REGULATIONS FOR THE DEGREE OF BACHELOR OF PHARMACY (BPharm)

These regulations apply to students admitted to the BPharm curriculum in the academic year 2010-2011.
(See also General Regulations and Regulations for First Degree Curricula)

Admission to the BPharm degree

BP1 To be eligible for admission to the BPharm degree, candidates shall:
- (a) comply with the General Regulations;
- (b) comply with the Regulations for First Degree Curricula; and
- (c) satisfy all the requirements of the curriculum in accordance with these regulations and the syllabuses.

Period of study

BP2 The curriculum for the BPharm degree shall normally require six semesters of full-time study, extending over not fewer than three academic years, and shall include any assessment to be held during and/or at the end of each semester. Candidates shall not in any case be permitted to extend their studies beyond the maximum period of registration of five academic years.

Selection of courses

BP3 (a) Candidates shall select their courses in accordance with these regulations and the guidelines specified in the syllabuses before the beginning of each semester. Changes to the selection of courses may be made only during the add/drop period of the semester in which the course begins, and such changes shall not be reflected in the transcript of the candidate. Request of changes after the designated add/drop period of the semester shall not be considered, unless under exceptional circumstances.

(b) Withdrawal from courses beyond the designated add/drop period will not be entertained.

Curriculum requirements

BP4 To complete the curriculum, candidates shall:
- (a) satisfy the requirements prescribed in UG5 of the Regulations for First Degree Curricula; and
- (b) complete satisfactorily not fewer than 192 credits, in the manner specified in these regulations and the syllabuses.

BP5 (a) Candidates shall normally take not fewer than 24 and not more than 36 credits of courses in each semester, unless otherwise permitted or required by the Board of the Faculty.

(b) Candidates shall have to satisfactorily complete the prerequisite courses in order to enroll in succeeding courses, unless with exemption granted by the Board of the Faculty.

Advanced standing

BP6 (a) Advanced standing may be granted to candidates who have successfully completed a similar course at other universities or comparable institutions. The amount of credits to be granted for advanced standing shall be determined by the Board of the Faculty, in accordance with UG2 of the Regulations for First Degree Curricula.

(b) Credits granted for advanced standing to a candidate shall not be included in the calculation of his/her cumulative GPA unless permitted by the Board of the Faculty but will be recorded on the transcript of the candidate.

Assessment

BP7 (a) Candidates shall be assessed for each of the courses which they have registered for, and assessment may be conducted in any one or any combination of the following manners: written examinations or tests, continuous assessment, laboratory work, project reports, or in any other manner as specified in the syllabuses.

(b) Grades shall be awarded in accordance with UG8(a) of the Regulations for First Degree Curricula.

(c) Written examinations shall normally be held at the end of each semester unless otherwise specified in the syllabuses.

(d) Candidates who are unable, because of illness or other special circumstances, to be present at any examination of a course may apply for permission to present themselves at a supplementary examination of the same course to be held before the beginning of the First Semester of the following academic year. Any such application shall be made on the form prescribed within two weeks of the first day of the candidates' absence from any examination. Any supplementary examination shall be part of that academic year's examinations, and the provisions made in the regulations for failure at the first attempt shall apply accordingly.

(e) Candidates shall not be permitted to repeat a course for which they have received a D grade or above for the purpose of upgrading.

(f) Candidates are required to make up for failed courses in the following manner:

(i) undergoing re-assessment/ re-examination in the failed course to be held no later than the end of the following semester (not including the summer semester); or

(ii) re-submitting failed coursework, without having to repeat the same course of instruction; or

(iii) repeating the failed course by undergoing instruction and satisfying the assessments; or

(iv) for elective courses, taking another course in lieu and satisfying the assessment requirements.

Discontinuation

BP8 A candidate will normally be recommended for discontinuation of his/her studies if:

(a) he/she fails to complete successfully 36 or more credits in two consecutive semesters (not including the summer semester), except where they are not required to take such a number of credits in the two given semesters; or

(b) he/she fails to achieve an average Semester GPA of 1.0 or higher for two consecutive semesters; or

(c) he/she exceeds the maximum period of registration specified in BP2 of the regulations of the degree; or

(d) he/she has failed in a core or pharmacy elective course three times.

