UNIVERSITY
MALAYA

FACULTY OF MEDICINE

UNDERGRADUATE GUIDEBOOK

BACHELOR OF BIOMEDICAL SCIENCE
BACHELOR OF NURSING SCIENCE
BACHELOR OF PHARMACY (HONOURS)

SESSION
2018
2019

INDEX

Message from Dean

Welcome to the Faculty of Medicine, University of Malaya.

Congratulations! Your acceptance into one of our undergraduate programmes at the Faculty of Medicine, University of Malaya is a culmination of many years of hard work. You have been selected amongst several hundred applicants who have vied to enter into our prestigious Faculty. The University of Malaya's Faculty of Medicine is recognised as a national leader in medicine and the health sciences with many distinguished academic staff that are nationally and internationally renowned.

The Faculty in recent years has strived to make all of our programs exciting and relevant to prepare you for the challenges of a career in the medical sciences in this new era of rapid changes in health, technology and information. You will find that your university education will be vastly different from what you have experienced at school. Unlike in school, you will be expected to undertake more self-directed and independent learning with support from dedicated and experienced Faculty members. All of this is to prepare you to enter into the workforce where attributes such as critical and analytical thinking, independence and creativity are sought after.

The courses that you will undertake in the next 4-5 years will prepare you for a career to enter into the healthcare profession whether as a doctor, nurse or pharmacist providing direct patient care or providing essential behind the scenes support. The lectures, tutorials and the practicals that you will be attending in the course of the next few years is however but a foundation and a stepping stone to what we hope will prepare you for a life-long learning experience. In the words of perhaps one of the most accomplished and greatest physicians in recent times, Sir William Osler,

"The hardest conviction to get into the mind of a beginner is that the education upon which he is engaged is not a college course, not a medical course, but a life course, for which the work of a few years under teachers is but a preparation."

We hope that you will take the opportunity to engage productively not just with your academic lecturers and mentors but also with your fellow students some of whom have come from different parts of the world. We also sincerely hope that your campus life will not be restricted to the pursuit of an academic qualification alone, but that you will use this opportunity to enrich your minds in other worthy pursuit whether it is community service, sports or music and culture.

I wish you all well in your pursuit of an academic degree in the medical sciences and hope that you will emerge from your time at the Faculty of Medicine University of Malaya as a life-long learner with a passion and commitment to your chosen vocation.

PROFESSOR DATO' DR. ADEEBA BINTI KAMARULZAMAN
Dean
Faculty of Medicine

Message from Deputy Dean

On behalf of the Faculty of Medicine and all the academic staff, I extend a very warm welcome to each and every one of you. As a faculty, we would like your education in this institution to be a rewarding and an enriching

This handbook has been prepared as a guide for you in the faculty. Its content is by no means exhaustive but will be very useful for you especially in your first year in this faculty.

Being a student in this faculty will take a good 4- 5 years of your life depending on the programme you enrolled for. To obtain the degree, you have to put in a lot of hard work powered by dedication, sacrifice, unwavering determination, perseverance and commitment to ensure you will become not only a knowledgeable and skilful health care professional but also one who practices holistically. The education in this faculty does not stop upon graduation, but merely acts as a stepping stone to a life-time of learning in your chosen field.

Medical education does not only revolve around science, but also involves the art of practising it. We want you to be curious about the programme. Everything that goes on in this institution is a learning opportunity. The skills that you will acquire include good communication skills between you and your colleagues, your patients and their families and also with members of the community. You will find that your teachers, seniors and friends are mentors in your quest to become good and ethical health care professionals, thus providing you the best apprenticeship you could possibly have. The programme in the faculty is also about character building, and, you will need to develop appropriate attitudes that contribute to the qualities necessary of your chosen profession.

We hope this guidebook can be fully used to your advantage in better understanding the programme and the people entrusted to run it. The Dean's Office along with all its support groups will try to make your stay a memorable and a fruitful one.

We would like to wish you every success in your programme and hope that the years that you will spend in this faculty will be among the best in your life. Again, I wish you a warm welcome and I look forward to meeting each and every one during the course of your study with us.

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EDUCATIONAL GOALS OF THE UNIVERSITY OF MALAYA

Graduates of the University of Malaya will be able to:

1. Demonstrate knowledge and skills in their field of study, appropriate research and professional practices, and the processes of critical thinking, creative thinking, and problem solving.

2. Use effective methods including contemporary technology to manage information, to achieve diverse professional goals aligned with professional standards and make decisions based on appropriate data and information.

3. Engage in continuous self-improvement and professional growth, support the professional development of others, and display positive leadership and professional behaviours and disposition for effective practice.

4. Communicate effectively with other professionals, and the community, and project a coherent vision of social responsibilities.

5. Appreciate and continue to be guided by the University's core values of integrity, respect, academic freedom, open-mindedness, accountability, professionalism, meritocracy, teamwork, creativity and social responsibility.

VISION & MISSION

UNIVERSITY OF MALAYA

VISION

To be an internationally renowned institution of higher learning in research, innovation, publication and teaching.

MISSION

To advance knowledge and learning through quality research and education for the nation and for humanity.

VISION & MISSION
FACULTY OF MEDICINE

VISION

To become a Centre of Excellence in Medicine

MISSION

To become a premier medical centre that is world renown and to provide excellent health care, education, and research programmes delivered with efficiency, sensitivity and enthusiasm.

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PRIMARY CARE MEDICINE

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Dr Lee Yew Kong *MD (UKM)*
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Dr Nur Amani @ Natasha Ahmad Tajuddin *MBBS (Mal), Mmed (Fam.Med)*
Dr Nurdiana binti Abdullah *MBBS (Mal), MMed (Fam.Med)*
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PSYCHOLOGICAL MEDICINE

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Dr Chung Tze Yang *MBBS (Mal), MRehabMed (Mal)*
Dr Norhamizan Hamzah *MBCUB (UK) MRehabMed (Mal)*
Dr Sadeeq Ali *PhD (Mal)*

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SOCIAL & PREVENTIVE MEDICINE

DEPARTMENT/UNIT | ACADEMIC STAFF

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SURGERY

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MEDICAL EDUCATION & RESEARCH DEVELOPMENT UNIT (MERDU)

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HISTORY OF THE FACULTY OF MEDICINE

The University of Malaya was established on 8 October 1949 as a national institution to serve the higher educational needs of the Federation of Malaya and of Singapore. In 1960, the Government of the Federation of Malaya indicated that the Kuala Lumpur Division of the University of Malaya should become the national University in the Federation with effect from the beginning session 1962/63. Likewise, the Singapore Division should become the national University of Singapore. Steps to achieve the establishment of these two separate universities were finalized during the year 1961 and the University of Malaya was established on 1st January 1962. The student population at that time was about 330. Since then, the University has grown and developed rapidly. Today, the student population has grown to almost 30,000.

Establishment of the Faculty of Medicine at the University of Malaya

Up to the 1950's, the Faculty of Medicine, University of Singapore, which was known previously as King Edward VII College of Medicine had been the only medical school in Malaya and Singapore. The output of doctors at that time was small: 60 per year. Many Malaysians had to go overseas to seek undergraduate medical education. It was not until 1960 that a determined effort was made to double the intake of students to 120 per year in Singapore. In 1960, a board of studies of the University of Malaya was appointed to study the feasibility of establishing a medical school with its own teaching hospital. The board recommended the early establishment of both.

To this end, the Government agreed and the Ministries of Education and of Health provided the necessary capital funds. In 1962, a Dean for the Faculty of Medicine was appointed.

FIRST BATCH- 1969

The first batch of medical students was admitted to the Faculty in 1964. A year earlier, these students, 40 of them, were placed in the Faculty of Science as pre-medical students. Construction of the faculty building began in July 1963, was completed in 10 months, so that the pioneer students were able to begin their course in May 1964. The building programme continued and the second phase was ready in time for Year II teaching the following May. Throughout this period, planning, building, ordering and receiving of equipment, recruitment of staff, organization of the Faculty, and discussions on the curriculum continued unremittingly. Phase I of the University Malaya Medical Centre consisting of the main block together with podium or "technical box" (operating theatres, radio-diagnostic, accident and emergency, polyclinic, pharmacy, central sterile supply, cafeteria, administration and medical records) was completed in December 1966, and the first wards were opened as on March 1967. Phase II of the Hospital consisting of Paediatric, Maternity and Rehabilitation Units was completed in December 1967, and became functional in March 1968. The total construction period for the Medical Centre consisting of the faculty departments, hospital (740 beds), Hostel for Clinical Students, Nurses Quarters with Nursing School and Central Animal House was three and a half years. Over the past three decades, the medical centre has expanded tremendously, and today it has 900 beds (the number will be increased to 1200 beds after renovation).

Philosophy of the Faculty of Medicine

The philosophy of the Faculty is to mould students to be competent, highly-skilled and knowledgeable health professionals, who can work with others as a team, who are caring and concerned about their patients and society, and who can emerge as leaders in their community.

FACULTY FACILITIES

1	TAN SRI DANARAJ MEDICAL LIBRARY
2	IMAGING LABORATORY
3	BIOMEDICAL IMAGING DEPARTMENT
4	MULTIDISCIPLINARY LABORATORIES
5	CLINCAL SKILLS LABORATORY
6	COMPUTER LABORATORIES
7	MEDICAL ILLUSTRATION AND MULTIMEDIA DEVELOPMENT UNIT
8	ANATOMY RESOURCE
9	CENTRAL PATHOLOGY MUSEUM
10	UNIVERSITY BOOK STORE (MEDICAL)

TAN SRI DANARAJ MEDICAL LIBRARY

SERVICES

Academic Services
Tan Sri Danaraj Medical Library

The Medical Library on the 3rd floor of the faculty contains around 100,000 volumes and subscribes to around 2,000 current journals. An extensive collection of reference works printed indexing and abstracting services are maintained. It permits access to a number of databases both on-line and on compact disk in the various fields of medicine and allied health care. In addition, the library offers cassette-tape, tape-slide, video-viewing and discussion room facilities, inter-library loan, photocopying and document binding services. Branch libraries are at the Klang and Kuala Langat District Complexes. These libraries aim to provide good quality and friendly service in a pleasant environment. Care of all library material is essential to maintaining this standard. Instructions regarding the use of facilities should be obtained from library staff.

The Main UM Library situated in the main campus contains more than 1 million volumes, a microfilm processing unit and photostating facilities.

Library times:
Mon-Fri: 0800 – 2230 hr
Sat & Sun: 0800 – 1530 hr

IMAGING LABORATORY

Imaging Laboratory

The objective of the Medical Imaging Programme is to expose the students to every phase of medical imaging and encourage a disciplined approach to problem solving. The four-year program is structured to introduce each medical imaging subdivision. Basic understanding of individual techniques is emphasized, followed by hands-on experience aimed at challenging the student to accept increasingly greater responsibilities as the training program progresses in the imaging laboratory (College of Radiography) and Biomedical Imaging Department.

In addition to conventional radiography and nuclear medicine, training will be available in computer sciences, related imaging technologies, angiography, and interventional radiography. Equipment, facilities, and personnel are available to develop expertise in all areas of medical imaging. The Biomedical Imaging Department have:

General Radiographic Machines
Room 1 to Room 6 = DRX Evolution Carestream

Mobile X-ray
6 sets of AMX 4 Plus
3 sets of GE AMX 4 wifi digital

3 Reporting Rooms

PACS Control Room

3 MRI scanners:

1. GE 3 T SIGNA with HIFU
2. GE 1.5 T SIGNA
3. Siemens MAGNETOM C 0.35 T Open MRI

Three Computed Tomography Scanners

1. Siemens SOMATOM Definition 128 slices
2. Siemens SOMATOM Definition Dual Source
3. Siemens SOMATOM Sensation 16 slices

2 Angiography Sets

Philips CX50 Integrated Ultrasound Biplane

Siemens Syngo Multimodality Single Plane

1 Fluographic Set

2 Cardioangiography Sets

Philips FD10 Biplane

Ultrasound

3 sets of Philips IU22 High end multifunction

1 set of Philips HDI3000

Philips FD20 Single Plane

Nuclear Medicine

1 Philips 3 head gamma camera

1 Philips gamma camera

1 LEXXOS Digital 2D Densitometer

Mammography

Siemens Mammomat 3000 Nova CR

Siemens Mammomat Novation DR

In support of these devices, clinical facilities have been established and are available to enrich the student's experience.

