BIOL 3150 Principles of Environmental Management (3,3,0) (E)

Prerequisite: BIOL 2110 Ecology or Geography major Year III standing

This course discusses the anthropogenic causes of environmental degradation and the way sustainable growth can be brought about by environmental management. This course also examines the framework of environmental planning and management and the techniques for tackling environmental management. This course then applies principles of environmental science to help manage some of the diverse array of environmental problems, in different physical, biological and social environment.

BIOL 3160 Molecular Biology (3,3,0) (E)

Prerequisite: BIOL 1160 Biological Chemistry, BIOL 1210 Cell Biology, BIOL 1310 Microbiology and BIOL 2160 Genetics and Evolution

This course aims to provide a fundamental principle and current techniques in molecular biology with particular regard to topics related to application in biotechnology. Special attention will be given to the organization of eukaryotic genes, the flow of genetic information and the control of gene expression. The recombinant DNA technology in protein engineering will be emphasized.

BIOL 3170 Environmental Biotechnology (3,3,0) (E)

Prerequisite: BIOL 1160 Biological Chemistry and BIOL 1310 Microbiology

This course provides a general understanding of the principles and applications of biotechnology in environmental monitoring, pollution control and contaminants removal. Special emphasis will be placed in biological wastewater treatment, bioremediation and ecological engineering.

BIOL 3180 Fermentation and Enzyme Technology (3,3,0) (E)

Prerequisite: BIOL 1160 Biological Chemistry, BIOL 1210 Cell Biology, BIOL 1310 Microbiology and BIOL 2160 Genetics and Evolution

This course introduces basic principles and current techniques in industrial microbiology and enzyme technology.

BIOL 3260 Biological Resources and Management (3,3,0)

Prerequisite: BIOL 2110 Ecology

This course is designed to promote an awareness of man's interaction with his abiotic and biotic environment through training in the principles of resource utilization and conservation as applied to biological systems. The course focuses on the management and rational exploitation of resources in terrestrial and aquatic ecosystems with particular emphasis on local and regional resources.

BIOL 3280 Waste Treatment and Recycling (3,3,0) (E)

Prerequisite: BIOL 2110 Ecology

This course is designed to understand the origins of waste and the social, political and economic issues involved with waste disposal and to review the waste generation problem and to examine various physical, chemical and biological waste treatment methods. The course also introduces the various technologies in reducing and reutilizing the various types of wastes. Students will have a comprehensive knowledge of the current and projected legislation regarding waste and their potential implications.

BIOL 3320 Immunology (3,3,0) (E)

Prerequisite: BIOL 1210 Cell Biology, BIOL 2160 Genetics and Evolution and BIOL 2210 Animal Physiology

This course provides basic concepts in the rapidly advancing field of immunology and exposes students to modern and current applications of immunology in cell biology, molecular biology and medical sciences.

BIOL 3350 Neurobiology (3,3,0) (E)

Prerequisite: BIOL 2210 Animal Physiology

The course studies neurobiology with main emphasis on how neuronal information are integrated in the CNS to control functions such as visual recognition, sleep, memory and movement. The course also studies the autonomic nervous system with emphasis on its control of body functions. Lastly, the relationship between the nervous system and the hormonal system will also be stressed.

BIOL 3460 Biotechnology Studies Laboratory I (2,0,6)

Prerequisite: Biology major Year III standing (Biotechnology Concentration)

This laboratory exercise introduces basic principles and current methods in biotechnology. The topics cover the basic technologies in molecular biology, enzymology and immunology.

BIOL 3470 Biotechnology Studies Laboratory II (2,0,6)

Prerequisite: Biology major Year III standing (Biotechnology Concentration)

This laboratory exercise introduces basic principles and current methods in biotechnology. The topics cover various techniques currently being used in the area of immunology, plant science, production of microbial products, neurobiology and physiology.

BIOL 3591-2 Applied Biology Project I & II (3,0,9)

Prerequisite: Biology major Year III standing

This course aims to guide students in the development of research methodology appropriate to the practice of biology. Opportunity will be given to students who work on problems of an applied or interdisciplinary nature that have real-world significance.

BIOL 4005 Biotechnology Studies Laboratory I (2,0,6)

Prerequisite: Biology major Year IV standing (Biotechnology Concentration)

The course is to introduce basic principles and current methods in biotechnology. The topics cover the basic technologies in molecular biology, enzymology and immunology.

BIOL 4006 Environmental Science Laboratory I (2,0,6)

Prerequisite: Biology major Year IV standing (Environmental Concentration)

This course provides students with hands-on experience in the approaches and techniques commonly used in environmental research. A local habitat will be selected and students will be trained to conduct sampling and analytical techniques of various environmental matrices including water, soil and biological samples.

BIOL 4007 Molecular Biotechnology (3,3,0) (E)

Prerequisite: Biology major Year IV standing

This course aims to introduce to students with methods and techniques commonly used in molecular biological research and biotechnology, including current applications in microbial, plant, animal, and medical biotechnology.

BIOL 4015 Fermentation and Enzyme Technology (3,3,0) (E)

Prerequisite: Biology major Year IV standing

This course aims to introduce basic principles and current techniques in industrial microbiology and enzyme technology.