Award of degree/ Degree classification

BP9 To be eligible for the award of the BPharm degree, candidates shall have:

(a) satisfied the requirements in the UG5 of the Regulations for First Degree Curricula; and

(b) passed not fewer than 192 credits as specified in the syllabuses.

BP10 The degree of Bachelor of Pharmacy shall be awarded in five divisions: First Class Honours, Second Class Honours Division One, Second Class Honours Division Two, Third Class Honours and Pass. A pass list of successful candidates shall be posted on Faculty notice boards.

SYLLABUSES FOR THE DEGREE OF BACHELOR OF PHARMACY

Year 1

Course Code	Course Name	Credit	Semester
ANAT1002	Anatomy	6	1
BIOC1001	Basic Biochemistry	6	1
CAES1709	English for Pharmacy	3	1
CHEM1401	Fundamentals of Organic Chemistry	6	1
BPHM1001	Pharmacy Practice I	6	1

BPHM1005	Physiology and Pathophysiology I	6	2
CHEM1410	Basic Chemistry Principles for Pharmacy Students	6	2
BPHM1002	Clinical Pharmacy I	6	2
BPHM1003	Physicochemical Principles of Pharmacy	6	2
BPHM1004	Pharmacology I	6	2
CAES1710	English for Clinical Pharmacy	3	2
	Common Core Course[1]	6	1 or 2

Year 2

Course Code	Course Name	Credit	Semester
BPHM2002	Clinical Pharmacy II	6	1
BPHM2003	Dosage Form Design	6	1
BPHM2004	Pharmacology II	6	1
BPHM2005	Physiology & Pathophysiology II	6	1
CBIO0005	Practical Chinese Language Course for Pharmacy Students	3	1

BPHM2006	Medical Statistics and Epidemiology	6	2
MICR2002	Microbiology for Pharmacy Students	6	2
CHEM2410	Analytical Techniques for Pharmacy Students	6	2
BPHM2001	Pharmacy Practice II	6	2
BPHM2007	Principles of Pharmacognosy, Herbal Medicines and Nutraceuticals	6	2
	Common Core Course[1]	6	1 or 2

Year 3

Course Code	Course Name	Credit	Semester
BPHM3002	Clinical Pharmacy III	6	1
BPHM3004	Pharmacology and Therapeutics	6	1
BPHM3005	Toxicology and Drug Abuse	6	1
BPHM3006	Immunology for Pharmacy Students	3	1

BPHM3001	Pharmacy Practice III	6	2
CHEM3410	Medicinal Chemistry for Pharmacy Students	6	2
BPHM3003	Advanced Pharmaceutics	6	2
BPHM3007	Clinical Pharmacology and Advanced Clinical Pharmacy	6	2
BPHM3014	Clerkship and Research Project	12	1 & 2
Any 6 credits from the following (either one 6-credit elective or two 3-credit electives):			
BPHM3008	Biopharmaceutical Discovery and Development	3	1 or 2
BPHM3009	Cosmetic Science	3	1 or 2
BPHM3010	Medical Genetics	6	1 or 2
BPHM3011	Molecular Pharmacology	3	1 or 2
BPHM3012	Traditional Chinese Medicine	3	1 or 2
BPHM3013	Principles of Public Health	3	1 or 2

[1] Candidates are required to successfully complete 12 credits of courses in the Common Core Curriculum, selecting no more than one course from each Area of Inquiry, before the end of the second year of study.

Core Courses

First Year

ANAT1002 Anatomy (6 credits)

The course provides an understanding of the organization and functions of human body in relation to clinical practice. Introduction to human anatomy, cell structure, tissues, embryonic differentiation, epithelia, skeletal and articular structures, gastrointestinal system, cardiovascular system, respiratory system, urogenital system, nervous system, endocrine system. Assessment will be in the forms of continuous assessment and written examinations/tests.

