: the Departments of Biological Sciences, Chemistry, Mathematics, Physics and Statistics and Applied Probability from the Faculty of Science; the Department of Computer Science from the School of Computing; and the Departments of Biochemistry, Microbiology and Immunology, Pharmacology and Physiology from Yong Loo Lin School of Medicine.

You will acquire knowledge and skills relevant to biological sciences, mathematical and statistical analysis, and computer science. Upon graduation, you will be skilled in algorithm design and data analysis and adept in computer-based analysis of biological problems. The interdisciplinary skills are also applicable in non-scientific fields such as infocommunication technologies, finance etc.

### Possible Careers
- Bioinformatician
- Clinical bioinformatics data scientist
- Computational modeller
- Computational microbiologist
- Computational scientist
- Gaming specialist
- Project scientist
- Researcher
- Software developer
- Technology analyst

### Examples of Industries / Sectors
- Biotechnology
- Government agencies\(^1\)
- Healthcare
- Infocommunication technologies
- Pharmaceuticals
- Research
- Scientific services

\(^1\)Agency for Science, Technology and Research, Government Technology Agency, Health Promotion Board, Health Sciences Authority, Info-Communications Media Development Authority, Ministry of Health are some examples.
Priscilla YAP
Project Engineer
RoviSys Asia Company Pte Ltd
B.Sc. in Computational Biology, Minor in Mathematics (2013)

Priscilla works on data warehousing, mining and analysis for process engineering companies in medicines, food and beverages, and petrochemical products.

“The curriculum integrates and applies a wide spectrum of disciplines. The interdisciplinary training allows me to bridge business requirements with computational results. By reducing the time for data analysis, I help businesses to optimise production and improve quality output.”

PAN Lu
Biostatistician
Singapore Health Services (SingHealth)
B.Sc. in Computational Biology (2014)

Pan Lu is in charge of bioinformatics and biostatistics analysis at SingHealth’s Translational Immunology and Inflammation Centre, where she undertakes multi-omics data analysis and pipeline developments.

“Predictive analytics helps healthcare institutions to address real clinical issues. I apply statistical methodologies to mine large omics datasets, which enable understanding of the etiology of complex diseases in humans. I also make sense of multi-omics data that could be used to improve therapeutic outcomes in patients.”
The internationally unique Bachelor of Environmental Studies is a four-year programme offered by NUS. It is jointly hosted by the Faculties of Science and the Arts and Social Sciences with participation from the Faculty of Engineering, Faculty of Law, School of Design and Environment, NUS Business School, Yong Loo Lin School of Medicine, Saw Swee Hock School of Public Health and Lee Kuan Yew School of Public Policy.

In this interdisciplinary programme, you will acquire specialised knowledge in environmental issues through a broad-based curriculum covering biology, chemistry, mathematics, statistics, economics, geography, building, law, public health, management and policy. You can experientially participate in real-time field studies in neighbouring countries, and acquire insights on varied approaches in addressing today’s complex environmental challenges such as climate change, land use, water usage and building liveable high-density cities.

Upon graduation, you will be competent in developing robust policies and processes to address these environmental issues, for careers in both the public and private sectors.

### Possible Careers
- Conservation biologist
- Ecologist
- Educator
- Environmental consultant
- Environmental health officer
- Environment impact assessor
- Environmental quality specialist
- Environmental sustainability specialist
- Environmental technologist
- Forest conservationist
- Geographer
- Geologist
- Park manager
- Public policy analyst
- Researcher
- Sustainability specialist
- Wildlife biologist

### Examples of Industries / Sectors
- Ecotourism
- Education
- Environmental consultancy
- Environmental management
- Environmental planning
- Government agencies
- Natural resource management
- Research and development
- Sustainable development

ZHANG Yuchen
Ph.D. Student in Biological Sciences
Bachelor of Environmental Studies (Hons), Specialisation in Environmental Biology (2015)

Yuchen is pursuing her Ph.D. in Biological Sciences, focusing on sustainable agriculture. She plans to teach after graduation.

“My studies in environmental conservation are useful to assess how markets impact the diverse variety of agricultural land and forests."

Jolene LIM
Executive Manager (Incentives)
Agri-Food & Veterinary Authority of Singapore
Bachelor of Environmental Studies (Hons), Specialisation in Environmental Biology (2015)

Jolene manages incentive schemes to help local farms improve productivity by utilising technology.

