

**BIOL 7100 Plant Propagation and Breeding (3,3,0)**

Prerequisite: BIOL 1130 Biodiversity and BIOL 2230 Plant Physiology

This course is divided into two main sections, plant propagation and plant breeding. Students are expected to understand the principles involved in the practices of the two important aspects of applied plant sciences. Both conventional and modern methods, and technology are introduced with emphasis on the plant micropropagation and conventional hybridization breeding.

**BMS 1140 Biochemistry (3,3,0)**

This course provides an introduction to the basic concepts of biochemistry with examples relevant to Chinese medicine. Topics covered include carbohydrates, lipids, proteins and nucleic acids in the human body. Special attention is given to the respective building blocks, structures, functions and metabolisms. Bioenergetics, enzymes and coenzymes will also be discussed.

**BMS 1150 Biochemistry—Laboratory (1,0,3)**

Co-requisite: BMS 1140 Biochemistry

This course provides students with practical training related to the principles of Biochemistry, and enables students to apply their knowledge and techniques to perform selected biochemical experiments, which include isolation and characterization of biomolecules, enzymatic mechanism and metabolism of some biomolecules.

**BMS 1221-2 Anatomy, Histology and Physiology— Laboratory I & II (1,0,3)**

Co-requisite: BMS 1271-2 Anatomy, Histology and Physiology I & II

This laboratory course aims to reinforce concepts taught in lectures by means of audio-visual aids, models, specimens and tissue sections. The students will learn functional aspects of human body by conducting various experiments.

**BMS 1230 Molecular Biology (1,1,0)**

To provide students with the basic concepts of gene manipulation and detection. Special emphasis will be placed on their application in pharmacognosy.

**BMS 1240 Molecular Biology—Laboratory (1,0,3)**

Co-requisite: BMS 1230 Molecular Biology

To introduce students with different genetic manipulation and detection techniques in molecular biology.

**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 1271-2 Anatomy, Histology and Physiology I & II (2.5,3,0)**

This course aims to introduce the basis of gross anatomy and histology of human body, and to understand how different body parts perform various physiological functions.

**BMS 1310 Anatomy (3,3,0)**

This course aims to introduce the fundamental knowledge of anatomy to Chinese medicine students so as to prepare them for future elaborated training in various organ-based systems. Anatomy is the study of the morphological structures of the human body. In the beginning of the course, the musculoskeletal system will be emphasized, with concurrent supplementation with in-depth laboratory demonstration. This will be followed by presentation of different system anatomy, including digestive, respiratory and cardiovascular, urogenital and neuronal systems. The lecture and laboratory teachings may be assisted by implementing some small group discussion sessions in a problem-based approach.

**BMS 1320 Physiology (3,3,0)**

In this module the students are introduced a basic knowledge of the mechanisms of human body functions. The mastering of this course would provide a foundation for other medical courses.

**BMS 1330 Biochemistry and Molecular Biology (3,3,0)**

This course aims to provide students with fundamental knowledge on the principles of biochemistry. In the beginning, the structures and functions of bio-macromolecules will be introduced. This is followed by mechanisms of enzymes, and the key metabolic pathways and their relevance to diseases. Basic concepts of gene expression, regulation and manipulation will be introduced to students, and they be exposed to several common techniques used by molecular biologists, with special emphasis on the applications in medicine.

**BMS 1331-2 Biomedical Sciences Lab I & II (0.5,0,3)**

The laboratory sessions cover Anatomy, Physiology, and Biochemistry. Through these practical classes, concepts taught in lectures will be reinforced by means of audio-visual aids, models, specimens tissue sections and hand-on experiences. The students will learn anatomical and functional aspects of human body by conducting various tests, and to apply their knowledge and techniques to perform selected biochemical and molecular biology experiments, with special emphasis on their applications in medicine.

**BMS 1340 Microbiology (2,2,0)**

Microbiology is the study of microorganisms, which are responsible for much of the breakdown and natural recycling of organic material in the environment. Of the vast number of species of microbes, only a few have the capacity to cause disease by invading the tissues of other living organisms and producing toxic substances. The purpose of this course is to introduce to the students the basic principles and concepts of medical microbiology, the various classes of microorganisms that interact with humans. Other disease-producing multicellular parasites, helminthes and flukes will also be taught.

**BMS 1350 General Pathology (3,3,0)**

Pathology is a subject about structural changes and functional disturbances in tissues and organs of the body caused by diseases. It is a mandatory course to link between basic and clinical medical sciences. Students will be introduced to the basis of histopathology and pathophysiology, and learn the fundamental mechanisms, morphological changes, as well as physiological impacts of commonly seen diseases. General pathology that deals with common and basic pathological changes will be taught here to lay foundation for systemic pathology where individual diseases will be taught in each organ-system in Clinical Medicines. The knowledge will be re-enforced by practical sessions. The students' learning and analytical ability will be enhanced by means of case studies, and examination of gross and microscopic specimens. Problem-based learning is implemented whenever possible after the students have been equipped with the basic knowledge, and students are encouraged to address some questions by themselves analytically.

**BMS 1360 Pre-clinical Sciences Lab (0.5,0,3)**

The laboratory sessions cover Microbiology and Pathology. Through these practices, the concepts regarding pathogenesis and manifestations taught in lectures demonstrated and enhanced by case studies and hand-on experiences, and some common skills in medicine and scientific research will be learnt.

**BMS 1370 Pharmacology (3,3,0)**

This course aims to provide students with fundamental knowledge on the use of xenobiotics as orthodox Western drugs in the treatment of human diseases. In the beginning of the course, the important principles of pharmacology will be introduced. This is followed by a series of topics on the therapeutic approach in tackling inflammation and pain management. Subsequently, a systematic coverage on the mechanisms of action of drugs