BIOC1001 Basic Biochemistry (6 credits)

This course gives an understanding of the chemical and molecular aspects of biological processes, including the chemistry of biomolecules, enzymology, bioenergy, biochemical control mechanisms and molecular genetics. Introduction to cell biochemistry, cells replication, cell death, biochemistry of diseases, effects of drug therapy on metabolic biochemistry and cellular functions, biotechnology and its application in the development of biopharmaceuticals. Assessment will be in the forms of continuous assessment and written examinations/tests.

CHEM1401 Fundamentals of Organic Chemistry (6 credits)

This course provides essential information on the structures and their relation to the reactivity of organic molecules. Chemical nomenclature, molecular and chemical structure, chemical bonding, stereochemistry, acidity and basicity, electrophilic and nucleophilic reaction mechanisms, functional group chemistry. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM1001 Pharmacy Practice I (6 credits)

This course is designed to introduce the foundational concepts of pharmacy practice and the roles of pharmacists in healthcare system. The course also introduces the concept of good dispensing practice and provides dispensing practice of simple mixtures, liquid and solid dosage forms. Development of pharmacy, concept of pharmaceutical care, roles of pharmacists, legal aspects of dispensing prescriptions, basic dispensing technique. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM1005 Physiology & Pathophysiology I (6 credits)

This course aims to explain the normal functioning of human body and abnormal changes in disease states. Functional significance of cells, organs and systems; homeostasis, membranes, excitable tissues, body fluids, cardiovascular system, autonomic nervous system, renal system, gastrointestinal system, endocrine system. Assessment will be in the forms of continuous assessment including PBL tutorial performance, and written examinations/tests.

CHEM1410 Basic Chemistry Principles for Pharmacy Students (6 credits)

This course provides an understanding on the thermodynamic interactions between atomic particles, simple and macro-molecules, which are important in drug formulation and compounding of medicines. Physical properties of gases, liquids and solids, basic science of thermodynamics, solubility, surface chemistry, rheology. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM1002 Clinical Pharmacy I (6 credits)

This clinically orientated course enables students to have an early exposure to clinical pharmacy through the mode of case-based, bed-side and PBL learning; as well as patient-care projects and site visits. Pharmacist's roles in patient care, pharmacy services in institutions; in-patient and out-patient dispensing system, patient counseling, compliance clinics, clinical/drug information. Assessment will be in the forms of continuous assessment including PBL tutorial performance and reports, and written examinations/tests.

BPHM1003 Physicochemical Principles of Pharmacy (6 credits)

This course is aimed to provide an introduction to the physicochemical principles underlying the design and preparation of dosage forms. Introduction to preformualtion, solid states, solubility and solutions, partitioning, surfactants and micelles, disperse system and colloidal stability, suspensions, emulsions, semi-solid dosage form, rheology, polymers and drug stability. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM1004 Pharmacology I (6 credits)

This course provides the necessary information on the interaction of drugs with different body systems, and the pharmacological basis in drug therapy. General principles in pharmacology, drug design and development, pharmacokinetics and pharmacodynamics, drug acting on autonomic nervous system, endocrine system, gastrointestinal system, renal system and cardiovascular system. Assessment will be in the forms of continuous assessment and written examinations/tests.

CAES1709 English for Pharmacy (3 credits)

This course aims to provide a problem-based learning induction with emphasis on English discussion skills and to develop students' communication skills for professional presentations on pharmacy topics such as drug profiles. It includes a medical terminology component that enables students to learn essential word parts and basic terminology, and more importantly, to develop strategies for learning new terms and their pronunciation. Assessment is wholly by coursework.

CAES1710 English for Clinical Pharmacy (3 credits)

This course aims to further develop students' communication skills to enable them to write clinical documents such as drug reviews. Another course aim is to advance students' correspondence skills for referrals, effective dissemination of updated drug information, etc. Assessment is wholly by coursework.