“I gained knowledge of the agricultural sector from my studies. I am proud to be part of a team that ensures food resilience in Singapore by building the capability of our local farms.”
NUS Science graduates are armed with specialised domain knowledge and skills like problem-solving gained from their multidisciplinary science education. With these attributes, they can work in a wide range of general professional careers. They are employable at virtually any type of organisation, within and outside the field of science. Many of our alumni enjoy meaningful and rewarding careers in fields like policy-making, business, finance, management and administration. Some have attained leading positions in the public and private sectors.

Droston TANG
Advisor
Whizmeal Pte Ltd
B.Sc. in Statistics (2005)

Droston builds strategic partnerships for Whizmeal. Whizmeal is a social enterprise supporting food education in schools through a healthy meal ordering platform, consultancy work and outreach programmes for schools and food operators.

“My studies equipped me with the skills to be a data-driven business developer. This is useful in conducting surveys and interviews with stakeholders. Coupled with my commercial experience, I am able to engage parents, school administrators and food operators. The use of data has enhanced Whizmeal’s online platform and extended its benefits to the community.”

Shirley Odelia KHNG
Education Manager (Programmes)
Singapore Art Museum
B.Sc. in Applied Mathematics (2007)
Diploma in Fine Art (2011), Nanyang Academy of Fine Arts

Shirley manages education and outreach programmes for schools, adults and people with special needs, such as the Think! Contemporary Programme, a museum-based school programme, and Quiet Hour at SAM, a programme designed with inclusivity in mind.

“I believe there is an art and science to understanding and describing the world around us. This belief has spurred my career. I combine analytical skills from my mathematical background with a passion for the arts to initiate interdisciplinary programmes, talks and workshops which enhance the visitor experience in the museum.”
CHAY Hong Leng
Managing Director
HSBC Private Banking
B.Sc. in Chemistry and Physiology (1994)
Master of Management (2004), Macquarie Graduate School of Management

Hong Leng manages investment portfolios for high net worth individuals from diverse industries.

“In the financial world, we have to analyse copious amount of research, appraise market conditions and the economic environment, calibrate risks, evaluate investment portfolios and make informed investment decisions. The skills I acquired through my science education, such as observational abilities, data analysis, independent judgement and critical thinking, are integral to my work.”

TAN Wei Hao
Assistant Director (Registries of Patents, Designs and Plant Varieties Protection)
Intellectual Property Office of Singapore
B.Sc. (Hons) in Life Sciences (2013)

Wei Hao is part of the capabilities development and engagement pillars of the Registries responsible for driving operational excellence. He engages business and government stakeholders to promote the intellectual property regime in Singapore and the region, and to grow the local innovation space.

“My science education provided me a holistic and multicultural learning experience. The curriculum’s versatility and cross-disciplinary exposure in different faculties nurtured my curiosity and passion. These attributes, together with the intellectual rigour from scientific research, facilitate my work in serving the innovation ecosystem.”

Sean KONG
Chief Training Officer
Halogen Foundation (Singapore)
B.Sc. in Physics, Minor in Nanoscience (2008)

Sean undertakes youth research, training and development, and partners with schools to help them achieve student leadership development goals. He is part of INSPIRIT, co-founded by the National Youth Council and Singapore National Employers Federation to promote youth advocacy.

“My science training equipped me with communication skills, which are crucial in youth development. I prepare young adults to be career-ready, through acquiring character traits like resilience. This enables them to thrive in today’s uncertain and globalised world. By engaging millennials, I help them to discover their passion, purpose and place in society.”
Contrary to perception, some of the most exciting careers are in the sciences. Science is a very broad field, covering a wide range of disciplines. Science careers can be atypical or unconventional. Some of our graduates are employed in niche fields such as forensic science. Others have set up their own businesses or work in advocacy for various causes.

**Dr Jaipal Singh GILL**

Executive Director  
Society for the Prevention of Cruelty to Animals  
*B.Sc. in Life Sciences (2007); Bachelor of Animal Science and Management (Hons) (2009) and Doctor of Veterinary Medicine (2015), University of Melbourne*

Jaipal oversees animal welfare services, such as emergency rescue, cruelty investigations, a shelter for abandoned animals, an adoption programme and a community animal clinic. He aims to help Singapore become a trend-setter in animal welfare in the region.