Each individual section in general radiography, nuclear medicine, and the Biomedical Imaging Department is supervised by departmental personnel, including clinical radiologists, medical physicists, and radiographers. All assume a direct role in student education.

MULTI-DISCIPLINARY LABORATORIES

A special facility at FOM is the multidisciplinary laboratories commonly known as the MD Labs (I and II). As their name implies, these labs serves various purposes which include wet and dry laboratory practical's, tutorials, self-directed learning stations, structured paraclinical examinations as well as for tutorial and self learning. It also serves as a home-based for the students.

CLINICAL SKILLS LABORATORIES

The Clinical Skill Laboratory (CSL) of Faculty of Medicine provides facilities for the teaching of clinical skills and procedures. It is equipped with wide range of simulators. The centre allows medical and paramedical students and doctors to use these simulators for learning and practicing the clinical skills and procedures in a safe, controlled environment.
For detail information check its webpage: http://www.ummc.edu.my/csl.

COMPUTER LABORATORIES

The computers laboratories equip with a total of 90 computers are available to students of UMMC for various computer-aided learning programmes. These laboratories are opened up to 11.30 pm on working days.

MEDICAL ILLUSTRATIONS AND MULTIMEDIA DEVELOPMENT UNIT

This unit is a centre for the production of media and resources to support teaching and research at the faculty. Comprehensive photographic and graphic services are offered as well as a fully equipped video unit. Other services include management of the Faculty's lecture theatres and audiovisual equipment.

ANATOMY RESOURCE CENTRE

The Anatomy Resource Centre (ARC) has been designed to emphasise clinically relevant anatomy and stimulate 'active learning' in students in a pleasant conducive environment. Although designed as a multidisciplinary resource primarily for medical students, it also serves the needs of dental students and others from the allied health sciences as well as postgraduate health professionals. In addition, the ARC plays a very vital role in educating the public about the importance of anatomy in clinical medicine (see below).

Key features include potted and plastinated cadaveric specimens, a range of diagnostic images and clinical scenarios quizzes. In addition, activity stations have been designed to focus on interactive learning through multimedia computers, educational anatomy software/ medical websites as well as anatomy videotapes. Dedicated timetable slots in the Phase I medical course encourage self-learning in the ARC by medical students. All regular ARC users are issued with security smart cards to enter and exit the centre. User profile of the ARC is continuously recorded and analysed from computerised door entry records. Student perception of ARC educational value is assessed regularly through feedback questionnaires surveys.

CENTRAL PATHOLOGY MUSEUM

UNIVERSITY BOOK STORE (MEDICAL)

Located on the ground floor of Menara Timur in UMMC, the Medical Book Store stocks a comprehensive supply of medical textbooks in all medical disciplines. It also stock student's clinical learning aids and stationaries.

MEDSOC

You can have complete information on the Medical Society and their activities at the FOM website.

CAMPUS FACILITIES

1	ACCOMODATION
2	STUDENT SCHOLARSHIP AND LOAN
3	STUDENT HEALTH SERVICES
4	STUDENT COUNSELING SERVICES
5	UNIVERSITY BOOK STORE
6	PEKANSISWA
7	SHOPS
8	BANKING SERVICES
9	MAIN LIBRARY
10	SPORTS AND RECREATION
11	MOSQUE
12	ANNUAL PLANNER & NOTES

ACCOMMODATION

The Ibnu Sina Residential College houses 700 Faculty of Medicine students. A branch hostel in Klang, next to the Hospital is specially for medical students in Phase III. Full board and lodging is provided at reasonable rates.

Further information for on-campus or off-campus accommodation can be obtained from the Student Affairs Section, UM.

STUDENT SCHOLARSHIP/LOANS UNIT

This unit, located in the Student Affairs Section, UM handles applications for scholarship/loans from national, state and statutory bodies, including private companies and philanthropic organizations.

STUDENT HEALTH CLINIC

Mon-Fri: 0800 – 1230
Sat: 0800 – 1245 hr
No service on Sun/public holiday

This service is available to all students throughout the year. The clinic is situated in the 12th Residential College building in UM

UM MEDICAL CENTRE

A 24-hour emergency medical service is available to all UM students at the Accident & Emergency Unit of the UM Medical Centre.

STUDENT COUNSELING SERVICE

Mon-Fri: 0900 – 1230hr
Sat: 0900 hr

A confidential counseling service available for all UM students, is offered by the Student Development Section, which is situated at the Perdanasiswa Complex.

The UM Medical Center provides an added counseling service for its students. For further information, please refer to current faculty notices on Counseling Service.

PEKAN BUKU (0900 – 1700 hr)

A large bookshop is strategically placed at the Perdanasiswa complex (C). Prices are competitive and the range is wide. A branch outlet for medical books is available on the ground floor of the main hospital block.

PEKANSISWA (0900 – 1700 hr)

A minimarket on the ground floor of the Perdana Siswa building is available for foodstuff, porting and electrical goods.

MOSQUE

Masjid Al-Rahman is situated at the main entrance to UM. A surau is situated adjacent to the hospital. A newly built surau is situated in the Faculty of Medicine at level 4 between the Department of Anatomy and Molecular Medicine.

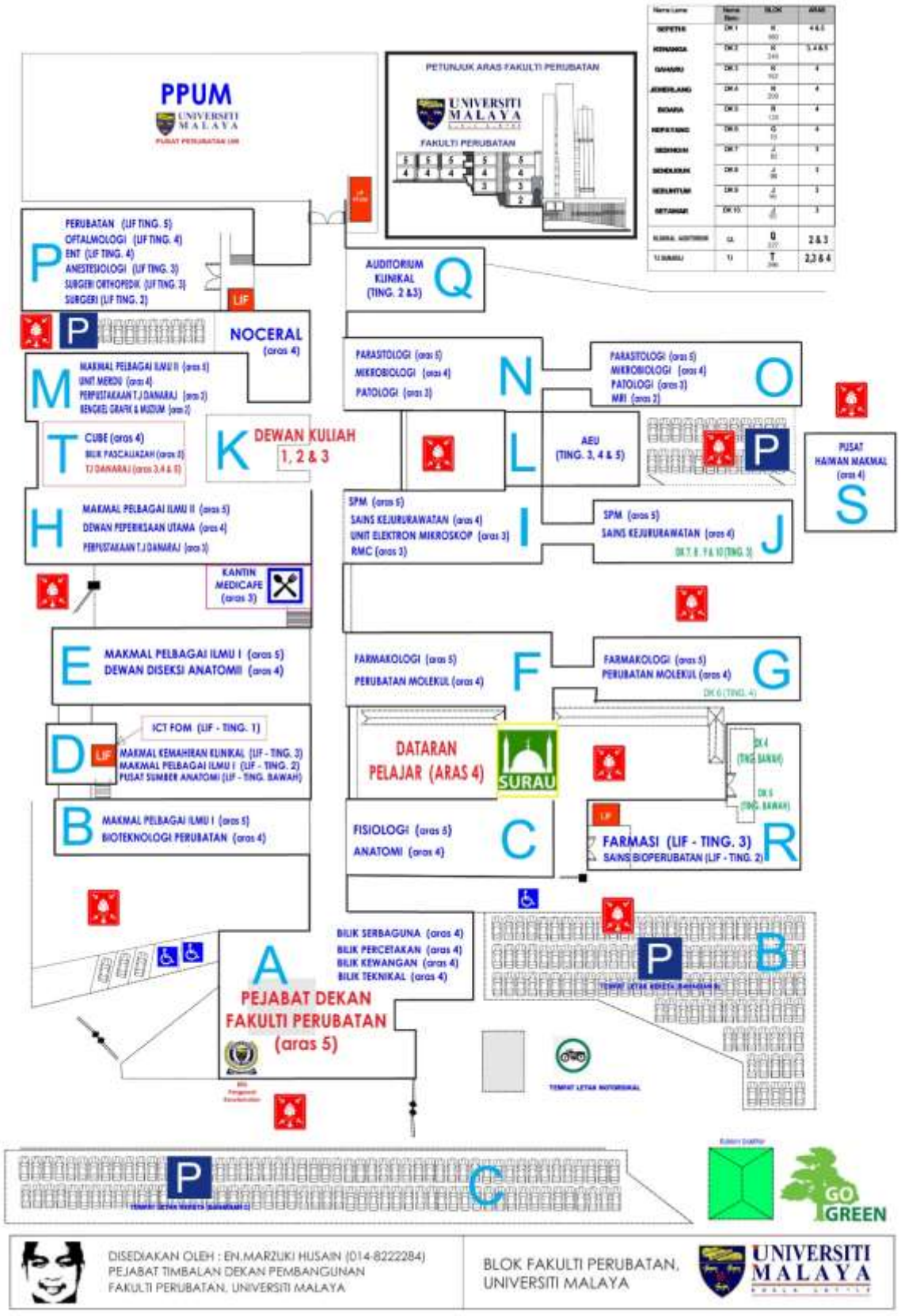
SHOPS - PHARMACY, FRUITSHOP & FLORIST

These shops are available on the first and ground floor of the main hospital block.

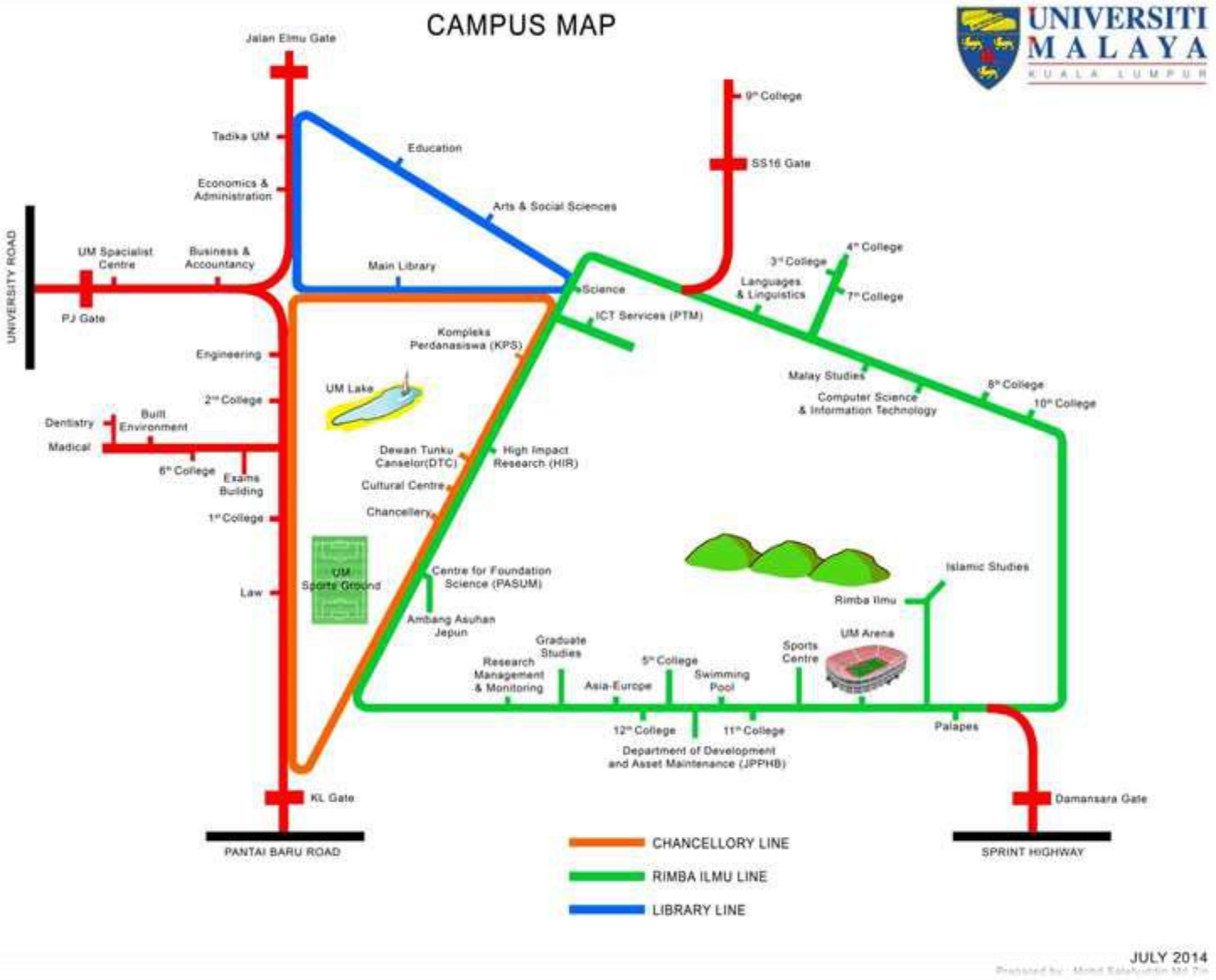
BANKING FACILITIES

A CIMB is situated on the ground floor of the new administrative building in the campus. A CIMB and a Bank Islam auto-teller machine is available on the ground floor of the main hospital block. A Bank Simpanan Nasional branch is situated in the Siswarama building on the main campus. Bank Islam is situated on the ground of the new High Impact Research building in the campus.

