

Biomedical Science



Play a part in assisting clinical diagnosis, and in the research and development of new methods for the diagnosis, treatment and prevention of diseases. Study Biomedical Science and you will understand how the human body functions, how diseases occur, and how we can prevent and diagnose them.

Singapore is poised to be a global hub for biomedical and clinical sciences. The local biomedical sciences sector is growing rapidly with increasing foreign direct investment that boosts job opportunities in clinical laboratory testing, clinical trials as well as research and development. Singapore's thrust to be the region's medical hub with world-class healthcare services emphasises the need for quality trained technologists in clinical laboratories and clinical research. This course puts you in demand!

You begin by learning the foundational sciences to understand the biology and chemistry of health sciences. You will study, among other things, the inner workings of living cells, the biological processes involving proteins and enzymes, the structure, parts and functions of the human body, and the world of bacteria, viruses and other microorganisms. You will progress to learn the nature, causes and progression of human diseases, our biological responses

and defences, and diagnosis so that appropriate treatment can be provided. You will ultimately build your strength in the testing, diagnosis, management and prevention of diseases.

This course emphasises learning through established collaborative training with industry/research institutions/hospitals, taught by experienced teaching/research staff and industry practitioners. The compulsory structured internship carried out concurrently with major projects helps you to experience working life and allows you to apply theory to practice. Interns are involved in real industry projects, evaluating new clinical laboratory equipment or diagnostic test kits.



We are impressed by the quality of TP's students who are attached to SGH pathology laboratories annually. They demonstrate enthusiasm, commitment, diligence and a positive attitude throughout the period of their attachments. The skills that they have acquired in the laboratories will put them in good stead to commence work almost immediately as laboratory or medical technologists in hospitals and clinical laboratories upon graduation. With more hospitals being developed and a rapidly ageing population, there is a very strong demand for graduates embarking on such careers.

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Career Opportunities

Our graduates can work as medical technologists or laboratory technologists in hospital/clinical laboratories, medical research centres, and central testing laboratories. They can also work as assistant clinical research co-ordinators at clinical research organisations. Those who enjoy being at the forefront of technology can work as product application specialists, or sales and marketing executives of medical/diagnostic products and devices.

Graduation Requirements

Cumulative Grade Point Average	: min 1.0
TP Fundamentals Subjects	: 40 credit units
Diploma Subjects	
Core Subjects	: 71 credit units
Elective Subjects	: min 9 credit units
Total Credit Units Completed	: min 120 credit units

Application

Apply during the Joint Admissions Exercise following the release of the GCE O Level results. For other categories of local applicants, please refer to the section on "Admission and Requirements". For international students, please refer to the section on "Information for International Students".

Minimum Entry Requirements

English Language (EL1) *	Grades 1 - 7
Mathematics (E or A)	Grades 1 - 6
One of the following subjects:	Grades 1 - 6
Biology, Biotechnology, Chemistry, Combined Science, Food & Nutrition, Physical Science, Physics/ Engineering Science, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry)	
Any two other subjects, excluding CCA	-

* *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).*

Note: Applicants with partial or complete colour appreciation deficiency are not eligible to apply.

Course Structure

TP FUNDAMENTALS (TPFun) SUBJECTS				
SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS	
ACS1005	Communication & Information Literacy (IComm)	1	2	
ACS1006	Workplace Communication (WkComm)	1	2	
ACS1007	Persuasive Communication (PComm)	1	2	
GCC1001	Current Issues & Critical Thinking	1	2	
IED1001	Innovation & Entrepreneurship	1	2	
LEA1011	Leadership: Essential Attributes & Practice 1	1	1	
LEA1012	Leadership: Essential Attributes & Practice 2	1	1	
LEA1013	Leadership: Essential Attributes & Practice 3	1	1	
LSW1002	Sports & Wellness	1	2	
MCR1001	Career Readiness 1	1	1	
MCR1002	Career Readiness 2	1	1	
MCR1003	Career Readiness 3	1	1	
TFS1002	Global Studies	1	3	
TFS1003	Managing Diversity at Work*	1	3	
TFS1004	Global Citizenship & Community Development*	1	3	
TFS1005	Expressions of Culture*	1	3	
TFS1006	Guided Learning	1	3	
ASI3026	Student Internship Programme	3	16	

* Students must choose to take either one of these three subjects or TFS1006 Guided Learning.

DIPLOMA SUBJECTS – CORE SUBJECTS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
ABT1001	Cell Biology	1	4
ABT1003	Biomolecules	1	5
ABT1004	Molecular Genetics	1	5
ACH1009	Principles of Inorganic & Physical Chemistry 1	1	4
AMA1003	Mathematics for Applied Science	1	3
AMB1002	Human Anatomy & Physiology	1	5
AMB1004	Basic Microbiology	1	3
ABM2013	Immunology	2	4
ABM2014	Clinical Chemistry	2	5
ABM2016	Biological Data Analysis	2	5
ABM2017	Histopathology	2	5
ABT2013	Molecular Biology	2	4
ABT2015	Mammalian Cell Technology	2	3
ACH2004	Principles of Instrumental Analysis	2	4
AMB2006	Medical Microbiology	2	4
AMP3006	Major Project	3	8

DIPLOMA SUBJECTS – ELECTIVE CLUSTER SUBJECTS

Students will be required to read an Elective Cluster offered by the School and complete a minimum of 9 credit units. The Elective Cluster to be offered by the course, and the subjects under this Cluster, are summarised below.

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
<u>Laboratory Medicine</u>			
ABM3006	Blood Banking	3	3
ABM3009	Haematology	3	3
ABM3010	Laboratory Management & Quality Assurance	3	3
<u>Free Electives</u>			
APH3004	Pharmaceutical Manufacturing Technology	3	4
APH3011	Current Good Manufacturing Practice & Process Improvement	3	4