“My science education taught me an evidence-based approach which is useful in my work in advocacy, campaigns, policy research and analysis. I care about people, animals and the environment. Working in animal welfare allows me to positively impact these areas and contribute to society.”

**Verleen GOH**

Chief Food Fighter / Co-Founder  
Alchemy Foodtech Pte Ltd  
*B.Appl.Sc. (Hons) in Food Science and Technology (2010)*

Verleen uses food science and technology to fight diseases arising from food and lifestyle choices. She previously created award-winning Soyato, a soy frozen dessert to serve as a healthy alternative to ice cream.

“The Food Science and Technology programme equipped me with the knowledge to create healthier food that benefits consumers. We incorporate food technology into refined carbohydrate staples, to prevent and manage diabetes. We create food that keeps blood sugar levels steady, enabling people to enjoy their meals and improve their health.”
Joey WANG
Director (Technology and Innovation)
Appilique Pte Ltd
B.Sc. in Chemistry (2013)

Joey oversees operations at the marketing agency he founded. His team in Singapore and the United States uses cutting-edge technologies like analytics to enhance business operations with end-to-end digital solutions.

“Science spurred my curiosity to take things apart, to learn how they work at the micro- and macro-levels. As an entrepreneur, I am empowered with the time and space to work on products and services that can change the lives of many.”

KOH Hong-Eng
Global Chief Public Safety Scientist
Huawei Technologies Co Ltd
B.Sc. (Hons) in Mathematics; Minor in Computing (1990)
MBA (1998), University of Leeds

Hong-Eng’s team leverages advanced information and communication technologies (ICT) like Big Data, Internet of Things, Artificial Intelligence, cloud, etc. to develop state-of-the-art ICT solutions for Public Safety and Justice agencies.

“Criminals are going digital. To enhance public safety, we leverage on the latest scientific technologies to prevent, detect, respond to, and recover from threats like terrorism, crime and disaster. These technologies make cities and countries safer.”

Mark QUEK
Pilot, Singapore Airlines Group
Co-Owner / Research and Development Head
FAMC Farming Ltd
B.Sc. (Hons) in Life Sciences (2008)

Mark completed training as an Ab-Initio Cadet Pilot with Singapore Airlines in 2011 and has been flying since. He also embarked on a sustainable farming venture to provide affordable quality protein products to consumers.

“The rigorous science training gave me confidence to diversify into alternative careers as a pilot and entrepreneur. As I can view problems critically from different angles, I am able to devise new processes for smoother farm operations, to improve our product quality and yield.”
FURTHER STUDIES AND RESEARCH CAREERS

Our programmes serve as an excellent springboard for the pursuit of further studies. Some of our graduates embark on postgraduate studies or careers in academia as researchers or lecturers in top universities and research institutes, thereby contributing to the further advancement of science.

We have various postgraduate scholarships for continual learning. The NUS-Overseas Graduate Scholarship is for young and outstanding individuals to pursue academic careers. The NUS-Overseas Postdoctoral Fellowship is awarded to fresh Ph.D. holders with notable accomplishments in teaching and research, and upon acceptance for postdoctoral training at a leading overseas academic or research institution. The NUS Research Scholarship is awarded to outstanding graduates for research leading to a higher degree at NUS.

Dr TING Yuan-Sen
Postdoctoral Fellow
Institute for Advanced Study, Princeton University
Observatories of the Carnegie Institution for Science
B.Sc. in Physics, Minor in Mathematics (2011); M.Sc. in Physics (2012)
Ph.D. in Astrophysics (2017), Harvard University

Astrophysicist Yuan-Sen’s work operates at the cross-section between theoretical modelling, observational astronomy and machine learning to study the Milky Way. He was awarded the NASA Earth and Space Science Fellowship (2015) and Dr Pliny and Margaret Price Prize in 2016.

“I feel extremely privileged to have a job that allows me to pursue the quest of understanding who we are and where we are from. I am amazed how many youths venture into studying science as they are fascinated by the beauty of the universe.”

Dr TAN Yaw Sing
Senior Postdoctoral Research Fellow
Bioinformatics Institute
Agency for Science, Technology and Research
B.Sc. (Hons) with Double Majors in Chemistry and Life Sciences (2009)
Ph.D. in Chemistry (2014), University of Cambridge

Yaw Sing conducts computational modelling and design of drug molecules to modulate protein-protein interactions, which have emerged as attractive drug discovery targets in recent years.