FACULTY BUIDING PLAN



CAMPUS MAP


CAMPUS MAP
UNIVERSITI MALAYA
KUALA LUMPUR
Jalan Ilmu Gate
Tadika UM
Economics & Administration
Education
Arts & Social Sciences
9th College
SS16 Gate
UNIVERSITY ROAD
UM Spacialist Centre
Business & Accountancy
Main Library
Science
3rd College
4th College
7th College
Languages & Linguistics
PJ Gate
ICT Services (PTM)
Kompleks Perdanasiswa (KPS)
Engineering
UM Lake
Malay Studies
Computer Science & Information Technology
8th College
10th College
2nd College
Dentistry
Built Environment
Medical
Dewan Tunku Canselor(DTC)
High Impact Research (HIR)
6th College
Exams Building
Cultural Centre
Chancellery
1st College
UM Sports Ground
Centre for Foundation Science (PASUM)
Law
Ambang Asuhan Jepun
Islamic Studies
Rimba Ilmu
UM Arena
Graduate Studies
Research Management & Monitoring
5th College
Asia-Europe
Swimming Pool
Sports Centre
12th College
11th College
Palapes
Department of Development and Asset Maintenance (JPPHB)
KL Gate
Damansara Gate
PANTAI BARU ROAD
SPRINT HIGHWAY
CHANCELLORY LINE
RIMBA ILMU LINE
LIBRARY LINE
JULY 2014

STUDENT DRESS CODE

ACADEMIC CALENDAR SESSION 2018/2019

Semester 1		
Orientation Programme	1 week	03.09.2018 – 09.09.2018
Lectures	8 weeks	10.09.2018 – 04.11.2018
Mid-Semester Break	1 weeks	05.11.2018 – 11.11.2018
Lectures	6 weeks	12.11.2018 – 23.12.2018
Revision	1 week	24.12.2018 – 01.01.2019
Examination	3 weeks	02.01.2019 – 20.01.2019
Semester Break	4 weeks	21.01.2019 – 17.02.2019
Total	**24 weeks**	

Semester 2		
Lectures	8 weeks	18.02.2019 – 14.04.2019
Mid Semester Break	1 week	15.04.2019 – 21.04.2019
Lectures	6 weeks	22.04.2019 – 02.06.2019
Revision	1 week	03.06.2019 – 09.06.2019
Examination	3 weeks	10.06.2019 – 30.06.2019
Total	**19 weeks**	

Break	
11 weeks	01.07.2019 – 08.09.2019

Special Semester		
Lectures	7 weeks	01.07.2019 – 18.08.2019
Examination	1 week	19.08.2019 – 25.08.2019
Break	2 weeks	26.08.2019 – 08.09.2019
Total	**10 weeks**	

National Day **(31.08.2018)**
Yang Dipertuan Agong's Birthday **(09.09.2018)**
Awal Muharam (Maal Hijrah) **(11.09.2018)**
Malaysia Day **(16.09.2018)**
Deepavali **(06.11.2018)**
Prophet Muhammad's Birthday **(20.11.2018)**
Christmas **(25.12.2018)**
New Year **(01.01.2019)**
Thaipusam **(21.01.2019)**
Federal Territory Day **(01.02.2019)**
Chinese New Year **(05 & 06.02.2019)**
Labour Day **(01.05.2019)**
Wesak Day **(19.05.2019)**
Nuzul Al-Quran **(22.05.2019)**
Eidul Fitri **(05 & 06.06.2019)**
Eidul Adha **(11.08.2019)**

National Day **(31.08.2019)**
Awal Muharam (Maal Hijrah) **(01.09.2019)**

LIST OF UNDERGRADUATE PROGRAMMES IN THE FACULTY

- BACHELOR OF MEDICINE AND BACHELOR OF SURGERY
- BACHELOR OF BIOMEDICAL SCIENCE
- BACHELOR OF NURSING SCIENCE
- BACHELOR OF PHARMACY (HONS)

2018/2019

UNDERGRADUATE GUIDEBOOK

Faculty of Medicine

BIOMEDICAL SCIENCE

Message from Head of Department

On behalf of all academic staff, I wish you my heartiest congratulations for being among those selected into the Biomedical Science Programme.

We appreciate and acknowledge the intellectual ability and enthusiasm that you bring with you. Biomedical Science is well recognised worldwide as a professional degree. In Malaysia, since February 2016, (Allied Health Profession Act 2016-Act 774), this degree is recognized as a professional degree.

You will spend at least 4 years as a Biomedical Science student in this university. This programme will provide a good platform for you to learn and grow to be a holistic, competent Biomedical Science graduate. We hope you will make full use of the opportunities provided for self-development and to be knowledgeable, skilful and ethical.

This guidebook was prepared by the Department of Biomedical Science to serve as a quick reference for information pertaining to the course structure, requirement and goals of the programme. You are expected to familiarise yourself with the information provided in this guidebook so that you can plan well and obtain your degree within the stipulated time.

This guide book also provides contact details of the course coordinators who may be approached whenever the need arises.

We wish you a very warm welcome to the Biomedical Science Programme and we hope that you will have an exciting, challenging and fruitful experience.

Professor Dr. Umah Rani Kuppusamy
Head
Department of Biomedical Science

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HEAD OF DEPARTMENT

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PROFESSOR

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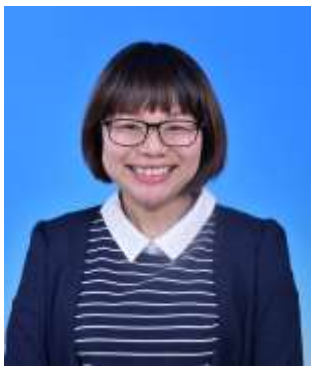

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INTRODUCTION

Students enroll in the Biomedical Science Programme for a minimum of 4 years. At the start, students are provided with a broad-based knowledge of basic medical sciences, where students will acquire essential medical laboratory skills. Students then proceed to the specific medical laboratory disciplines of their choice, be it in Histopathology, Haematology, Clinical Pathology, Physiology, Pharmacology, Medical Microbiology or Medical Parasitology. Students will learn the principles underlying the various analytical methods and investigatory procedures used in laboratory medicine, and obtain practical training to consolidate theoretical instruction. In addition, instruction is provided on research methodologies as students will be carrying out research projects of their own design during their final year.

Successful graduates in Biomedical Science should be able to assume responsible positions in the following situations: (1) as part of a healthcare team that is concerned with the care of patients and/or with basic and applied clinical research; (2) as part of a research team in allied medical disciplines, in food and pharmaceutical industries, in public health, and in biotechnology. Career opportunities are wide-ranging and include employment in clinical laboratory service departments, teaching institutions, and research centres in public as well as private sectors. Post-graduate training is strongly encouraged, either within the country or abroad, all towards attaining the goal of heightening the quality of medical science and medicine.

PROGRAMME OBJECTIVES

The aim of the Programme is:

i. To produce graduates who are laboratory oriented and technically competent. Graduates should be able to fulfill the human resource requirement for skilled personnel in Biomedical Science, which is an expanding and advancing field globally.

ii. To produce graduates who are competent in laboratory technology, pre-clinical or medical research, research in biotechnology, and other related areas/fields which can contribute to the advancement of Medical Science Technology. Graduates will be able to seek employment in healthcare and research institutions, as well as with the industrial, insurance, and education sectors.

PROGRAMME OUTCOMES

At the end of Bachelor of Biomedical Science Programme, graduates are able to:

Apply knowledge and competent technical skills in health and biomedical sciences to contribute effectively and professionally to the society.	:	PO 1; PO 2
Relate social responsibility, ethical awareness and professionalism to the needs of the community and environment.	:	PO 3; PO 4
Function effectively as an individual or within a team, with the capability of becoming a leader.	:	PO 5
Master lifelong learning skills in order to think and resolve problems critically and scientifically.	:	PO 6
Demonstrate entrepreneurial skills and lifelong learning so as to ensure success in career advancements.	:	PO 7; PO 8

ACADEMIC PROGRAMME & COURSE STRUCTURE

The academic year consists of eight semesters and a special semester. Each semester normally consists of:

1. Lectures – 14 weeks
2. Vacation (During Mid Semester) – 1 week
3. Examination – 3 weeks

Meanwhile the special semester consists of 8 weeks. Each student is given 3 weeks off within the 2 normal semesters.

Course offered is categorized under:

I. University Courses
II. Core Courses (Faculty and Department)
III. Elective Courses (Faculty and Department)

The courses will be conducted via lectures, tutorials, discussion and practical sessions in the Biomedical Science Department and University Malaya Medical Centre.

Note:

1. Faculty elective and department elective courses are offered by departments in the Faculty of Medicine.
2. In the event of insufficient enrolment (fewer than 5 students), the Faculty reserves the right to not offer the course.
3. All information is correct up to time of printing.

PROGRAMME STRUCTURE

1. Malaysian Students:

Course Level		Course Name	*Credits*
University Courses	GIG 1001	Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia (TITAS)*	2
	GIG 1002	Ethnic Relations *Hubungan Etnik*	2
	GIG 1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG 1004	Information Literacy *Literasi Maklumat*	2
	GLT XXXX	English for Communication Programme *Program Bahasa Inggeris Komunikasi*	6
	GIG 1005	Social Engagement Jalinan Masyarakat	2
	GKX XXXX	Co-Curriculum Courses Kursus Ko-Kurikulum	2
		Faculty's External Elective Course Kursus Elektif Luar Fakulti	3
	Total		**21**
Core Courses	Programme Core Courses *Kursus Teras Program*		**80**
Elective Courses	*Faculty Elective Courses* *Kursus Elektif Fakulti*		**7**
	Programme Elective Courses *Kursus Elektif Program*		**28**
Total Credits			**136**

PROGRAMME STRUCTURE

2. International Students:

Course Level		Course Name	Credits
University Courses	GIG 1001	Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia* (TITAS)	2
	GIG 1006	*Introduction to Malaysia* *Pengenalan Kepada Malaysia*	2
	GIG 1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG 1004	Information Literacy *Literasi Maklumat*	2
	GLT XXXX	English for Communication Programme Program Bahasa Inggeris Komunikasi	6
	GLT 1017	Basic to Malay Language *Bahasa Melayu Asas*	2
	GIG 1005	Social Engagement *Jalinan Masyarakat*	2
	GKX XXXX	Co-Curriculum Courses *Kursus Ko-Kurikulum*	2
		Faculty's External Elective Course *Kursus Elektif Luar Fakulti*	3
	Total		**21**
Core Courses	Programme Core Courses *Kursus Teras Program*		**80**
Elective Courses	Faculty Elective Courses *Kursus Elektif Fakulti*		**7**
	Programme Elective Courses *Kursus Elektif Program*		**28**
Total Credits			**136**

COURSE STRUCTURE

Year 1 (2018/2019)

Semester I

Category	Course Code	Course Name	Credits
University Course	GIG1001	Islamic and Asian Civilisation (TITAS)	2
	GIG1003	Basics of Entrepreneurship Culture	2
Core Course	MIX1001	Basic Anatomy	2
	MIX1002	Physiology I	3
	MIC1001	Biochemistry for Biomedical Science	4
	MIC1002	Fundamental Cell Biology and Genetics	3
	MIC1003	Laboratory Mathematics for Biomedical Science	2