BIOL 4016 Principles of Environmental Management (3,3,0) (E)

Prerequisite: Biology major Year IV standing

This course aims to (1) discuss the anthropogenic causes of environmental degradation and the way sustainable growth can be brought about by environmental management; (2) examine the framework of environmental planning and management and the

techniques for tackling environmental management; and (3) apply principles of environmental science to help manage some of the diverse array of environmental problems, in different physical, biological and social environments.

BIOL 4017 Environmental Biotechnology (3,3,0) (E)
Prerequisite: Biology major Year IV standing
This course provides a general understanding of the principles and applications of biotechnology in environmental monitoring, pollution control and contaminants removal. Special emphasis will be placed in biological wastewater treatment, bioremediation and ecological engineering.

BIOL 4025 Biotechnology Studies Laboratory II (2,0,6)
Prerequisite: Biology major Year IV standing (Biotechnology Concentration)
This course introduces basic principles and current methods in biotechnology. The topics cover various techniques currently in use in immunology, plant science, production of microbial products, neurobiology, and physiology.

BIOL 4026 Environmental Science Laboratory II (1,0,3)
Prerequisite: Biology major Year IV standing (Environmental Concentration)
This course aims to (1) provide students with training in analytical techniques, including physical, chemical and biological techniques, for environmental investigations; (2) provide students with the skills in management and evaluation of environmental data; and (3) provide students with hands-on experience in management techniques for conducting and evaluating an environmental project.

BIOL 4027 Developmental Biology (3,3,0) (E)
Prerequisite: BIOL 3005 Animal Physiology, BIOL 3025 Plant Physiology, BIOL 3017 Molecular Biology and BIOL 4007 Molecular Biotechnology
This course aims to equip students with a solid foundation in principles of animal and plant development, including embryogenesis, tissue formation and organogenesis, stem cell biology and tissue regeneration, plant and animal reproduction, and growth, cancer and aging. The course also challenges students to apply basic knowledge in cell biology, genetics, and molecular biology in understanding developmental processes.

BIOL 4035 Biological Resources and Management (3,3,0) (E)
Prerequisite: Biology major Year IV standing
This course is designed to promote an awareness of human beings' interaction with the abiotic and biotic environments through studying the principles of resource utilization and conservation that apply to biological systems. The course focuses on the management and rational exploitation of resources in terrestrial and aquatic ecosystems with particular emphasis on local and regional resources.

BIOL 4898-9 Applied Biology Project I & II (3,0,9)
Prerequisite: Biology major Year IV standing
This course aims to provide students with opportunitites to conduct a literature survey or laboratory-based research on a specific biological question. Guidance will be provided to students in the development of an independent research plan and apply this plan to address the question.

BIOL 7010 Advanced Topics in Biotechnology (3,3,0) (E)
Prerequisite: BSc (Hons) in Biology or with consent of instructor
This is a postgraduate course covering the principles and methods of biotechnology at an advanced level It aims at providing more in-depth studies of selected topics, such as production of recombinant proteins, toxicological study of drugs, application of immunological techniques in research, and new developments of modern biotechnology.

BIOL 7020 Advanced Topics in Environmental Sciences (3,3,0) (E)
Prerequisite: BSc (Hons) in Biology or with consent of instructor
This is a postgraduate course that provides update information in recent advance development in selected areas in environmental science and technology.

BMS 1260 Medical Psychology (2,2,0)
This course aims at providing students with basic knowledge about the theories and concepts in medical psychology, developing their ability to apply psychological explanations to individual's daily social behaviour, and examining current psychological issues related to people in Hong Kong.

BMS 2440 Public Health and Family Medicine (2,2,0) (E)
Public health is the science and art of preventing disease, prolonging life and improving the health of communities through education, promotion of healthy lifestyles and research for disease and injury prevention. It deals with preventive rather than curative aspects of health; and with health issues at population-level rather than individual-level.
The objective of this course is to give students an overview of Public Health in the following aspects: (1) The principles of disease surveillance, biostatistics and epidemiology; (2) The incidence, prevalence and causes of common health problems in Hong Kong; (3) The clinical and preventive aspects of occupational health, environmental health, family health, mental health and health education; and (4) An overview of Hong Kong health services.
Family medicine is a medical specialty that provides continuing and comprehensive healthcare for individuals and families, including all ages, sexes, organ systems, and disease entities.
The objective of this course is to give students a general concept of Family Medicine in the following aspects: (1) Principles of Family medicine; (2) Common medical conditions encountered in family practice; (3) Care for women; (4) Pediatric and adolescent care; and (5) Geriatric care, especially those with chronic illnesses.

BMS 2450 Public Health and Family Medicine (3,3,0) (E)
Public health is the science and art of preventing disease, prolonging life and improving the health of communities through education, promotion of healthy lifestyles and research for disease and injury prevention. It deals with preventive rather than curative aspects of health; and with health issues at population-level rather than individual-level.
The objective of this course is to give students an overview of Public Health in the following aspects: (1) The principles of disease surveillance, biostatistics and epidemiology; (2) The incidence, prevalence and causes of common health problems in Hong Kong; (3) The clinical and preventive aspects of occupational health, environmental health, family health, mental health and health education; (4) An overview of Hong Kong health services.
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BMS 2510 Cardiovascular System (2.5,2.5,0)
In the modern era, cardiovascular disease contributes greatly to the burden of the healthcare system. In industrialized societies, it is the most frequent cause of adult death. It is important that students should be quite familiar with diseases affecting this system.
This course aims at offering students a general overview of the