



SCHOOL OF

Applied Science

Ready to unlock the future through science?

Step into a world of possibilities at RP School of Applied Science (SAS), where curiosity meets innovation. Whether you're passionate about sustainability, biomedical breakthroughs or cutting-edge chemistry, our five dynamic diploma programmes and the Common Science Programme will power your journey from the lab to real-world impact. Discover your #GreaterMe and turn your scientific spark into meaningful change.

Common Science Programme

Diploma in Applied Chemistry

Diploma in Biological Sciences

Diploma in Biomedical Science

Diploma in Environmental & Marine Science

Diploma in Pharmaceutical Science

Common Science Programme

Explore the science behind everything and discover where your curiosity can lead you.

Have a knack for science but unsure which field to venture into? Gain a firm scientific foundation by exploring the various disciplines offered by School of Applied Science (SAS). Discover your strengths and explore a wide range of career options available, empowering you to make a well-informed decision when selecting your diploma.

- Take extra time to uncover your true passion for science, enabling informed choices for your academic and professional journey
- Explore diverse scientific disciplines through common foundational modules, building a broad base for your future specialisation
- Choose from five SAS diplomas, expanding your opportunities for specialisation and a rewarding science career



Scan to learn more

WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
- Designing Your Impact
- Designing Your Life (Future-Ready I)
- Designing Your Life (Personal Growth I)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

Semester 1

- General and Physical Chemistry
- Laboratory Practices and Safety
- Mathematics for Applied Science
- Molecular Cell Biology and Biochemistry
- Sustainability and Climate Change

At the end of Semester 1, you will opt for one of the following diplomas/cluster:

- Applied Chemistry (R17)
- Biological Sciences (R16)
- Biomedical Science (R14)

- Environmental & Marine Science (R62)
- Pharmaceutical Science (R22)
- *Biological Sciences Cluster*

Semester 2

If you choose to enter the **Biological Sciences Cluster**, you will take the following modules:

- Anatomy and Physiology
- Data Analytics
- Microbiology
- Organic and Inorganic Chemistry

You will opt for one of the following diplomas at the end of semester 2:

- Biological Sciences
- Biomedical Science
- Pharmaceutical Science

After being placed in one of the SAS diploma programmes, you will study the modules specific to that programme.



My experience in the Common Science Programme (CSP) has been truly inspiring, expanding my understanding of the diverse diplomas offered by SAS. The various CSP events, from mass briefings to workshops, helped me discover my passions and interests, ultimately guiding me to pursue a Diploma in Biomedical Science (DBMS). I am grateful for the opportunities CSP provided, from discovering new things to becoming a Peer Support Leader for my juniors. I will always cherish the holistic experiences I gained through CSP, DBMS and RP, as well as the wonderful friends and supportive lecturers I met along the way, all of which opened up #GreaterPossibilities for my future."



LOH WEI WEN, JACI
2024 Graduate



DIPLOMA IN

Applied Chemistry

Unleash your inner chemist! Create the future of cosmetics, forensics, and materials.

Chemistry meets innovation in our Diploma in Applied Chemistry. Gain hands-on experience with exciting advancements in cosmetic, forensic and materials chemistry. Unleash your potential and design your destiny with us as you delve into the elements that power our world. Join the adventure where every reaction is a step towards your success!

- Gain hands-on chemistry expertise at RP's advanced laboratories – as you develop products, analyse chemicals, and build practical skills to tackle real-world challenges confidently
- Connect with industry experts, collaborate on real-life projects, and build a strong portfolio through internships – accelerating your career in the chemical industry
- Discover diverse careers in beauty and personal care, perfumery, pharmaceuticals, forensics, and materials science with our industry-focused diploma



Scan to learn more

WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
- Designing Your Impact
- Designing Your Life (Future-Ready I)
- Designing Your Life (Future-Ready II)
- Designing Your Life (Personal Growth I)
- Designing Your Life (Personal Growth II)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

- 3D Design and Printing
- Analytical Chemistry
- Cosmetic Product Design and Development
- General and Physical Chemistry
- Forensic Science
- Formulation Science and Technology
- Laboratory Practices and Safety
- Laboratory Skills in Analytical Testing
- Laboratory Skills in Chemistry
- Materials Processing and Characterisation
- Materials Science
- Mathematics for Applied Science
- Microbiology
- Molecular Cell Biology and Biochemistry
- Organic and Inorganic Chemistry
- Petrochemical Technology
- Polymer Chemistry
- Quality Assurance and Data Analytics
- Specialty Chemicals
- Sustainability and Climate Change
- Sustainable Production and Products