Semester II

Category	Course Code	Course Name	Credits
University Course	GIG1002	Ethnic Relations	2
	GIG1004	Information Literacy	2
	GLT XXXX	English for Communication Programme	3
Core Course	MIX1003	Physiology II	3
	MIC1004	Essential Medical Microbiology for Biomedical Science	3
	MIC1005	Biostatistics and Epidemiology for Biomedical Science	2
	MIC1006	Parasitology	2
Elective/Faculty Course	MIX1004	Introduction to Radiation Protection*	2

Year 2 (2019/2020)

Semester I

Category	Course Code	Course Name	Credits
University Course	GLT XXXX	English for Communication Programme	3
Core Course	MIC2001	Genomics and Gene Expression	3
	MIC2002	Pathology for Biomedical Science	3
	MIC2003	Techniques in Biomedical Sciences	2
	MIC2004	Principles in Pharmacology and Toxicology	3
Elective Faculty/Department Course	MIC2005	Phlebotomy for Biomedical Science	3
	MIC2006	Bio-risk Management for Biomedical Science	2
	MIC2007	Microbial Infections	2
	MIC2008	Pathophysiology	3

Semester II

Category	Course Code	Course Name	Credits
University Course	GIG1005	Social Engagement	2
Core Course	MIC2009	Histological Techniques in Biomedical Science	3
	MIC2010	Immunology for Biomedical Science	3
	MIC2011	Molecular Techniques	3
Elective Faculty/ Department Course	MIC2012	Research Skills for Biomedical Science	3
	MIC2013	Laboratory Animal Science	3
	MIC2014	Diagnostic Parasitology	3
	MIX2002	Behavioral Science*	2

Special Semester

Category	Course Code	Course Name	Credits
Core Course	MIC2015	Biomedical Laboratory Posting	3

Year 3 (2020/2021)
Semester I

Category	Course Code	Course Name	Credits
University Course		Co-Curriculum Course	2
		Faculty's External Elective Course	3
Core Course	MIC3001	Critical Thinking for Biomedical Science	2
	MIC3002	Fundamental Hematology	3
	MIC3003	Applied Anatomic Pathology	3
Elective Faculty/ Department Course	MIC3004	Cytology for Biomedical Science	3
	MIC3005	Advanced Medical Bacteriology and Mycology	2
	MIC3006	Blood Transfusion Technology	3
	MIC3007	Cancer Biology	3
	MIX3002	Smoking Cessation Program*	2
	MIX3001	Techniques in Molecular Medicine	2

Semester II

Category	Course Code	Course Name	Credits
Core Course	MIC3008	Chemical Pathology	4
	MIC3009	Ethical Practices in Biomedical Science	3
Elective Faculty/ Department Course	MIC3010	Advances in Medical Pharmacology	3
	MIC3011	Advances in Medical Virology	2
	MIC3012	Advanced Diagnostic Parasitology	3
	MIX3002	Drugs: From Target to Market	2

Year 4 (2021/2022)

Semester I

Category	Course Code	Course Name	Credits
Core Course	MIC4001	Research Design in Biomedical Science	6
	MIC4007	Neuroscience	3
Elective Faculty/ Department Course	MIC4004	Diagnostic Bacteriology and Mycology	3

Semester II

Category	Course Code	Course Name	Credits
Core Course	MIC4005	Research in Biomedical Science	6
	MIC4006	Laboratory Management and Quality Control	3
Elective Faculty/ Department Course	MIC4003	Advanced Human Physiology	3
	MIC4002	Biomedical Science Horizons	3
	MIC4008	Applied Phlebotomy	2
	MIC4009	DNA Cloning in Biomedical Science	3
	MIC4010	Diagnostic Virology	3
	MIX4001	Introduction to Qualitative Research*	3

Special Semester

Category	Course Code	Course Name	Credits
Elective Faculty/ Department Course	MIC4011	Industrial Posting	3

* Faculty Elective Course

YEAR 1 SEMESTER I (2018/2019)

MIX1001: Basic Anatomy (2 credit hours)

Learning Outcomes

1. Explain the basic concepts and terms of human anatomy.
2. Explain organisation structure of the major organ systems in the human body.
3. Describe the events during the pre-embryonic and embryonic periods, and during fetal development.

Course Synopsis

This course introduces the basic concepts and terminologies of human anatomy. Emphasis is given on the organisation structure of the major organ systems in the human body.

Reference Text

1. Edith Applegate MS. The Anatomy and Physiology Learning System. Latest edition. St. Louis, MO: Saunders Elsevier.
2. Tortora GJ. & Derrickson BH. Principles of Anatomy and Physiology Volume 1 and 2. Latest edition. New Jersey: John Wiley & Sons, Inc.
3. Waugh A. & Grant A. Ross and Wilson Anatomy and Physiology in Health and Illness. Latest edition. Edinburgh: Churchill Livingstone.
4. Drake R. Wayne Vogl, A & Mitchell A.W.M. Gray's Basic Anatomy: with STUDENT CONSULT Online Access. Latest edition. Philadelphia: Elsevier Churchill Livingstone.

Course Coordinator

Dr. Siti Rosmani Md Zin @Zakaria
siti_rosmani@um.edu.my
03-79676656

Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIX1002: Physiology I (3 credit hours)

Learning Outcomes

1. Describe the basic cell structures and physiological processes that occur in different types of cells.
2. Describe the functions and regulatory mechanisms of the cardiovascular system.
3. Describe the functions and regulatory mechanisms of the respiratory system.

Course Synopsis

This course introduces physiology of different types of cells, principles of homeostasis, cardiovascular system, haemodynamics and respiratory system.

Reference Text

1. Widmaier E.P., Raff H. and Strang K.T. (2016) Vander's Human Physiology. The Mechanisms of Body Functions (14 th edition), McGraw-Hill, New York.
2. Costanzo L. S., (2015) Physiology (5 th edition), Saunders Elsevier, London.
3. Sherwood L., (2015) Human Physiology. From Cells to Systems (9th edition), Brooks/Cole, Australia.
4. Raman A, Ruby H. dan Afandi M. (1995) Fisiologi Manusia, (Edisi Kedua), Penerbit Fajar Bakti, Kuala Lumpur.
5. Rosnah Ismail, Raji Subramanian, Lam Sau Kuen and Ruby Husain, eds, (2006) Learning Physiology Through Practicals. University of Malaya Press.

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC1001: Biochemistry for Biomedical Science (4 credit hours)

Learning Outcomes

1. Identify characteristics and reactions of biomolecules.
2. Describe the roles of the main tissues and organs in the body in metabolic regulation and homeostasis as well as integration of metabolism.
3. Execute Biochemistry practical based on the instructions given.

Course Synopsis

This course introduces and illustrates the cell structure and function and importance of various macromolecules such as nucleic acid, carbohydrate, lipid and protein as well as their derivatives. This course will also introduce basic bioenergetics and illustrate the metabolism of various molecules such as carbohydrate, lipid, protein and nucleic acid. This will be followed by discussions on energy yielding processes, integration of metabolism as well as regulation of hormones and second messengers. Basic concepts on acid, base and buffer, simple calculations and several analytical techniques will also be introduced.

Reference Texts

1. Berg JM, Tymoczko JL, Gatto GJ, Stryer L. 2015. Biochemistry. 8th edition. Macmillian Learning.

Additional Texts

2. Murray RK, Granner DK, Mayers PA, Rodwell VW. 2006. Harper's Biochemistry. 27th edition. McGraw-Hill Medical.
3. Rodwell VW, Bender DA, Botham KM, Kennely PJ, Weil PA. 2015. Harper's Illustrated Biochemistry. 30th Edition. McGraw-Hill Education
4. Nelson DL, Cox MM. 2012. Lehninger Principles of Biochemistry. 6th edition. WH Freeman.
5. Skoog DA, West DM, Holler FJ, Crouch SR. 2013. Fundamentals of Analytical Chemistry. 9th Edition. Brooks/Cole, Thomson Learning Inc.

Course Coordinator

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umah@um.edu.my
03-79674900

Course Assessment

Course will be assessed by Continuous Assessment (70%) and a Final Exam (30%)

MIC1002: Fundamental Cell Biology and Genetics (3 credit hours)

Learning Outcomes

1. Identify various cell functions, including normal and abnormal cell replication and signalling.
2. Describe the principles of genetics and the relationship between genes and inheritance.
3. Summarise the mechanisms of evolution and genetic diversity.

Course Synopsis

This course is designed to extend student knowledge and understanding on cellular components (organelles) and functions; interactions between cells and their environment; the origin and evolution of life; basic principles of genetics; and the link between evolution and genetic diversity.

Reference Text

1. Alberts B., et al. (2016). Essential Cell Biology (4th edition). W.W. Norton & Company.
2. Snustad D. P. and Simmons M. J. (2015). Principles of Genetics (7th edition). Wiley.
3. Futuyma D. J and Kirkpatrick M. (2017). Evolution (4th edition). Sinauer Associates, Inc.

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC1003: Laboratory Mathematics for Biomedical Science (2 credit hours)

Learning Outcomes

1. To recognize the basic principles of laboratory mathematics for Biomedical Science.
2. To describe the applications of laboratory mathematics.

Course Synopsis

Instruction is provided on basic mathematics relevant to laboratory technology and sciences, including units and their prefixes, conversions between units of measurement, determinations of dilution and concentration, and calculation of molarity. Students are introduced the predictive value theory, and reference range analysis.

Reference Text

1. Lorraine J. Doucette. 2010. Mathematics for the Clinical Laboratory. Saunders W B Company.

Course Coordinator

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03-79676611

Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIX1003: Physiology II (3 credit hours)

Learning Outcomes

1. Describe the functions and regulatory mechanisms of the gastrointestinal system.
2. Describe the functions and regulatory mechanisms of the renal system.
3. Describe the functions and regulatory mechanisms of the endocrine system.
4. Describe the functions and regulatory mechanisms of the nervous system.

Course Synopsis

This course introduces and illustrates the cell structure and function and importance of various macromolecules such as nucleic acid, carbohydrate, lipid and protein as well as their derivatives. This course will also introduce basic bioenergertics and illustrate the metabolism of various molecules such as carbohydrate, lipid, protein and nucleic acid. This will be followed by discussions on energy yielding processes, integration of metabolism as well as regulation of hormones and second messengers.

Reference Text

1. Widmaier E.P., Raff H. and Strang K.T. (2016) Vender's Human Physiology. The Mechanisms of Body Functions (14th edition), McGraw-Hill, New York.
2. Costanzo L. S., (2013) Physiology (5th edition), Saunders Elsevier, London.
3. Sherwood L., (2015) Human Physiology. From Cells to Systems (9th edition), Brooks/Cole, Australia.
4. Raman A, Ruby H. dan Afandi M. (1995) Fisiologi Manusia, (Edisi Kedua), Penerbit Fajar Bakti, Kuala Lumpur.
5. Rosnah Ismail, Raji Subramanian, Lam Sau Kuen and Ruby Husain, eds, (2006) Learning Physiology Through Practicals. University of Malaya Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC1004: Essential Medical Microbiology for Biomedical Science (3 credit hours)

Learning Outcomes

1. Describe pathogenic microorganisms and their relationship with disease.
2. Identify pathogenic microorganisms using specific laboratory techniques.
3. Identify specific diagnostic tests for pathogenic microorganisms.

Course Synopsis

This course introduces the applications of microbiology in the laboratory diagnosis of pathogenic micro-organisms: bacteria, fungi and viruses. Emphasis is given on the important key features of micro-organisms, growth characteristics, virulent factors and laboratory identification.

Reference Text

1. Karen C. Carroll, Stephen A. Morse, Timothy A. Mietzner & Steve Miller. Jawetz, Melnick, & Adelberg's Medical Microbiology. 27th Edition, McGraw-Hill Medical, 2015.
2. Gerard J. Tortora, Berdell R. Funke, & Christine L. Case. Microbiology: An Introduction. 12th Edition, Pearson Education, 201
3. Talaro, Kathleen Park & Chess, Barry. Foundations in Microbiology, 10th Edition, McGraw-Hill Higher Education, 2017

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC1005: Biostatistics and Epidemiology for Biomedical Science (2 credit hours)

Learning Outcomes

1. Define basic concepts of epidemiology and biostatistics.
2. Recognise the applications of epidemiology and biostatistics in biomedical science.
3. Demonstrate the applications of epidemiology and biostatistics in biomedical science.

