COMMON SCIENCE PROGRAMME (T70)

Course Overview

Are you passionate about science, but need more time and opportunities to dip your toes into the various science disciplines before making your choice? The Common Science Programme allows you to explore your interests and aptitude through a broad-based curriculum over two semesters. This provides a glimpse into the different disciplines offered by the School of Applied Science.

To help you further make an informed decision, you will get to participate in education and career guidance (ECG) activities, such as course sharing by lecturers, students and alumni, industry talks and visits, structured reflections, and course counselling sessions.

By the end of this one-year programme, you will be well-equipped to pursue one of the following School of Applied Science diploma courses for the next two years of your study:

T33 Chemical Engineering
T26 Food, Nutrition and Culinary Science
T64 Medical Biotechnology
T25 Pharmaceutical Science
T45 Veterinary Technology

CHART YOUR PATH
Gain insights about the science industry and the diploma courses, and uncover your strengths and interests through our suite of ECG activities.

COLLABORATE TO CREATE
Benefit from opportunities to work with peers and tutors in multi-disciplinary teams and create new ideas and solutions through project-based and experiential learning.

BE FUTURE-READY
Experience subjects ranging from fundamentals such as chemistry and microbiology, to foundation subjects that offer current and highly sought-after skills, such as data analytics, sustainability and laboratory safety.

Entry Requirements

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

Subject	Grade
English Language (EL1)*	1-7
Mathematics (E or A)	1-6
One of the following Science subjects: • Biology • Biotechnology • Chemistry • Combined Science • Food & Nutrition • Physics/Engineering Science • Science (Chemistry, Biology) • Science (Physics, Biology) • Science (Physics, Chemistry)/Physical Science	1-6
Any two other subjects, excluding CCA	
2023 Planned Intake	**150**
Net ELR2B2 aggregate range (2023 JAE)	**7 - 12**

** Sijil Pelajaran Malaysia (SPM)/ Unified Examination Chinese (UEC) holders must have a minimum of grade 6 for the relevant English Language subject (e.g. Bahasa Inggeris).*

What You'll Learn

YEAR 1 | TPFUN

Build a firm foundation in a wide array of science disciplines through subjects that deliver fundamental concepts, as well as subjects that help to enhance digital literacy, build competencies in laboratory risk assessments, and offer multidisciplinary perspectives on sustainability development.

Core Subjects

Subject Code	Subject	Credit Units
AMA1003	**Mathematics for Applied Science** This subject covers algebra, differentiation, integration and their applications in applied science contexts.	3
APH1004	**Laboratory & Workplace Safety** This subject covers an introduction to Good Laboratory Practice, and the identification and classification of biological, chemical, physical and ergonomic hazards at the workplace and laboratories. It also involves the conduct of risk assessment, risk controls and monitoring as well as communication of these risks to all persons involved in compliance with the Workplace Safety and Health (Risk Management) Regulations.	3
AMB1005	**Basic Microbiology** This subject investigates the important fundamentals of microbiology and its relevance to the food, biomedical and biotechnology industries. It covers the types of microorganisms, their cultivation and growth as well as their control.	4
AMA1008	**Digitalisation in Applied Science** This subject covers the basic concept of data analytics as well as the processes of data cleaning, processing and visualisation of data in	2

	the contexts of applied science. Basic coding and fundamental computational thinking constructs such as variables, data type and logic will also be addressed.		
ACH1009	**Principles of Inorganic & Physical Chemistry 1** This subject covers the basic theory and practical knowledge of inorganic and physical chemistry. Topics include fundamentals of chemistry, atomic structure and chemical bonding, stoichiometry and equilibria concepts of a chemical reaction.	**4**	^
AMA1004	**Statistics for Applied Science** This subject provides you with the basic statistical techniques that are essential for your course of study. Topics covered include basic probability and distributions, basic statistics, sampling distribution, hypothesis testing, analysis of variance and chi-square testing.	**3**	^
AMT1004	**Cell Biology & Biochemistry** This subject introduces the biology of cells and the structure-function relationship of cells, cellular membranes and organelles. It covers basic concepts of organic chemistry and the structure-property relationship of essential biomolecules. Basic laboratory skills involving the study of cell structures with the use of cell staining and microscopy techniques, as well as basic biochemical analysis will also be introduced.	**5**	^
ANT1005	**Nutrition & Health** This subject examines the relationship between food, nutrition and health. It provides an introduction to macro- and micro- nutrients in relation to the well-being of the human body. It covers food sources of these nutrients and their interrelationships as well as the use of basic nutritional tools like My	**3**	^

Healthy Plate, food composition tables and online nutritional databases for basic nutritional analysis.

YEAR 1 **TPFUN**

You will also take this set of subjects that equips you with the crucial 21st-Century life skills you need to navigate the modern world as an agile, forward-thinking individual and team player.