Elective Modules

Customise your learning pathways by selecting **ONE** of the following options:

Option A: Select Elective modules totalling 12 Modular Credits (MCs) from the list of modules in applicable Minor programmes and/or from the List of Electives below

Option B: Select a Minor Programme

Option C: Select a CET-based Certificate programme and/or Elective module(s) from the list of modules in applicable Minor programmes or from the List of Electives (only for eligible students)

List of Electives:

- Anatomy and Physiology
- Current Good Manufacturing Practice
- Clinical Development to Commercial Success
- Drug Design and Medicinal Chemistry
- Inventory Management
- Procurement and Supplier Development
- Wafer Fabrication and Packaging

Industry Orientation Programme Modules

Option 1: One-Semester Industry Immersion Programme

- Project

And select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

Option 2: Two-Semester Industry Immersion Programme

- Industry Immersion Programme
- Industry Immersion Programme II

CAREER OPPORTUNITIES

As a Diploma in Applied Chemistry graduate, you can look forward to exciting careers in diverse sectors such as chemicals, cosmetics, pharmaceuticals, petrochemicals, electronics, and materials sectors. Equip yourself to take on roles such as:

- Assistant Chemist
- Assistant Formulator
- Associate Researcher
- Laboratory Technologist
- Materials Planner
- Materials Specialist
- Process Technician
- Product Specialist
- Purchaser
- Quality Assurance/Control Specialist

“Studying the Diploma in Applied Chemistry at Republic Polytechnic has truly transformed my journey. Initially, I lacked confidence in my abilities, but the rigorous training and unwavering support from my instructors helped me build the skills I needed. Representing RP and winning bronze at WorldSkills Singapore 2025 affirmed my self-belief and strengthened my passion to pursue a #GreaterPurpose in chemistry.”



POH WEI XIAN
ANDREA
Year 3 Student

DIPLOMA IN

Biological Sciences

Explore the fascinating world of life sciences.

This diploma programme unlocks exciting career paths for you in biotechnology, agritech and food science. Start with foundational subjects such as molecular biology, microbiology, genetics, and anatomy, and build a strong theoretical foundation and practical skills from day one.

- Customise your learning with up to four electives, exploring science, business, digital skills, or entrepreneurship to shape your unique career pathway
- Develop innovative solutions through our Research Apprenticeship Programme – tackle real-world challenges in biotech or food innovation and create impact before you graduate
- Build in-demand skills and earn industry-recognised certificates – gain research experience and prepare for diverse careers in biotech, agrifood, or food manufacturing



Scan to learn more

WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
- Designing Your Impact
- Designing Your Life (Future-Ready I)
- Designing Your Life (Future-Ready II)
- Designing Your Life (Personal Growth I)
- Designing Your Life (Personal Growth II)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

- Anatomy and Physiology
- Data Analytics
- General and Physical Chemistry
- Laboratory Practices and Safety
- Mathematics for Applied Science
- Microbial and Cellular Applications in Food and Health
- Microbiology
- Molecular Cell Biology and Biochemistry
- Organic and Inorganic Chemistry
- Recombinant DNA Technologies
- Sustainability and Climate Change

Major Modules

Major in Biotechnology

- Analytical Chemistry
- Biological Applications in Health and Diagnostics
- Biopharmaceutical Production
- Cell Culture
- Genetics
- Genomics
- Immunology
- Protein Technologies
- Research Apprenticeship Programme in Bio-Innovation

Major in Food & Agricultural Science

- Agricultural Technology
- Agri-science and Tissue Culture
- Analytical Chemistry
- Food and Nutritional Sciences
- Food Processing and Packaging
- Genetics
- Quality Assurance in Agricultural and Food Products
- Research Apprenticeship Programme in Sustainable Food Innovation

Elective Modules

Customise your learning pathways by selecting **ONE** of the following options:

Option A: Select Elective modules totalling 16 Modular Credits (MCs) from the list of modules in the Minor programmes that are applicable to the Diploma and/or from the List of Electives below

Option B: Select a Minor Programme and an elective module of 4 MCs from the list of modules in the Minor programmes that are applicable to the Diploma or from the List of Electives below

Option C: Select a CET-based Certificate programme and/or Elective module(s) from the list of modules in the Minor programmes that are applicable to the Diploma or from the List of Electives below (only for eligible students)

List of Electives for Major in Biotechnology:

- Agri-science and Tissue Culture
- Aquaculture Farm Management and Operations
- Aquaculture Genetics
- Aquatic Animal Health and Nutrition
- Digital Health Innovations and Applications

List of Electives for

Major in Food & Agricultural Science:

- Aquaculture Farm Management and Operations
- Aquaculture Genetics
- Aquatic Animal Health and Nutrition
- Cell Culture
- Digital Health Innovations and Applications
- Immunology
- Protein Technologies

Industry Orientation Programme Modules

Option 1: One-Semester Industry Immersion Programme

- Project

And select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

Option 2: Two-Semester Industry Immersion Programme

- Industry Immersion Programme
- Industry Immersion Programme II

CAREER OPPORTUNITIES

You can explore careers in various life sciences industries, including biotechnology, biopharmaceuticals, medical research, agrifood, food product development & manufacturing. Consider opportunities in roles such as:

- Agriculturist
- Assistant Agricultural Scientist
- Assistant Biotechnologist
- Assistant Food Technologist
- Biopharmaceutical Production Technician/Senior Technician
- Food and Microbiology Specialist
- Health Education Officer
- Laboratory Assistant/Technologist
- Market Development Executive
- Quality Control Assistant
- Laboratory Analyst
- Quality Assurance Assistant
- Research Assistant/Technologist

“In this course, my favourite module is the Food Innovation and Sustainability module (renamed as Research Apprenticeship Programme in Sustainable Food Innovation). Collaborating with industry to develop sustainable food solutions allowed me to apply my food processing knowledge and lab skills in a meaningful way. The Problem-based Learning approach simplified complex concepts while lab workshops and field trips enriched my journey towards making a #GreaterImpact.”



CHUA RUI-EN
2023 Graduate

DIPLOMA IN

Biomedical Science

Transform your fascination with how the human body responds to disease into a rewarding career in biomedical science and healthcare.

Gain a comprehensive understanding of the human anatomy, and the molecular and physiological mechanisms underlying various diseases. Explore the fundamentals of bioinformatics and its use to investigate genes, proteins, and complex biological systems. Acquire investigative and technical skills to perform scientific research and laboratory diagnostics, preparing you for a rewarding career in the biomedical science and the healthcare industry.

- Learn anatomy in a truly interactive way at our dedicated Anatomy Learning Centre, packed with anatomical models and real specimens. You'll also be supported by innovative EdTech that makes complex science easier to understand
- Develop mastery in laboratory techniques through hands-on training offered in both two Majors – Biomedical Research and Medical Laboratory Technology
- Learn about the integration of biology with data science in the Bioinformatics module, and how it drives healthcare innovation



Scan to learn more



WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
- Designing Your Impact
- Designing Your Life (Future-Ready I)
- Designing Your Life (Future-Ready II)
- Designing Your Life (Personal Growth I)
- Designing Your Life (Personal Growth II)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

- Anatomy and Physiology
- Data Analytics
- General and Physical Chemistry
- Genetics
- Immunology
- Laboratory Practices and Safety
- Mathematics for Applied Science
- Microbiology
- Molecular Cell Biology and Biochemistry
- Organic and Inorganic Chemistry
- Sustainability and Climate Change

Major Modules

Major in Biomedical Research

- Advanced Cell Biology
- Bioinformatics
- Developmental Anatomy and Neuroscience
- Epidemiology and Public Health
- Genomics
- Medical Microbiology

- Oncology and Therapeutics
- Techniques in Molecular Biology

Major in Medical Laboratory Technology

- Bioinformatics
- Clinical Chemistry
- Diagnostic Pathology
- Epidemiology and Public Health
- Haematology
- Medical Laboratory Management
- Medical Microbiology
- Techniques in Molecular Biology

Elective Modules

Customise your learning pathways by selecting **ONE** of the following options:

Option A: Select Elective modules totalling 12 Modular Credits (MCs) from the list of modules in the Minor programmes that are applicable to the Diploma and/or from the List of Electives below

Option B: Select a Minor Programme

Option C: Select a CET-based Certificate programme and/or Elective module(s) from the list of modules in the Minor programmes that are applicable to the Diploma or from the List of Electives below (only for eligible students)

List of Electives for

Major in Biomedical Research:

- Current Good Manufacturing Practice

- Diagnostic Pathology
- Digital Health Innovations and Applications
- Environment, Health and Safety
- Haematology
- Needs Assessment
- Principles of Chemical and Biological Drug Action

List of Electives for
Major in Medical Laboratory Technology:

- Advanced Cell Biology
- Current Good Manufacturing Practice
- Developmental Anatomy and Neuroscience
- Digital Health Innovations and Applications
- Environment, Health and Safety
- Needs Assessment
- Oncology and Therapeutics
- Principles of Chemical and Biological Drug Action