Course Synopsis

This will cover basic statistical techniques and epidemiology.
The topics for statistic include: descriptive analysis, elements of probability, introduction to estimation and hypothesis testing, analytical techniques for categorical and continuous data and regression analysis. The topics for epidemiology include: patterns of diseases and transmission of disease, measurement of disease and health, morbidity and mortality rates and ratios, principles of screening, prevention and control, surveillance of diseases.

Reference Text

1. Gordis, L. (2013). Epidemiology (5th edition). Saunders Elsevier.
2. Glantz, S. A. (2012). Primers of Biostatistics (7th edition). McGraw Hill Professional.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (50%) and a Final Exam (50%)

MIC1006: Parasitology (2 credit hours)

Learning Outcomes

1. To identify the basic concept of parasitology and pathogenesis of parasitic diseases.
2. To classify the main groups of human endoparasites and ectoparasites, as well as arthropods and their significance as vectors.
3. To describe the morphology, life cycle, transmission methods and the control of selected parasites.

Course Synopsis

This course introduces the terminology and classification of protozoology, helminthology, arthropods, and poisonous and venomous animals.

Reference Text

1. CK Jayaram Paniker. 2007. Textbook of Medical Parasitology. 6th Edition. Jaypee.
2. John, D.T. 2006. Markell and Voge's Medical Parasitology. 9th Edition. WB Saunders Co.
3. Mahmud R, Lim YA, Amir A. 2017. Medical Parasitology. Springer.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIX1004: Introduction to Radiation Protection (2 credit hours)

Learning Outcomes

1. Clarify the source, measurement unit and effects of ionizing radiation
2. Apply the principles and practice of radiation safety in hospitals.
3. Describe radiation detectors as well as personal, workplace and environment dose monitoring.
4. Prepare assignment conclusion and present clearly in group.

Course Synopsis

Source of ionizing radiation. Quantities and radiation unit. Biological effect of ionizing radiation. Principle and practice of radiation safety. Radiation etector. Personal radiation protection, dosimeters and monitoring. Workplace and environment monitoring. Relevant material in radiation protection. Radiographer's role in radiation protection. X-ray equipment and department design. Public education of radiation protection.

Reference Text

1. Principles of Radiological Physics, Graham D T, 1996. Churchill Livingstone.
2. Christiensen's Physics of Diagnostic Radiology, Curry T S et al 1990. Lea & Fibiger.
3. Clinical Radiobiology, Nias A H W, 1988. Churchill Livingstone.
4. An Introduction to Radiobiology Physics, Nias A H W, 1990. Churchill Livingstone.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

YEAR 2 SEMESTER I (2018/2019)

MIC2001: Genomics and Gene Expression (3 credit hours)

Learning Outcomes

1. Describe the nature, organization and specific characteristics of human chromosomes in the human genome.
2. Differentiate the mechanisms underlying gene replication in prokaryotic and eukaryotic cells.
3. Describe the types of mutations that can occur in the genome.
4. Describe the mechanisms of gene expression.

Course Synopsis

Students will learn about the structure of the human genome in detail, including the organization of genes and non-coding regions and the functional basis for these regions of the genome. Cellular processes such as DNA replication and control of gene expression will be covered to give the students an understanding of the key events. Mechanisms underlying cell cycle control, DNA damage and repair will be covered and applied to cancer development.

Reference Text

1. Alberts, B. (2015). Molecular Biology of the Cell (6th Edition). Garland Science.
2. Watson, J. D., et al. (2013). Molecular Biology of the Gene (7th Edition). Pearson Education.
3. Lewin, B. (2017). Genes: XII. Oxford University Press.
4. Strachan, T. & Read, A. P. (2011). Human Molecular Genetics (4th Edition) Garland Publishing.

Course Coordinators

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2002: Pathology for Biomedical Science (3 credit hours)

Learning Outcomes

1. Describe basic concepts and theories in the field of pathology.
2. Identify morphological changes in pathological conditions.

Course Synopsis

This course covers basic pathological processes including:

1. Cellular responses to injury
2. Inflammation, healing and repair
3. Disorders of body fluids, homeostasis and blood flow
4. Nutritional disorders
5. Metabolic disorders
6. Disorders of growth
7. Neoplasia
8. Disorders of the immune system.
9. Relevant structural changes associated with respective pathological conditions, demonstrable at light microscopy level, will form an essential component of this course.

Reference Text

Simon Cross. 2013. Underwood's Pathology: a Clinical Approach. 6th Edition. Churchill Livingstone.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2003: Techniques in Biomedical Science (2 credit hours)

Learning Outcomes

1. Identify basic techniques in biomedical science.
2. Describe basic techniques used in biomedical science

Course Synopsis

This course covers the scientific principles on which biomedical science techniques are based.

Reference Text

1. Ronald B. Corley. 2005. A guide to methods in biomedical sciences. Springer Science + Business Media, Inc.

Additional Texts/Reading Materials

1. Pitt, S. J. & Cunningham, J. 2009. An Introduction to Biomedical Science in Professional and Clinical Practice. Wiley Blackwell, 1st edition.
2. Skoog, D. A., West, D. M., Holler, F. J. & Crouch, S. R. 2004. Fundamentals of Analytical Chemistry. 8th edition. Canada: Thomson Brooks/Cole.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2004: Principles in Pharmacology and Toxicology (3 credit hours)

Learning Outcomes

1. Describe the concepts of pharmacokinetics and pharmacodynamics.
2. Explain the effects of drugs on the parasympathetic and sympathetic systems; their mechanisms of action; adverse effects and therapeutic uses.
3. Describe principles of toxicology.
4. Describe principles of anticancer and antimicrobial agents.

Course Synopsis

This course focuses on the:

1. General principles of pharmacokinetics & pharmacodynamics.
2. Pharmacological basis for the use of drugs (parasympathomimetic, sympathomimetic and neuromuscular systems).
3. Factors affecting drug response.
4. General principles of toxicology.
5. Various clinical manifestations to different toxic compounds.
6. General mechanisms of toxicity.
7. The toxic actions of metals and non-metals.
8. Evaluation of toxicity.
9. Principles of anticancer and antimicrobial agents.

Reference Text

1. Rang, H. P., Dale, M. M., Ritter, J. M., Flower, R. J. & Henderson, G. (2011). Rang and Dale's Pharmacology (7th edition). Elsevier.
2. Katzung, B.,Masters, S. & Trevor, A. (2011). Basic & Clinical Pharmacology (12th edition). McGraw Hill Professional.
3. Klaassen, C. D. (2013). Casarelte & Doull's Toxicology: The Basic Science of Poisons (8th Edition). McGraw Hill Professional.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC2005: Phlebotomy for Biomedical Science (3 credit hours)

Learning Outcomes

1. Describe the correct sites, equipment, procedures and techniques for collection and handling of blood or other body fluid specimens.
2. Perform appropriate methods for collection and handling of blood or other body fluid specimens.
3. Propose appropriate methods to troubleshoot problems during clinical specimen collection and handling.

Course Synopsis

The student will be introduced to basic theories and practice of phlebotomy. The student will learn anatomy and physiology appropriate to drawing a blood specimen, and the requirements and procedures involved with specimen collection, including of other bodily fluids. The student will also appreciate the need for professionalism and communication when interacting with patients and donors.

Reference Text

1. McCall, R. E. and Tankersley C.M (2015). Phlebotomy Essentials (6th Edition). Lippincott Williams & Wilkins.
2. Strasinger, S.K and Di Lorenzo M.S (2014). Urinalysis and Body Fluids (6th edition). F.A. Davis Company.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2006: Bio-risk Management for Biomedical Science (2 credit hours)

Learning Outcomes

1. Identify biosafety issues associated with biomedical science laboratories.
2. Describe steps needed to ensure safety in a biomedical science laboratory.
3. Repeat first aid and CPR techniques.

Course Synopsis

Biosafety is of upmost importance to a biomedical scientist. Proper techniques are needed to contain any potential harmful actions, chemicals or biological agents. This is to reduce or eliminate exposure of biomedical scientist to these hazards. In the unlikely event of an injury, students need to know the correct procedures to follow.

Reference Text

1. Laboratory Biosafety Manual (3rd edition) (2004), World Health Organization, Geneva, USA.
2. Centre of Disease Control and Prevention (2009). Biosafety in Microbiological and Biomedical Laboratories (5th edition). U.S Department of Health and Human Services.
3. Guidelines on the Handling and Management of Clinical Wastes in Malaysia (3rd edition) (2009), Department of Environment, Ministry of Natural Resources and Environment, Malaysia.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2007: Microbial Infections (2 credit hours)

Learning Outcomes

1. Describe the fundamentals in clinical microbiology.
2. Discuss the clinical manifestation, diagnosis, treatment and prevention of microbial infections.

Course Synopsis

The course will cover various aspects of bacteriology, mycology and virology, with respect to: general characterization of microbes, method of identification; diseases, epidemiology, pathogenesis, management, outbreak investigation and preventive measures of microbial infections.

Reference Text

1. Karen C. Carroll, Janet S. Butel, Stephen A. Morse. (2015) Jawetz, Melnick, & Adelberg's Medical Microbiology (27th edition). McGraw Hill Education/Medical.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2008: Pathophysiology (3 credit hours)

Learning Outcomes

1. Describe mechanisms in disease.
2. Describe the functional changes that occur in disease.
3. Identify normal and pathological samples.

Course Synopsis

This course provides the student with basic understanding of pathophysiology in various systems of the human body. Emphasis is given on understanding structures, functions and principles of the human body and the pathological effects of disease.

Reference Text

1. Lazenby RB. Handbook of Pathophysiology. 4th Edition, 2011. Wolters Kluwer Health/Lippincott Williams & Wilkins.
2. Pathophysiology Made Incredibly Easy! 2013. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
3. McCance KL and Huether SE. Study Guide for Pathophysiology: The Biologic Basis for Disease in Adults and Children, 8th Edition, 2018. Elsevier.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2009: Histological Techniques in Biomedical Science (3 credit hours)

Learning Outcomes

1. Apply principles relating to basic histological techniques.
2. Perform practical training in basic histological techniques.
3. Apply suitable methods to stain tissue sections.

Course Synopsis

This course introduces the basic principles underlying the processes involved in the preparation of histological sections and staining of tissue sections to demonstrate the normal histology of epithelial and connective tissues. Students are given elementary practical instructions on the processing of tissue specimens and preparation of stained histological sections.

Reference Text

1. Michael H. Ross & Wojciech Pawlina. (2006). Histology (5th Edition). Lippincott Williams & Wilkins.
2. Wolfgang Kuehnel. (2003). Color Atlas of Cytology, Histology and Microscopic Anatomy (4th Edition). Thieme.

Additional Texts/Reading Materials

1. Suvarna, K. S., Layton, C., & Bancroft, J. D. (2018). Bancroft's Theory and Practice of Histological Techniques
2. Orchard, G., & Nation, B. (2017). Histopathology: Oxford University Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2010: Immunology for Biomedical Science (3 credit hours)

Learning Outcomes

1. Explain the different types of immune responses.
2. Identify different types of immunological techniques.
3. Describe types of cells and organs of immune system.

Course Synopsis

The course provides an introduction to the human immune system and the basic principles in immunology. Topics covered include the structure and functions of the immune system, the innate and acquired immune responses, humoral and cell-mediated immune responses, cells of the immune system, immunoglobulins, and complements.

Reference Text

1. Paul, W. E. (2013). *Fundamental Immunology* (7th Edition). Wolters Kluwer/Lippincott Williams & Wilkins.
2. Abbas, A. K., Lichtman, A. H & Shiv Pillai. (2010). *Cellular and Molecular Immunology* (6th Edition). Saunders Elsevier.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC2011: Molecular Techniques (3 credit hours)

Learning Outcomes

1. Describe the basic steps in generation of recombinant molecules.
2. Interpret experimental data to draw sound conclusions.
3. Perform basic calculations and experiments to investigate gene sequence and function.