Common Core Course (6 credits)

Second Year

BPHM2002 Clinical Pharmacy II (6 credits)

This clinically orientated course examines pathological changes in different organ systems, and their clinical managements. Case-based, bed-side and PBL studies of clinical conditions and treatments of diseases in autonomic and central nervous system, gastrointestinal system, respiratory system, renal system, cardiovascular system, musculoskeletal system, haematology system, immune system, endocrine system, urogenital system and reproductive system. Assessment will be in the forms of continuous assessment including PBL tutorial performance, and written examinations/tests.
Prerequisite: Clinical Pharmacy I

BPHM2003 Dosage Form Design (6 credits)

This course provides students with an understanding of the formulations of solid dosage form, and provides an in-depth knowledge in the rational design of drug delivery systems. Particle characterisation, powder processing, tablets, capsules, modified release dosage form, principles of drug delivery, parenteral delivery, pulmonary delivery, topical delivery, transdermal delivery, vaginal and rectal delivery. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Physicochemical Principles of Pharmacy

BPHM2004 Pharmacology II (6 credits)

This course provides information on the mechanisms of drug used in the treatment of various disease conditions. Drugs acting on the central nervous system, musculoskeletal system, immune system, haematology system, respiratory system and reproductive system. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Pharmacology I

BPHM2005 Physiology and Pathophysiology II (6 credits)

This course provides information on the normal functioning of various body systems and the presentations in disease states. Physiology and pathophysiology of central nervous system, musculoskeletal system, haematology and immune systems, respiratory system, urogenital system and reproductive system; metabolic rate, body temperature regulation. Assessment will be in the forms of continuous assessment including PBL tutorial performance, and written examinations/tests.
Prerequisite: Physiology and Pathophysiology I

BPHM2006 Medical Statistics and Epidemiology (6 credits)

This course introduces students the principles of statistical analysis, epidemiologic concepts and the design of epidemiologic study. Statistical methodologies include probability distribution, normal distribution, logic in statistical inference, significance test, regression analysis, correlation and non parametric methods. Epidemiology includes the measures of the distribution and determinants of disease, reliability, validity, bias, confounding interactions, causality, screening, vital statistics, and burden of disease. Study designs include cross-sectional studies, ecological studies, cohort studies, case-control studies, intervention studies, and meta-analysis. Assessment will be in the forms of continuous assessment including assignment, quiz, and written examinations/tests.

MICR2002 Microbiology for Pharmacy Students (6 credits)

This course provides information on the aspects of microbiology and infection. Basic medical microbiology covering medically important bacteria, viruses, fungi and parasites is introduced. Infections by these organisms, their diagnosis and control are emphasized. Assessment will be in the forms of continuous assessment and written examinations/tests.

CHEM2410 Analytical Techniques for Pharmacy Students (6 credits)

The course covers theories and practicals on the structural determination of pharmaceuticals using various qualitative or quantitative analytical equipments. Ultraviolet/visible and infra-red spectrophotometry, nuclear magnetic resonance, mass spectrometry, chromatography, atomic absorption, extraction and separation methods, RT-PCR, Western blotting, ELISA, amino acid sequencing, pharmacopoeial standard, quality assurance. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM2001 Pharmacy Practice II (6 credits)

This course spells out various laws and codes of practice in the regulation of pharmaceuticals and the pharmacy practice in Hong Kong. The course also trains students in the principles and procedures of sterilization and aseptic techniques. Pharmacy and Poisons Ordinances and Regulations, Antibiotics Ordinance, Dangerous Drugs Ordinance, Undesirable Medical Advertisements Ordinance, Chinese Medicine Ordinance, aseptic technique in the preparation of eye drops, injections, infusions, total parenteral nutrition, cytotoxic drug reconstitution. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Pharmacy Practice I

BPHM2007 Principles of Pharmacognosy, Herbal Medicines and Nutraceuticals (6 credits)

This course broadens the horizon of students in the field of, and provides them with background knowledge of, herbal medicines and nutraceuticals. Phytochemistry, pharmacology of phytochemicals such as alkaloids, phenolic glycosides, volatile oils, terpenoids and carbohydrates; therapeutic uses, adverse effects and drug interactions of common herbal medicines, nutrients, dietary supplements and functional food; safety issues and quality control of herbal medicines and nutraceuticals. Assessment will be in the forms of continuous assessment including laboratory reports and written examinations/tests.