Industry Orientation Programme
Modules

Option 1: One-Semester Industry Immersion Programme

- Project

And select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

Option 2: Two-Semester Industry Immersion Programme

- Industry Immersion Programme
- Industry Immersion Programme II

CAREER OPPORTUNITIES

You can pursue a fulfilling career in healthcare institutions, research laboratories, and companies that develop and distribute biomedical products. Look forward to roles such as:

- Laboratory Technologist
- Medical and Laboratory Product Specialist
- Medical Technologist
- Quality Control / Quality Assurance Officer
- Research Assistant



RP has reshaped how I view learning and what I'm capable of achieving. I've seized opportunities I never imagined and unlocked milestones I once thought were out of reach. It gave me a safe space to discover my potential, grow through setbacks and build confidence. RP has helped me realise #GreaterPossibilities, equipping me for a brighter future."



ZAFIRAH ISKANDAR DZULKARNAIN
2025 Graduate

DIPLOMA IN

Environmental & Marine Science

Be at the forefront of safeguarding the environment and marine ecosystems for future generations!

Climate change poses significant challenges to our world — from intensifying wildfires and rising sea levels to dwindling freshwater resources, shrinking food supplies, and the spread of diseases. Are you driven to make a meaningful difference in the face of these global issues? Join us and become the next generation of sustainability leaders.

- Gain expertise in climate change, ecology, wildlife and environmental management, sustainability reporting, and the circular economy for a future-ready environmental career
- Develop skills to conserve ecosystems by engaging with wildlife on field trips and gain access to RP's Rain Garden and Aquaria research facility
- Intern with Mandai Wildlife Group, Singapore Oceanarium, and others to gain real-world experience and strengthen your career prospects in environmental science



Scan to learn more

WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
- Designing Your Impact
- Designing Your Life (Future-Ready I)
- Designing Your Life (Future-Ready II)
- Designing Your Life (Personal Growth I)
- Designing Your Life (Personal Growth II)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

- Aquaculture Farm Management and Operations
- Aquaculture Product Quality and Food Safety
- Aquatic Animal Health and Nutrition
- Data Analytics
- Environmental Management and Assessment
- Environmental Testing and Analysis
- Environment, Health and Safety
- General and Physical Chemistry
- Laboratory Practices and Safety
- Marine Biology
- Marine Ecology and Conservation
- Mathematics for Applied Science
- Microbiology
- Molecular Cell Biology and Biochemistry
- Resource Management and Circular Economy
- Sustainability and Climate Change
- Sustainability Reporting and Carbon Management
- Systematics and Biodiversity
- Terrestrial Ecology and Wildlife Management

Elective Modules

Customise your learning pathways by selecting **ONE** of the following options:

Option A: Select Elective modules totalling 12 Modular Credits (MCs) from the list of modules in the Minor programmes that are applicable to the Diploma and/or from the List of Electives below

Option B: Select a Minor Programme

Option C: Select a CET-based Certificate programme and/or Elective module(s) from the list of modules in the Minor programmes that are applicable to the Diploma or from the List of Electives below (only for eligible students)

List of Electives:

- Agri-Science and Tissue Culture
- Analytical Chemistry
- Aquaculture Genetics
- Environmental Pollution Control and Technology
- Green Building Technology and Design
- Supply Chain Management
- Sustainable Production and Products

Industry Orientation Programme Modules

Option 1: One-Semester Industry Immersion Programme

- Project

And select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

Option 2: Two-Semester Industry Immersion Programme

- Industry Immersion Programme
- Industry Immersion Programme II

CAREER OPPORTUNITIES

You can look forward to enriching careers in environmental, water services, petrochemical and semiconductor sectors, fisheries, oceanariums, wildlife and marine parks and reserves, research institutes as well as government agencies. Get ready to take on roles such as:

- Aquarist
- Aquaculture Technologist
- Conservation and Outreach Executive
- Environmental Control and Environmental Service Officer
- Environmental Health and Safety Technician
- Laboratory Technologist
- Operations Technician/Executive
- Parks Officer
- Sustainability Executive/Officer

“This diploma offers modules that broaden my knowledge and perspectives on the many pillars of Environmental Science. Experiential learning through field trips, laboratory work, exciting internships, and overseas study trips has allowed me to apply and refine what I have learned. The supportive lecturers have also played a crucial role in elevating my passion for biodiversity conservation to new heights. These experiences have been a defining part of my #GreaterMe journey.”



CHOO RUIHONG
2024 Graduate

DIPLOMA IN

Pharmaceutical Science

Break new ground in the pharmaceutical landscape with real skills and real-world experience.