“I gained appreciation of the multidisciplinary nature of research through numerous opportunities at NUS. My current research helps to guide the design of potent drug molecules in collaborative drug discovery projects. This can immensely reduce the time and cost to bring a new drug to market.”
Dr Tan Beng Thye
Research Scholar
Singapore Nuclear Research and Safety Initiative
B.Sc. (Hons) in Physics (2006)
Ph.D. in Earth Sciences (2018), University of Cambridge

Beng Thye applies analytical techniques and theoretical modelling to study the alteration mechanisms of spent nuclear fuel. He also drafts policy papers to support high-level decisions that safeguard Singapore’s interests amidst global nuclear energy developments.

“My studies opened many doors to graduate research in numerous scientific fields. It cultivated an inquisitiveness to ask probing questions of scientific phenomena. This benefits my research career as I articulate questions on my findings and in further experiments, I arrive at a more comprehensive explanation for my observations.”

Dr Cedric Tan
Lecturer and Researcher, Innovative Education in Conservation
Wildlife Conservation Research Unit, University of Oxford
College Lecturer, Wadham College and St Catherine’s College, University of Oxford
B.Sc. (Hons) in Life Sciences (2009); Ph.D. in Zoology (2012), University of Oxford

Cedric develops and teaches courses in wildlife conservation for Southeast Asia, China and Africa, utilising innovative tools such as games and e-learning. He also conducts research on the effects of these tools on learning, motivation and capacity-building among conservationists.

“My science education has developed my acuity in research designs and analysis, and enhanced my teaching skills. I had many opportunities to develop my leadership and communication skills, which are useful in forging collaborations and leading outreach and research projects. I hope to inspire future leaders in conservation and environmental education.”
Our broad-based education with cross-disciplinary learning opportunities equips our graduates with crucial foundational skills, such as resilience, adaptability and lifelong learning. This enables them to make transitions into multiple careers in diverse domains. Some of our alumni have ventured into unfamiliar domains, after gaining rich and myriad experiences across industries. They remain highly employable as they can quickly integrate into new and challenging work environments.

**CHAN Kailin**

Co-Founder
AlfaCloud HK

Kailin’s vision is to be the region’s industry-leading provider of data analytics business cloud solutions uniquely designed for Asian businesses. She harnesses her award-winning cloud computing technologies to enable business transformation.

“My science training gave me a competitive edge in the digital economy, in the emerging areas of data analytics, cloud computing and artificial intelligence. My course also instilled foundational skills in programming, creativity in numerical applications and a forward-thinking mindset. This prepared me well to build my business and to venture to the international stage.”

* Now known as Quantitative Finance programme

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Kailin started as an engineer and thereafter became an investment banker. She set up her own business in 2015 to address market demand for cloud technologies.
Dr INTAN Azura Bte Mokhtar

Assistant Professor
Singapore Institute of Technology (SIT)
B.Sc. in Physics, Minor in Mathematics (1998)
M.Sc. and Ph.D. in Information Studies (2003, 2008), Nanyang Technological University
Master in Public Administration (2008)

Dr Intan has served as a Member of Parliament for Ang Mo Kio Group Representation Constituency since 2011. Currently, she teaches change management to undergraduates across different programmes in SIT. She has served the community through Mendaki, the Singapore Muslim Women’s Association, Singapore Children’s Society and Central Singapore CDC.

“When I was appointed a grassroots advisor, I had virtually no experience. My science training equipped me to swiftly adapt to new environments. My varied career paths over the last 19 years is proof that the possibilities for science graduates are limitless.”

Jeremy CHOOONG

CEO and Owner
Paksong Coffee Pte Ltd
B.Sc. in Chemistry, Minor in Mathematics (2002)

Jeremy aims to turn his family's ailing small-time coffee business into a high-end one that focuses on specialty coffee.

“Although I had no prior knowledge about the coffee industry, my organic chemistry knowledge was very useful in developing unique coffee flavours, and improving fermentation and processing methods. By farming specialty coffee, I gained an edge over more than 20,000 local coffee growers.”