Course Synopsis

This course addresses developments that have led to the 'New Genetics'. Focus will be placed on terminology, tools and techniques that are essential in the study and creation of recombinant molecules with emphasis on biomedical applications. Components linked to occupational safety and health will also be covered. Practical and basic techniques ranging from plasmid preparations to PCR will be covered.

Reference Text

1. Micklos, D. A. and Freyer, G.A. (2010). *DNA Science: A First Course in Recombinant DNA Technology*. Cold Spring Harbor Laboratory Press.
2. Sambrook, J., Fritsch, E. F. & Maniatis, T. (2006). *Molecular Cloning: A Laboratory Manual*. Cold Spring Harbor Laboratory Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC2012: Research Skills for Biomedical Science (3 credit hours)

Learning Outcomes

1. Write a comprehensive literature review with appropriate referencing.
2. Illustrate quantitative and qualitative data.

Course Synopsis

The student will be introduced to the world of biomedical science research and the various tools available to analyse and present the data obtained in a systematic and professional manner. The student will learn the use of reference, document, and presentation software in biomedical science research.

Reference Text

1. Debbie Holmes, Peter Moody & Diana Dine (2011). *Research Methods for the Biosciences* (2nd Edition). Oxford University Press.
2. Ranjit Kumar (2011). *Research Methodology: A Step-by-Step Guide for Beginners* (3rd edition). SAGE Publications.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%)

MIC2013: Laboratory Animal Science (3 credit hours)

Learning Outcomes

1. Apply basic knowledge in biology and physiology to the handling of commonly used laboratory animals
2. Describe different methods and techniques used in experiments involving animals
3. Discuss ethical and welfare issues with regards to animal experimentation

Course Synopsis

This course is designed to provide facts and instill principles essential to the humane use and care of animals that will in turn ensure the quality of biomedical research. Students will be taught basic animal biology and husbandry, as well as animal handling techniques during experimental procedures. The students' responsibilities towards the welfare of the animals used and the ethical concerns of biomedical research will be emphasised.

Reference Texts

1. Hau, J. & Schapiro, S. J. (2010). Handbook of Laboratory Animal Science, Volume I Essential Principles and Practices (3rd Edition). CRC Press.
2. NRC (2011). Guide for the Care and Use of Laboratory Animals (8th Edition). The National Academies Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%)

MIC2014: Diagnostic Parasitology (3 credit hours)

Learning Outcomes

1. Explain the basic concepts and principles of diagnostic parasitology.
2. Describe the basic methods in the diagnosis of parasites in both faeces and blood.
3. Identify the challenges (sensitivity and specificity) faced by the respective diagnostic method for each parasite introduced and to compare with the available conventional diagnostic tools.

Course Synopsis

The course covers various basic aspects of diagnostic techniques of protozoa and helminths. Faecal examination includes direct smear, concentration techniques, egg count, faecal culture and staining methods. Blood examination includes staining and serological diagnosis.

Reference Text

1. C. K. Jayaram Paniker. (2007). *Textbook of Medical Parasitology* (6th Edition). Jaypee.
2. John, D.T. (2006). *Markell and Voge's Medical Parasitology* (9th Edition). WB Saunders Co.Gracia, L.S. (2006). *Diagnostic Medical Parasitology* (5th Edition). ASM Press, Washington DC.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIX2002: Behavioural Science (2 credit hours)

Learning Outcomes

1. Clarify the relationship between personality, cultural, social, health, disease as well as patient behavior.
2. Describe the source of pain and stress as well as ways to overcome them
3. Use psychology in handling patients.
4. Prepare assignment conclusion and present clearly in group.

Course Synopsis

Introduction to psychology. Motivation. Upbringing, life events and health. Social and cultural influence to behaviour. Personality, health and disease. Attitude and diseases. Pain and behaviour. Stress and control. Social support and behaviour. Effect of hospital admissions. Behaviour and special health care. Community health care.

Reference Text

1. Health Psychology An Introduction to Behaviour and Health, 7th Ed, Linda Brannon, Jess Feist, 2010, Wadsworth.
2. Introduction to Psychology, Atkinson L et al, 1993, Harcourt Brace.
3. Behavioral Science For the Bored, Sierles F S, 1993, McGraw Hill.
4. The Doctor, His Patient And The Illness, Balint M, 1995,Churchill Livingstone.
5. Health Psychology, Niven N, 1990, Churchill Livingstone.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC2015: Biomedical Laboratory Posting (3 credit hours)

Learning Outcomes

1. Recognise the work flow in a clinical laboratory
2. Follow assigned tasks in an assigned clinical laboratory.
3. Perform duties in an assigned clinical laboratory.

Course Synopsis

The student will be assigned to a clinical laboratory for eight weeks. He/she will observe the workflow and duties in the laboratory and carry out laboratory tests as determined by the laboratory supervisor. The student will learn how the clinical laboratory is effectively managed.

Reference Texts

As given by the laboratory supervisor/laboratory manager.

Course Coordinator

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MIC3001: Critical Thinking for Biomedical Science (2 credit hours)

Learning Outcomes

1. Apply critical thinking in problem solving and decision making.
2. Criticize between facts and fallacies.
3. Summarise conclusions based on well-supported arguments.

Course Synopsis

This course will allow students to develop critical thinking skills through assessment of information, unbiased interpretation and recognition of different sides in arguments.

Reference Text

1. Butterworth, J., & Thwaites, G. (2016). Thinking skills: Critical thinking and problem solving. Cambridge: Cambridge University Press.
2. Cottrell, S. (2017). Critical thinking skills: Developing effective analysis and argument. Basingstoke, Hampshire: Palgrave Macmillan.
3. Inch, E. S., & Tudor, K. H. (2015). Critical thinking and communication: The use of reason in argument. Boston: Pearson.
4. Nardi, P. M. (2017). Critical thinking: Tools for evaluating research. Oakland, CA: University of California Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%)

MIC3002: Fundamental Hematology (3 credit hours)

Learning Outcomes

1. Describe types of blood cells and the process of haematopoieisis.
2. Infer haematological and immunological concepts to blood pathology and transfusion medicine.
3. Apply basic theory and practical knowledge to haematological tests and blood transfusion techniques.

Course Synopsis

This course introduces students to blood disorders, haemostasis, and their laboratory investigations. Basic concepts and principles pertaining to blood transfusion and aphaeresis services will also be taught. The practical component of this course focuses on basic techniques used in routine haematology and blood transfusion laboratories

Reference Text

1. Hoffbrand, V., & Moss, P. (2011). *Essential Haematology* (6th Edition). Wiley-Blackwell.
2. Bain, B., Bates, I., Laffan, M. A. & Lewis, S. M. (2012). *Practical Haematology* (11th Edition). Churchill Livingstone.
3. Rudmann, S. V. (2005). *Textbook of Blood Banking and Transfusion Medicine* (2nd Edition). Sauders.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (50%) and a Final Exam (50%)

MIC3003: Applied Anatomic Pathology (3 credit hours)

Learning Outcomes

1. Describe principles of techniques employed in Anatomic Pathology.
2. Perform consistent staining of slides for diagnosis.
3. Explain new technologies in Anatomic Pathology.

Course Synopsis

1. Students will be taught the scientific basis of standard tissue processing methods and staining techniques and the common artifacts encountered due to inappropriate handling of tissues and tissue sections.
2. Practical sessions provide hands-on experience as well as allow the study of the effects of improper tissue handling and processing.
3. Special stains techniques.
4. Immunohistochemistry, *in situ* hybridisation, microwave technology, electron microscopy, immunofluorescence, special histochemistry.
5. New technologies in Anatomic Pathology

Reference Text

Bancroft, J. D. & Cook, H. C. (2008). *Manual of Histological Techniques & Their Diagnostic Application* (6th Edition). Churchill Livingstone.

Additional Texts/Reading Materials

1. Harmening D.M. (2006) Laboratory Management: Principles and Processes D.H. Pub & Consulting, 2nd edition.
2. Wu A. (2006) Tietz Clinical Guide to Laboratory Tests. Saunders, 4th edition.
3. Burtis C.A. Ashwood E.R. Bruns D.E. (2011) Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Saunders, 5th edition.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC3004: Cytology for Biomedical Science (3 credit hours)

Learning Outcomes

1. Distinguish the difference between normal and abnormal tissues.
2. Discuss the pathogenesis of tumor and cancer.
3. Describe the staging procedures associated with tumors and cancers.

Course Synopsis

This course introduces cytology of normal cells, the changes that occur in benign, pre-malignant and malignant processes. In laboratory sessions students will learn and apply the basic principles of cyto-preparation using established preparatory techniques. Students learn, develop and gradually acquire accuracy in using the light microscope for the purpose of detecting and diagnosing specimens for cytological evaluation.

Reference Text

1. Cibas, E. S. & Ducatman, B. S. (2014). *Cytology: Diagnostic Principles and Clinical Correlates.* (4th Edition). Elsevier Saunders.
2. DeMay, R. M. (2007). *Practical Principles of Cytopathology* (Revised Edition). American Society for Clinical Pathology Press.
3. Solomon, D. & Ritu Nayar. (2004). *The Bethesda System for Reporting Cervical Cytology: Definitions, Criteria, and Explanatory Notes.* (2nd Edition). Springer.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC3005: Advanced Medical Bacteriology and Mycology (2 credit hours)

Learning Outcomes

1. Distinguish the fundamental principles of bacteriology and mycology.
2. Recognise bacteria and fungi of medical importance.
3. Explain the current trends of antibiotic resistance and emerging infectious diseases.

Course Synopsis

The course will cover bacterial classification, physiology, growth, virulence factors, bacterial pathogenesis, mechanisms of resistance to antibiotics, host defenses against infections and microbes of public health concern.

Reference Text

1. Goering, R., Dockrell, H., Zuckerman, M., Roitt, I., & Peter L. C. (2012). *Mims' Medical Microbiology, Updated Edition: with Student Consult Online.* (5th Edition). Elsevier.
2. Brooks, G. F., Carroll, K. C., Butel, J. S., Morse, S. A., & Mietzner, T. A. (2012). *Jawetz, Melnick and Adelberg's Medical Microbiology.* (26th Edition). McGraw-Hill Professional.
3. Warren Levinson. (2012). *Review of Medical Microbiology and Immunology*. (12th Edition). McGraw-Hill Professional

Additional Texts/Reading Materials

1. Kumar, R. (2011). Research Methodology: A Step-by-Step Guide for Beginners. SAGE Publications, 3rd edition

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC3006: Blood Transfusion Technology (3 credit hours)

Learning Outcomes

1. Describe the basic principles of immunohaematology and blood transfusion.
2. Perform the basic techniques applicable in blood transfusion technology.
3. Explain the importance of safe pre-transfusion techniques to ensure the reliability of blood products and blood transfusions.

Course Synopsis

This course provides students with the basic concepts and principles pertaining to blood transfusion technology. The practical component of this course focuses on routine techniques used in blood transfusion laboratories.

Reference Text

1. Shaz, B.H., Hillyer, C. D., Roshal, M. & Abrams, C. S. (2013). *Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects* (2nd Edition). Elsevier.
2. laney, K. D. & Howard, P. R. (2013). *Basic & Applied Concepts of Blood Banking and Transfusion Practices* (3rd Edition). Elsevier Mosby.
3. Harmening, D. M. (2012). *Modern Blood Banking & Transfusion Practices* (6th Edition). F.A. Davis Company.B.W.J. Mahy and Marc H.V. van Regenmortel (2008) Encyclopedia of Virology. Academic Press, 3rd edition.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (50%) and a Final Exam (50%)

MIC3007: Cancer Biology (3 credit hours)

Learning Outcomes

1. State the molecular basis of cancer initiation and progression.
2. Distinguish the biology and main characteristics of cancer cells compared to normal cells.
3. Demonstrate knowledge of the current techniques and relevant databases applicable in cancer research

Course Synopsis

The course provides an in-depth understanding of the molecular basis of cancer initiation and progression, the different types and classification of various cancers and also the roles played by tumour suppressors and oncogenes. Various genetic and cellular changes leading to tumourigenesis will be discussed as well as the techniques used commonly in cancer research.