CBIO0005 Practical Chinese Language Course for Pharmacy Students (3 credits)

The course introduces students to the formal use of Chinese in practical writing and techniques in communication. Chinese characters, introduction to Chinese language, Chinese medical and drug/chemical terminology, practical Chinese writing, Chinese for special purposes, presentation and communication techniques. Assessment will be in the forms of continuous assessment including oral presentation, participation and performance in seminar discussion, and written examinations/tests.

Common Core Course (6 credits)

Third Year

BPHM3002 Clinical Pharmacy III (6 credits)

This course discusses the role of clinical pharmacists in pharmaceutical care, and enables students to acquire and apply knowledge in patient care and to develop the skills needed to promote the effective use of medicines in hospitals and in primary care. Factors that influence treatment and delivery of pharmaceutical care, communication and problem-solving skills, sources of clinical information, monitoring and assessing drug therapy, pharmaceutical care and management of diseases, concept of pharmacoeconomics and healthcare financing. Assessment will be in the forms of continuous assessment including PBL tutorial performance and reports, and written examinations/tests.
Prerequisite: Clinical Pharmacy II

BPHM3004 Pharmacology and Therapeutics (6 credits)

This course presents information on the use of drugs in the extreme of age, as well as drugs for local application. Neonatal, pediatric and geriatric pharmacology; ear, eye and nose medications; drugs used in dermatology, chemotherapy, radiopharmaceuticals, critical care, women's health, nutrition. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Pharmacology II

BPHM3005 Toxicology and Drug Abuse (6 credits)

This course provides students with an understanding of the toxicological problems encountered in clinical practice, drug development and medical research. Introduction to the biotransformation and toxicity of drugs, carcinogenicity, drug addiction and withdrawal syndrome; physiological, pharmacological and sociological consequences of drug abuse; treatment regimens of drug abuse. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM3006 Immunology for Pharmacy Students (3 credits)

This course offers an overview of the nature and the role of immune system, pathology of immune diseases and drugs that influence the immune system. Fundamentals and principles of immune system, antigen-recognition, innate immunity, immunopathology including hypersensitivity reaction, immunodeficiency, diseases, autoimmune diseases, transplantation and graft rejection; immunopharmacology including immunotolerance, immunization, immunosuppressant and therapy for allergic diseases; principles of serological test. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM3001 Pharmacy Practice III (6 credits)

The course discusses the pharmacist's role in the assessment of minor medical problems, health screening and patient education. The course emphasizes on building up the communication skills, marketing skills, managerial skills and business sense of students in the pharmacy practice. This course also introduces the principles, design and statistical analytic methods used in research and clinical trials. Response to symptoms, communication skills, social pharmacy, entrepreneurship, experimental design and interpretation in survey and clinical trials. Assessment will be in the forms of continuous assessment including tutorial performance and reports, and written examinations/tests.
Prerequisite: Pharmacy Practice II

CHEM3410 Medicinal Chemistry for Pharmacy Students (6 credits)

This course introduces how physico-chemical property of drugs is related to the interactions of drugs with their targets. Chemistry and biochemistry in relation to the development and design of drugs, structure-activity relationship, molecular modeling, drug metabolism, bioactivation and inactivation. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Basic Chemistry Principles for Pharmacy Students and Analytical Techniques for Pharmacy Students

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BPHM3003 Advanced Pharmaceutics (6 credits)

This course focuses on the advanced drug delivery systems and industrial pharmaceutics. Advanced drug delivery system, applied pharmacokinetics, optimization of pharmaceutical process and products, nuclear pharmacy, patents and intellectual property rights, quality control of pharmaceutical product, design of pharmaceutical plant, good manufacturing practice, regulation affairs and documentations, pharmaceutical packaging. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Dosage Form Design

BPHM3007 Clinical Pharmacology and Advanced Clinical Pharmacy (6 credits)