TP Fundamentals (TPFun) Subjects —

Subject Code	Subject	Credit Units
ATX1001	**Effective Communication** This subject introduces the fundamentals of effective communication. It also covers how to communicate with and convince an audience through writing and speaking tasks. The skills in this subject will include the application of strategies for communication, appropriate vocabulary, language features, visual aids, tone and style. The **M**essage, **A**udience, **P**urpose and **S**trategy (MAPS) framework will also be applied when planning and engaging in written and verbal communication. There will be opportunities to communicate and collaborate through active learning activities, apply digital and information literacy skills and build competence through self-directed learning.	**3**
GTP1301	**Current Issues & Critical Thinking** This subject covers current issues, including diverse local and global concerns, that will impact lives and may have critical implications for Singapore. There will be opportunities to build competence through self-directed learning, communicate and collaborate in active discussions and objectively analyse issues using digital and information literacy skills and critical thinking scaffolds.	**3**
GTP1101	**Leadership Fundamentals** This subject focuses on self-	**2**

	leadership based on the values of integrity, respect, and responsibility. Increasing awareness of self and others will lay the foundations for personal and relationship effectiveness. Consequential thinking, clear articulation of personal values and visions, emphatic listening, and collaboration in serving others are some of the essential skills covered in this leadership journey. There will be opportunities to build and to apply the concepts of being a values-centred leader.		
GTP1201	**Career Readiness** This subject focuses on personal management skills. It develops an understanding of one's career interests, values, personality and skills for career success. It covers the necessary knowledge, skills and attitudes needed to succeed in the workplace and achieve professional goals. There will be exposure to apply digital and information literacy skills, build competence through self-directed learning methods, and acquire the skills of being a lifelong learner.	**1**	^
AIN1001	**Innovation & Entrepreneurship** The subject is designed for learners from all disciplines to embrace innovation in either their specialised field or beyond. Learners will be taught to apply the Design Thinking framework to develop problem statements, ideate and identify feasible solutions. Learners will be exposed to several tools for prototyping. In addition, commercial awareness will be imbued in learners through various innovation and entrepreneurship concepts or tools. This subject also prepares students to be self-directed lifelong learners who are digital and information literate. It nurtures communicative and collaborative citizens who can use objective analysis in problem-solving.	**2**	^

LSW1002	**Sports & Wellness** The subject enables students to build a good foundation for healthy living. Students will have the opportunity to participate in hands-on practical sessions where they will experience and develop both physical and technical skills in their chosen sports or fitness activities. Through a structured curriculum that facilitates group participation, practice sessions and mini competitions, students will be able to build lifelong skills such as resilience, leadership, communication and teamwork. Physical activity sessions will also be supplemented by health-related topics that span the dimensions of health, such as diet, nutrition, stress and weight management, to provide students with a holistic approach to healthy living. This subject also prepares students to be self-directed and accountable for lifelong learning for good health.	**2**	^
AGS1002	**Global Studies** This subject provides essential skills and knowledge to prepare students for an overseas experience. They will examine the elements of culture and learn the key principles of cross-cultural communication. In addition, they will gain an appreciation and awareness of the political, economic, technological and social landscape to function effectively in a global environment. The subject prepares students to be responsible global citizens and leaders who can contribute to the global community through effective communication and collaboration.	**3**	^
TGS1001	**Sustainability & Climate Action*** This subject prepares students to be responsible global citizens and future leaders who can contribute to the global community. It introduces the topics of sustainability and explores how human societies can act to build a sustainable future. This subject	**3**	^

	focuses on the impact of climate change, potential solutions to climate change, and the future of the green economy from global and local perspectives.		
GTP1302	**Guided Learning***	**3**	
	The subject introduces students to the concepts and process of self-directed learning in a chosen area of inquiry. The process focusses on four stages: planning, performing, monitoring and reflecting. Students get to plan their individual learning project, refine and execute the learning plan, as well as monitor and reflect on their learning progress and project. The learning will be captured and showcased through a curated portfolio. The self-directed learning project will broaden and/or deepen a student's knowledge and skills. Students will enhance their problem solving and digital literacy skills through this subject.		

** Students must choose to take either **Sustainability & Climate Action** or **Guided Learning**.*

Graduation Requirements

All students who enrol through this common programme will graduate with the same diploma as those who had joined a particular diploma right from the start. They will be subject to the graduation requirements of the respective diplomas into which they have been streamed.

Please refer to the respective diploma websites for more information:

- Diploma in Chemical Engineering
- Diploma in Food, Nutrition and Culinary Science
- Diploma in Medical Biotechnology
- Diploma in Pharmaceutical Science
- Diploma in Veterinary Technology