Reference Text

1. Weinberg R. The Biology of Cancer. 2nd Edition, 2014. Garland Publishing.
2. Pecorino L. Molecular Biology of Cancer: Mechanisms, Targets, and Therapeutics. 4th Edition, 2016. Oxford University Press
3. King RJB and Robins MK. Cancer Biology. 3rd Edition, 2006. Pearson Prentice Hall.

Course Coordinator

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603-79677522

Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIX3002: Smoking Cessation Program (2 credit hours)

Learning Outcomes

1. Identify the health hazards of smoking, the benefits, challenges, pharmacotherapies and aiding tools in helping smokers to quit smoking
2. Explain the importance of promoting smoking cessation in healthcare delivery.
3. Differentiate various types of quitting methods for smokers with various stages of readiness to quit smoking, and/or their nicotine dependence.
4. Plan a few strategies of interventions to promote smoking cessation.

Course Synopsis

Students will be introduced in an integrated manner to smoking cessation program that includes knowledge about the dangers of smoking to health, pharmacotherapy, aid tools and behavior change approaches. Students will be able to design intervention strategies for promoting smoking cessation.

Reference Text

1) How tobacco smoke causes disease: the biology and behavioral basis for smoking-attributable disease: a report of the Surgeon General. (2010). Rockville, MD: Dept. of Health and Human Services, Public Health Service, Office of Surgeon General.
2) Fiore MC, Jaén CR, Baker TB, et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. (2008). Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.
3) Arcangelo, VP, & Peterson AM (2013). Pharmacotherapeutics for advanced practice: a practical approach. Lippincott Williams & Wilkins, 3rd Edition, p 839-854.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%)

MIC3008: Chemical Pathology (4 credit hours)

Learning Outcomes

1. Describe metabolic disorders and clinical laboratory investigations of major organ systems.
2. Determine techniques and methods for laboratory and equipment evaluation.
3. Interpret laboratory test results.
4. Apply the principles and techniques in organisation and laboratory management.

Course Synopsis

This course introduces suitable laboratory assessment methods for the clinical diagnosis of several pathological conditions. Emphasis is given on biochemical aspects of nutrition, disorders of thyroid, pituitary, adrenal, ovarian, testicular and renal hormones; the use of tumour markers, bone markers and cardiac markers; abnormalities in protein, lipid and carbohydrate metabolism; and the respective biochemical tests in laboratory investigation of these disorders.

This course also provides practical exposure for selection and evaluation of methods and laboratory equipment. Emphasis is placed on the principles of organisation and laboratory management - quality control, work flow, and general laboratory management.

Reference Texts

1. Burtis, C. A., Ashwood, E. R. & Bruns, D. E. (2012). *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics* (5th Edition). Saunders.
2. Bishop, M. L., Fody, E. P. & Schoef, L. E. (2013). *Clinical Chemistry: Principles, Procedures, Correlations* (7th Edition). Lippincott Williams & Wilkins.

Course Coordinators

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Course Assessment

Course will be assessed by Continuous Assessment (70%) and a Final Exam (30%)

MIC3009: Ethical Practices in Biomedical Science (3 credit hours)

Learning Outcomes

1. Explain core ethical principles from a biomedical science perspective.
2. Identify core ethical principles relating to research in biomedicine.
3. Interpret ethical issues relating to research and publications.
4. Infer ethical issues related to diagnosis of genetic disorders and genetic counselling.
5. Summarise ethical issues related to animal experimentation.

Course Synopsis

Students will learn about ethical principles related to biomedical science. The students will have the opportunity to learn about the ethical issues that arise from many aspects of biomedical science and research, and will have the opportunity to give their opinions about the subject matters.

Reference Text

1. Wiles, R. (2013). What are qualitative research ethics? London: Bloomsbury Academic.
2. Oliver, P. (2010). The student's guide to research ethics. McGrawHill Open Unuversity Press
3. Beauchamp, T. & Childress, J. F. (2013). Principles of Biomedical Ethics (7th edition). Oxford University Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC3010: Advances in Medical Pharmacology (3 credit hours)

Learning Outcomes

1. Describe mechanisms of action of drugs, their pharmacokinetics and adverse effects.
2. Identify and relate the pharmacological actions of drugs to their uses in specific diseases.
3. Interpret concepts and techniques in classical pharmacology research, clinical trials, GCMS, HPLC, design & evaluation of clinical trials, pharmacoequivalent studies and pharmacogenomics.

Course Synopsis

The course focuses on:

1. Time course of drug effects.
2. Techniques in GCMS, HPLC, bioequivalence studies and pharmacogenomics.
3. Introduction to antisense and gene therapy.
4. Design & evaluation of clinical trials.
5. The pharmacology of drugs acting on the gastrointestinal, respiratory, cardiovascular and central nervous systems.
6. Experiments on drugs with analgesic properties, drugs affecting respiratory system and general evaluation of toxicity of drugs /substances in animals.

Reference Texts

1. Rang, H. P., Dale, M. M., Ritter, J. M., Flower, R. J. & Henderson, G. (2016). *Rang and Dale's Pharmacology* (8thEdition). Elsevier Churchill Livingstone.
2. Katzung, B., Masters, S. & Trevor, A. (2015). *Basic and Clinical Pharmacology* (13th Edition). McGraw Hill Professional.
3. Harvey, R. A. (2015). *Lippincott's Illustrated Reviews: PHARMACOLOGY* (6th Edition). Lippincott William & Wilkins

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC3011: Advances in Medical Virology (2 credit hours)

Learning Outcomes

1. Distinguish the basic features of common pathogenic human viruses.
2. Determine how viruses replicate and are transmitted to human.
3. Explain the concepts for treatment, prevention and control of virus infection.

Course Synopsis

This course emphasises virology and important viruses for human diseases. Emphasis is given on the important key features of viruses, their structure, replication characteristics, pathogenesis, laboratory identification, treatment and prevention measures.

Reference Text

1. Ryan, K. J. & Ray, C. G. (2003). *Sherris Medical Microbiology. An Introduction to Infectious Diseases.* (4th Edition). McGraw Hill Professional.
2. Knipe, D. M. & Howley, P. M. (2013). *Fields Virology.* (6th Edition). Lippincott Williams & Wilkins.

Additional Texts/Reading Materials

1. Costanzo L. S. (2007) Physiology. Lippincott & Williams, Philadephia; 4th edition.
2. Vander A., Sherman J. & Luciano D. (2001) Human Physiology. McGraw Hill8th edition.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (60%) and a Final Exam (40%)

MIC3012: Advanced Diagnostic Parasitology (3 credit hours)

Learning Outcomes

1. Identify strategies of diagnosis in parasitic infections.
2. Describe the recent concepts in the transmission of parasites.
3. Apply basic principles in parasitology with regards to problems in parasitic infections.
4. Analyse experimental data of parasitic infection.
5. Explain the epidemiological methods used to identify parasitic infections in a human
   community.

Course Synopsis

The course covers aspects of maintenance of protozoa and helminth *in vivo* and cultivation of protozoa and helminth *in vitro*. Included are various diagnostic techniques as in culture of parasites, immunodiagnostic tests and techniques in molecular parasitology.

Reference Text

1. Hanes and Higgins. (1987). *Nucleic Acid Hybridization: A Practical Approach*. IRL Press, Oxford.
2. Service, M. (2012). *Medical Entomology for Students* (5th Edition). Cambridge University Press.
3. Ash, L. R. & Orihel, T. C. (2007). *Ash & Orihel's Atlas of Human Parasitology* (5th Edition). American Society of Clinical Pathologist Press.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (40%) and a Final Exam (60%)

MIC4001: Research Design in Biomedical Science (6 credit hours)

Learning Outcomes

1. Conduct relevant literature search for the research.
2. Interpret findings from the literature search to design experimental protocols.
3. Present the research proposal.
4. Apply research methods and protocols in a scientific project.
5. Perform experiments to obtain data.
6. Analyse results from the research project using appropriate analysis tools.

Course Synopsis

This course exposes the students to scientific research techniques, starting with analysing published research relevant to the research project. The course teaches the students to collate data from published manuscripts, interpret the results and how to put it into context for their own projects. The student will begin to perform experiments independently. A proposal presentation and log book are compulsory components of the course. This course preceeds MIC4005 Research in Biomedical Science semester 2.

References

Current scientific papers, individual laboratory protocols

Course Coordinator

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Course Assessment

Continuous assessment (100%) –proposal presentation, log book and supervisor's evaluation.

MIC4007: Neuroscience (3 credit hours)

Learning Outcomes

1. Describe the nervous system network.
2. Identify the structure and function of the nervous system.
3. Recognise the integrated mechanism between structure and molecules that give rise to differences in brain function.
4. Apply the knowledge about neuronal mechanisms to neurological diseases.

Course Synopsis

This course offers the students the chance to learn about the nervous system. Students will learn about the different systems that control thoughts and behaviour, senses and movement. Emphasis will be on an experimental approach to understand the various functions.

References

1. Kandel, E., & et. al. (2013). *Principles of Neural Science* (5th Edition). McGraw Hill Professional.
2. Nicholls, J. G. & et. al. (2012). *From Neuron to Brain: Cellular and Molecular Approach to the Function of the Nervous System* (5th Edition). Sinauer Associates.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (40%) and a final exam (60%)

MIC4004: Diagnostic Bacteriology and Mycology (3 credit hours)

Learning Outcomes

1. Perform the correct microbiological techniques to isolate bacteria and fungi from clinical specimens.
2. Perform microbiological tests (including biochemical, serological, and antibiotic susceptibility tests).
3. Interpret microbiological test results to identify significant bacteria and fungi isolated from clinical specimens; and differentiate them from normal flora.
4. Apply basic principles of quality assurance and quality control in the daily activities of a diagnostic microbiology laboratory.
5. Describe basic principles, techniques, and results of molecular diagnostic methods (e.g. PCR) used in microbial identification.

Course Synopsis

The course consists of postings at the Diagnostic Bacteriology Unit, Diagnostic Mycobacteriology Unit, and the Diagnostic Mycology Unit, as well as laboratory training on practical skills and tutorials. Continuous assessment will consist of practical and OSPE exams as well as laboratory reports. Final examination will consist of practical and OSPE exams.

References

1. Mackie TJ, McCartney JE, and Collee JG. Practical Medical Microbiology. 14th edition. Elsevier, 2007.
2. Hawkey P and Lewis D. Medical Bacteriology: A Practical Approach. 2nd edition. OUP Oxford, 2004.
3. Larone DH. Medically Important Fungi: A Guide to Identification. 4th edition. ASM Press, 2002.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (40%) and a final exam (60%)

MIC4005: Research in Biomedical Science (6 credit hours)

Learning Outcomes

1. Apply research methods and protocols in a scientific project.
2. Perform experiments to obtain data.
3. Analyse results from the research project using appropriate analysis tools.
4. Interpret results in context of published literature.
5. Report results in an oral presentation and thesis.

Course Synopsis

This course must be taken directly after MIC4001 Research Design in Biomedical Science in semester 1. The students will continue to have the opportunity to spend a significant amount of time in research labs, learning scientific research techniques. Following on from MIC4001, in this semester, students will be expected to conduct research with some guidance but quite independently. The course trains the students to collect and collate data, and interpret the results. An oral presentation and written thesis are compulsory components of the course.

References

Current scientific papers, individual laboratory protocols

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%) - Oral presentation, writing thesis, Supervisor's evaluation.

MIC4006: Laboratory Management and Quality Control (3 credit hours)

Learning Outcomes

1. Identify principles of quality control.
2. Study quality assurance procedures performed in a diagnostic laboratory.
3. Interpret the stages of quality management required in diagnostic laboratories.

Course Synopsis

This course describes the stages of quality control, quality assurance, quality system and quality management. Examples of total quality framework include quality planning, quality laboratory processes, quality control, quality assurance and quality improvement.

References

1. Kenneth N. Parson (2012). *Laboratory Quality/Management* (3rd Edition). Xlibris Corporation.
2. Harmening, D. M. (2012). *Laboratory Management: Principles and Processes* (3rd Edition). D.H. Pub .& Consulting.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (60%) and a final exam (40%)

MIC4002: Biomedical Science Horizons (3 credit hours)

Learning Outcomes

1. Define the different areas of current and up-and-coming research in Malaysia and internationally.
2. Explain the scientific aspects of the topics presented.
3. Express their opinions on topics related to biomedical science to other scientists and the public.