This clinically orientated course provides students with the chance in understanding the importance of clinical pharmacology in therapeutics and the clinical role of pharmacists in more advanced aspects of therapeutics, especially in pediatric and geriatric patients and under special conditions. Role of clinical pharmacology in therapeutics, avoiding medication errors, avoiding adverse drug reactions and drug interactions, treatment of drug toxicity and overdose, therapeutic drug monitoring, evaluation of clinical trials, clinical biochemistry; clinical pharmacy in pregnancy, pediatrics, geriatrics, and patients with hepatic impairment or renal failure; clinical pharmacy in critical care and palliative care. Assessment will be in the forms of continuous assessment including PBL tutorial performance, presentation, reports, and written examinations/tests.
Prerequisite: Clinical Pharmacy II

BPHM3014 Clerkship and Research Project (12 credits)

Students will be expected to complete the training in clerkship programme and finish a project under the supervision of staff in the Faculty. The aim of the clerkship programme is to allow students to gain experience, professional competence and confidence, which will facilitate student's graduate career. Students will be trained in community pharmacy, hospital pharmacy and pharmaceutical industry; and complete the profession-related experiences under the supervision of preceptors. The area of research project may include pharmaceutics, pharmacy practice, clinical pharmacy, pharmacology, and other areas of interest between supervisors and students. Assessment will be in the form of continuous assessment including performance in clerkship, presentation and a project report.

Elective Courses (either one 6-credit elective or two 3-credit electives)

BPHM3008 Biopharmaceutical Discovery and Development (3 credits)

The course trains students in the theory and practical skills needed for both discovery and commercial development of biopharmaceuticals. Existing, novel and potential therapeutic targets; structure-based drug discovery, development of high-throughput screening assay, impact of structural proteomics on drug discovery and development, application of bioinformatics. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM3009 Cosmetic Science (3 credits)

This course provides scientific information on the formulation of different cosmetic preparations, and examines their uses, principles of action, safety and efficacy. Anatomy and physiology of skin, hair and nails; formulation of cosmetic products, physico-chemical tests of raw materials and finished products, quality control, safety and stability of finished products, assessment of efficacy. Assessment will be in the forms of continuous assessment including PBL tutorial performance and reports, and written examinations/tests.

BPHM3010 Medical Genetics (6 credits)

This course introduces the concepts in pharmacogenomics and pharmacogenetics such that these skills can be applied in therapy optimization. Human genetics and genomics, gene polymorphism affecting drug response, pharmacogenetics, pharmacoproteomics, genetic diseases, genetic engineering, gene therapy. Assessment will be in the forms of continuous assessment and written examinations/tests.

BPHM3011 Molecular Pharmacology (3 credits)

This advanced course in pharmacology focuses on the mechanisms of drug action at molecular level. Regulation of gene transcription, G-protein coupled receptors, ligand-gatedion channels, voltage-gated ion channels, osmolyte or mechanosensitive channels, transient receptor potential channels and gap junction channels, receptor enzymes, second messengers system, regulation of signaling pathways, receptor internalization and alternative signaling pathways. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Pharmacology II

BPHM3012 Traditional Herbal Medicine (3 credits)

This course focuses on the principles of Traditional Chinese Medicine and the scientific basis in the use of Chinese Materia Medica. Theories of Traditional Chinese Medicine such as 'qi', 'blood', 'Yin-Yang', 'five elements', 'viscera' and 'meridian and collateral'; the pathogenesis of diseases, diagnosis and therapeutic approaches in Traditional Chinese Medicine; principles and therapeutic use of Chinese Materia Medica. Assessment will be in the forms of continuous assessment and written examinations/tests.
Prerequisite: Principles of Pharmacognosy, Herbal Medicines and Nutraceuticals

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BPHM3013 Principles of Public Health (3 credits)

The course is designed to develop the knowledge of public health and the skills necessary for evaluation of economic, clinical and humanistic outcomes of medical treatment. Concepts and determinants of public health, measurements of health, control measures for prevention of disease, application of pharmacoeconomics in optimal healthcare resource allocation, appropriateness and quality of pharmaceutical care, respective roles of healthcare professionals in patient care, decision

making in pharmaceutical care practice sites, public policies, influence of healthcare-related organizations. Assessment will be in the forms of continuous assessment including PBL tutorial performance and reports, and written examinations/tests.