Ready to make a real impact? The Diploma in Pharmaceutical Science blends science, clinical skills, industry internships, and service learning, so you don't just learn, you also lead. Apply your knowledge to real healthcare challenges, serve the community, and shape the future of pharmaceuticals. Your journey to meaningful change starts here.

- Prepare for dynamic careers in pharmaceuticals, healthcare, and research with an industry-aligned curriculum tailored to current standards
- Master clinical skills in medication dispensing and patient care and ensure readiness for impactful healthcare roles
- Learn drug formulation, production, and analysis through authentic, hands-on training in state-of-the-art facilities, building expertise for real-world pharmaceutical roles



Scan to learn more



WHAT YOU WILL LEARN

General Modules

- Critical Thinking and Problem Solving Skills
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- Designing Your Life (Future-Ready II)
- Designing Your Life (Personal Growth I)
- Designing Your Life (Personal Growth II)
- Effective Workplace Communication
- Innovation and Practice
- Singapore, the World and I

Discipline Modules

- Anatomy and Physiology
- Data Analytics
- General and Physical Chemistry
- Good Dispensing Practice
- Healthcare Regulations and Ethics
- Laboratory Practices and Safety
- Mathematics for Applied Science
- Microbiology
- Molecular Cell Biology and Biochemistry
- Organic and Inorganic Chemistry
- Principles of Chemical and Biological Drug Action
- Sustainability and Climate Change

Major Modules

Major in Patient Care Practice

- Advanced Pharmacotherapy
- Clinical Pharmacology and Pharmacotherapy
- Digital Health Innovations and Applications
- Healthcare Professionalism and Patient Counselling Skills
- Health Products Supply Chain
- Integrative Medicine and Nutrition

- Medication Safety and Sustainability
- Minor Ailments and Preventive Health
- Pharmaceutics and Compounding Techniques

Major in Pharmaceutical Industry Practice

- Analytical Chemistry
- Clinical Development to Commercial Success
- Clinical Pharmacology and Pharmacotherapy
- Current Good Manufacturing Practice
- Drug Design and Medicinal Chemistry
- Health Products Supply Chain
- Minor Ailments and Preventive Health
- Pharmaceuticals and Biologics Manufacturing Science
- Pharmaceutics and Compounding Techniques

Elective Modules

Customise your learning pathways by selecting **ONE** of the following options:

Option A: Select Elective modules totalling 12 Modular Credits (MCs) from the list of modules in applicable Minor programmes and/or from the List of Electives below

Option B: Select a Minor Programme

Option C: Select a CET-based Certificate programme and/or Elective module(s) from the list of modules in applicable Minor programmes or from the List of Electives below (only for eligible students)

List of Electives for

Major in Patient Care Practice:

- Analytical Chemistry

- Clinical Development to Commercial Success
- Current Good Manufacturing Practice
- Drug Design and Medicinal Chemistry
- Genetics
- Immunology
- Pharmaceuticals and Biologics Manufacturing Science

List of Electives for

Major in Pharmaceutical Industry Practice:

- Advanced Pharmacotherapy
- Digital Health Innovations and Applications
- Genetics
- Healthcare Professionalism and Patient Counselling Skills
- Immunology
- Integrative Medicine and Nutrition
- Medication Safety and Sustainability

Industry Orientation Programme Modules

Option 1: One-Semester Industry Immersion Programme

- Project

And select one module from the list below:

- Corporate Innovation Immersion Programme
- Entrepreneurial Immersion Programme
- Industry Immersion Programme

Option 2: Two-Semester Industry Immersion Programme

- Industry Immersion Programme
- Industry Immersion Programme II

CAREER OPPORTUNITIES

Gain expertise in biomedical science, chemistry, and pharmacy to excel in both industry roles and patient care settings.

- Assistant Biotechnologist
- Assistant Formulation Scientist
- Clinical Research Coordinator/ Regulatory Affairs Executive
- Pharmaceutical Research/ Laboratory Technologist
- Pharmaceutical Sales Executive/ Healthcare Product Specialist
- Pharmacy Technician/ Pharmacy Retail Executive
- Procurement Executive (Healthcare)
- Quality Assurance Assistant/ Quality Control Analyst



This course gave me a strong foundation in pharmaceutical science, both in class and beyond. I tackled real-world issues like reducing drug burden in my Final Year Project and joined overseas service-learning projects. With supportive lecturers, I'm grateful to receive an offer to study Pharmacy at NUS. RP helped me uncover my #GreaterMe and inspired my journey to make a meaningful difference."



ANG E-YOUNG

2025 Graduate