Jeremy was a lecturer before working in hotel and property development. In 2014, he decided to jump into the challenge of running a coffee plantation business in Paksong, Laos.
TANG Ling Nah

Visual Artist and Part-Time Lecturer
LASALLE College of the Arts and Nanyang Academy of Fine Arts
B.Sc in Pharmacy (1993)
Bachelor of Arts (Translation and Interpretation), Singapore University of Social Sciences

Ling Nah is a multiple award-winning artist who exhibits her work locally and internationally. She also curates exhibitions and works on commissions, teaches art and attends artist residencies abroad.

"An inquiring mind, being meticulous and having the resolve to steer a project to fruition are attributes from my science education that are also necessary for art creation. We apply soft skills like teamwork and empathy through community art. Art raises awareness on societal issues, by encouraging audiences to appreciate the finer things in life."

Ling Nah first worked in a retail pharmacy and a community hospital pharmacy. She later pursued a fine arts degree and has been practising art since 2001.

FOO Hee Jug

Deputy Chief Executive, National University Health System
Chief Executive Officer, Ng Teng Fong General Hospital
B.Sc. (Hons) in Mathematics (1990)
MBA and Master of Public Health (1998), University of California, Los Angeles; Advanced Management Programme (2007), Harvard Business School

Hee Jug led the planning, designing and construction of Singapore’s first integrated healthcare development comprising Ng Teng Fong General Hospital and Jurong Community Hospital. In January 2018, he assumed the role of Deputy Chief Executive of the National University Health System.

“The Faculty of Science’s collegial environment of working closely with peers of diverse backgrounds gave me a wonderful university experience. The learning stuck with me and has helped me through the years in my career.”

Hee Jug started his career with the Singapore Police Force before moving on to a distinguished career in public healthcare.
Prof Stella TAN
Associate Professor in Practice
Department of Biological Sciences, NUS
(Seconded from Attorney-General’s Chambers)
B.Sc. (Hons) in Cell and Molecular Biology, Minor in Biotechnology (1998)
M.Sc. in Cell and Molecular Biology (2001); LLB (Hons) (2004)
M.Sc. in Forensic Science (2013), University of New Haven

Stella applies scientific concepts and principles to forensic investigations and the criminal justice system. She started the Forensic Science programme at the Faculty of Science in 2008, the first of its kind in Singapore.

“My experiences in forensic sciences and the law taught me to be systematic, inquisitive, to think out of the box, have a healthy attitude towards learning, be resilient in the pursuit of the truth, to demonstrate an acute proclivity for challenges and not be intimidated or discouraged by failures.”

Stella started her career at a major law firm. She subsequently became a Legal Officer in the public sector, a forensic science advocate and an academic.

TUNG Soo Hua
Presenter / Executive Editor
MediaCorp Pte Ltd
B.Sc. (Hons) in Mathematics (1997)
M.Soc.Sc. in International Studies (2007)

Soo Hua is a multiple award-winning news and current affairs presenter on Channel 8, MediaCorp. Besides presenting, she also oversees Morning Express, a daily info-news programme in the morning time belt.

“My science education gave me resilience to manage change. Now, I live the change daily as a journalist.”

Soo Hua started as a broadcast journalist and has assumed bigger editorial responsibilities at MediaCorp.
BECOME FUTURE-PROOF
Excellent Problem-Solving Skills
High Adaptability & Resilience
Strong Collaborative Skills

EXPERIENCE YOUR TRANSFORMATION
Specialisations in Majors
Study Abroad Programmes
Summer Programmes
Undergraduate Professional Internship Programmes
Final-Year Honours Project

PLAN YOUR DEVELOPMENT
Discipline-Based Majors
Double Majors, Minors,
Double Degrees, Joint Degrees, Concurrent Bachelor’s & Master’s Degrees
Undergraduate Research Opportunities Programme in Science
Special Programme in Science
Global Science Programme
NUS Pre-Medical Programme

BUILD YOUR FOUNDATION
Discipline Foundational Courses
Freshman Seminars
Science Communication Courses
General Education Courses

LEARNING OUTCOMES
• High Achiever
• Lifelong Learner

LEARNING OUTCOMES
• Enhanced Domain Knowledge
• Strengthened Social & Global Outlook

LEARNING OUTCOMES
• Technical Know-How
• Research Methodologies
• Critical & Analytical Thinking Skills
• Data Analysis Skills
• Academic Writing & Presentation Skills

LEARNING OUTCOMES
• Domain Knowledge
• Written & Communication Skills

NUS Transformative