Course Synopsis

This course aims to introduce students to the current issues in biomedical science, new techologies and areas of research, while focusing on areas of potential research in the future. It also allows the students to meet and share with a range of scientists and professionals who are involved in a wide range of biomedical science.

References

Newspaper articles, current scientific papers, online resources

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (70%) and a final exam (30%)

MIC4003: Advanced Human Physiology (3 credit hours)

Learning Outcomes

1. Interpret physiological advanced knowledge in various fields.
2. Apply knowledge of advanced physiology in planning for the seminar.
3. Report on topics of current research.

Course Synopsis

Students will be exposed to the advanced physiological systems in the human body to enhance their interest in scientific research.

References

1. Barrett KE, et al. (2012). *Ganong's Review of Medical Physiology* (24th edition). McGraw Hill.
2. Any related scientific journals.
3. Widmaier E, et al. (2013). *Vander's Human Physiology: The Mechanism of Body Functions* (13th edition). McGraw Hill.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (50%) and a final exam (50%)

MIC4008: Applied Phlebotomy (2 credit hours)

Learning Outcomes

1. Determine the correct sites, equipment, procedures and techniques for collection and handling of blood specimens.
2. Complete the collection and handling of blood specimens correctly, skilfully, and safely.
3. Initiate appropriate methods to troubleshoot problems during clinical specimen collection and handling.

Course Synopsis

The student will allow the student to apply the theoretical and practical knowhow obtained from the MBEB 4108 course on Phlebotomy. The student will be given the responsibility of drawing and handling blood specimens from patients at the UMMC, according to assigned requests. The student will set a high professional standard during these assigned phlebotomy duties.

References

1. McCall, R. E. (2011) *Phlebotomy Essentials* (5th edition). Lippincott Williams & Wilkins.
2. Ernst, D.J. (2005) *Applied Phlebotomy* (1st edition). Lippincott Williams & Wilkins.

Course Coordinator

Dr. Suzita Mohd. Noor
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Course Assessment

Course will be assessed by Continuous assessment (100%)

MIC4009: DNA Cloning in Biomedical Science (3 credit hours)

Learning Outcomes

1. Apply molecular engineering techniques and methods.
2. Interpret the data obtained from experiments.
3. Perform DNA cloning techniques, procedures in the laboratory.

Course Synopsis

This course allows students to gain skills in molecular cloning techniques in creating potential recombinant clones for the purpose of vaccines and drugs production. It includes the techniques of isolating genomic DNA especially from bacteria, partially genomic RE techniques, competent cells preparation, techniques in direct selection of positive recombinant clones and their characterization.

References

1. Brown, T. A. (2015) Gene cloning and DNA analysis (7th edition). Blackwell Publishing.
2. McLenna, A. G., Bates, A. D., Turner, P. C., White, M. R. H. (2012) BIOS instant notes in molecular biology (4th edition). Taylor & Francis.

Course Coordinator

Dr. Kee Boon Pin
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03-79676601

Course Assessment

Course will be assessed by Continuous assessment (100%)

MIC4010: Diagnostic Virology (3 credit hours)

Learning Outcomes

1. Report pathogenic viruses using specific laboratory techniques.
2. Apply suitable laboratory tests for the diagnosis of pathogenic viruses.
3. Interpret laboratory results for the diagnosis of pathogenic viruses.

Course Synopsis

The course consists of laboratory postings to specific microbiology diagnostic units, i.e. General Virology & Serology, and Molecular Diagnostics. Emphasis will be placed on advanced laboratory diagnostic methods, and their relevance to clinical practice.

References

1. Sherris Medical Microbiology. An Introduction to infectious diseases. Ryan. Ed. Appleton & Lange.
2. Fundamental Virology. Fieldset et., Eds. Lippincott-Raven Publishers.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous assessment (60%) and a final exam (40%)

MIX4001: Introduction to Qualitative Research (3 credit hours)

Learning Outcomes

1. Explain the qualitative research process.
2. Identify the various qualitative research design.
3. Explain qualitative data collection and data analysis.
4. Explain strategies to ensure rigor in qualitative data.

Course Synopsis

This course will focused on qualitative research approaches. Topics will include various qualitative research approaches and other methods related to qualitative data collection and data analysis.

References

1. Creswell, J.W. (2009) Research Design: Qualitative, Quantitative and Mixed Methods Approaches. 3rd edition. Sage. Thosuand Oaks.
2. Creswell, J.W. (2010) Qualitative inquiry & research design. 4th edition Sage. Thousand Oaks.
3. Munhall,L.M. (2010) Nursing Research ; a qualitative perspective. (3rd edition).Jones and Bartlett Publishers:Sudbury.
4. Pope,C., Mays,N & Popay,J. (2010) Synthesizing qualitative and quantative health evidence.Open University Press. Maidenhead
5. Ritchie,J. & Lewis, J. (2012) Qualitative Research Practice. Sage Publications: London.

Course Coordinator

Lecturers from FOM

Course Assessment

Course will be assessed by Continuous assessment (40%) and a final exam (60%)

MIC4011: Industrial Posting (3 credit hours)

Learning Outcomes

1. Follow work flow in laboratory/industry.
2. Apply knowledge learned to required tasks.
3. Perform assigned tasks.

Course Synopsis

Students will carry out duties in their chosen laboratory/industry within the Klang Valley or Putrajaya only for eight weeks. They will perform duties according to established work flow.

References

As given by the laboratory supervisor/laboratory manager

Course Coordinator

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2018/2019

UNDERGRADUATE GUIDEBOOK

Faculty of Medicine

NURSING SCIENCE

Message from Head of Department

Congratulations and welcome to the Bachelor in Nursing Science programme, offered by the Department of Nursing Science, Faculty of Medicine, and University of Malaya.

You have chosen a career with extraordinary potential and rewards. The current shortage of nurses has brought public awareness that there is simply no substitute for a nurse. Nurses are now recognized and prioritized as an essential part of the healthcare system in ensuring health and wellbeing of the society worldwide. And you have chosen a department where nurse education is at its best.

At the Department, we prepare students to become a knowledgeable graduate nurses who will apply effective, ethical and safe nursing knowledge in providing nursing care to patients and in contributing to the advancement of health care and nursing profession. The research-intensive environment in University of Malaya with its full range of academic disciplines provides an exceptional environment for tertiary education in nursing.

We hope your educational experience here will be personally satisfying, as well as professionally stimulating and challenging. This handbook was created to assist you with your transition to graduate studies by providing a quick source of information that previous students have found to be useful. It will provide guidance in the aims, academic structure and contents, academic services and what is expected of you.

We realize that the choice to seek graduate study represents a significant commitment on your part and we hope that your experience here will meet your expectations. I encourage you to optimize the learning potentials provided by your mentors, peers, academic staff of other discipline and the rich resources available to you through the University.

The academic advisor will assist you with your academic planning, but the entire Department and staff stands ready to answer your questions and cheer you on, as well. We look forward to a great team effort!

Chong Mei Chan
Acting Head
Department of Nursing Science

ACADEMIC STAFF

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INTRODUCTION

The Bachelor of Nursing Sciences programme is offered by the Department of Nursing Sciences, Faculty of Medicine. Department of Nursing Science was first established in 1993 as a Nursing Science unit under the Department of Allied Health Sciences. It was the first nursing unit to recognize the importance of baccalaureate education in nursing and became the pioneer in the transition in the nursing education program by upgrading nursing education from a diploma to a graduate program, Bachelor of Nursing Sciences in Malaysia. The unit has been involved in the undergraduate teaching leading to Bachelor in Nursing Sciences ever since its formation.

The unit was established as a clinical department: Department of Nursing Science in Faculty of Medicine, University of Malaya on the 1st July 2007.

The Vision of the Department is to be a center of excellence in nursing education by producing registered nurses that are competent, safe, has good moral values and critical thinking ability, caring and interacts with clients, families and communities in providing care in various health services in the country. With this vision our mission is to be excellent in educating and producing graduate at tertiary level in line with changes in technology and services in the field of nursing in Malaysia through teaching and learning and evidence based practice.

Bachelor of Nursing Sciences Programme covers eight semesters and one special semesters within 4 years and is specially designed to prepare nursing students with relevant knowledge, competencies and professionalism at undergraduate level.

The aim of this course is to produce nursing graduates with in-depth knowledge in nursing and medical sciences. Upon completion, graduates are expected to practice nursing critically and ethically by applying scientific nursing foundation in health care delivery.

PROGRAMME OBJECTIVES

The aim of the programme is to:

i. Produce knowledgeable graduate nurses who will apply effective, ethical and safe nursing knowledge in providing nursing care to patient.
ii. Produce graduate nurses with research culture and practice evidence based nursing.

EDUCATIONAL OUTCOMES

At the end of Bachelor of Nursing Science Programme, graduates are able to:

PO1 – Competent in knowledge and skills necessary in the education and practive related to nursing.
PO2 – Apply scientific nursing foundation in assessing, planning, implementing and evaluating the care of patients, families and communities.
PO3 – Apply approriate social skills and be responsible in meeting the needs of the patients.
PO4 - Demonstrate professional behavior and personal values in accordance to the nursing ethics and code of conduct in delivering health care.
PO5 - Communicate and collaborate effectively with patients, families, societies and other healthcare professionals as a team.
PO6 - Conduct nursing research and solve patient's health problems scientifically using critical nursing skills.
PO7 - Apply management of information technology towards lifelong learning in nursing.
PO8 - Utilize managerial and entrepreneur skills while giving consultation services in patients' care.

ACADEMIC PROGRAMME & COURSE STRUCTURE

The academic year consists of two semesters. Two are normal semesters and one special semester. Each normal semester consists of:

1. Lectures – 14 weeks
2. Vacation (During Mid Semester) – 1 week
3. Examination – 3 weeks.

Meanwhile the special semester consists of 8 weeks of lectures and examination. Each student is given 3 weeks off within the 2 normal semesters.

Course offered is categorized under:

I. University Courses
II. Faculty Courses (Core and Electives)

Students are required to register and pass all courses. The courses will be conducted via lectures, tutorials, discussion and practical sessions in University Malaya Medical Centre and other health organization.

PROGRAMME STRUCTURE

1. **Malaysian Students:**

Courses Level	Courses Name		Credits
University Courses	GIG 1001	Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia* (TITAS)	2
	GIG 1002	Ethnic Relations *Hubungan Etnik*	2
	GIG 1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG 1004	Information Skills *Literasi Maklumat*	2
	GLT XXXX	English for Communication Programme Program Bahasa Inggeris Komunikasi	6
	GIG 1005	*Social Engagement* *Jalinan Masyarakat*	2
	GKX XXXX	Co-Curriculum Course Kursus Ko-Kurikulum	2
		External Faculty Elective *Kursus Elektif Luar Fakulti* (KELF)	4
	Total		22
Faculty Courses	Core Courses*		118
	Elective Courses		2
Total Credits			**142**

PROGRAMME STRUCTURE

2. International Students:

Courses Level	Courses Name		Credits
University Courses	GLT1017	*Basic Malay Language* *Bahasa Melayu Asas*	2
	GIG 1006	Introduction to Malaysia *Pengenalan Kepada Malaysia*	2
	GIG 1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG 1004	Information Skills *Literasi Maklumat*	2
	GLT XXXX	English for Communication Programme Program Bahasa Inggeris Komunikasi	6
	GLT 1005	Social Engagement *Jalinan Masyarakat*	2
	GKX XXXX	Co-Curriculum Courses Kursus Ko-Kurikulum	2
		Faculty's External Elective Course *Kursus Elektif Luar Fakulti* (KELF)	4
	Total		22
Faculty Courses	Core Courses*		118
	Elective Courses		2
Total Credits			**142**

COURSE STRUCTURE

Year 1 (2018/2019)

Semester I

Category	Course Code	Course Name	Credits
University Course	GIG 1001	Islamic and Asian Civilisation (TITAS)	2
	GIG 1003	Basic of Entrepreneurship Culture	2
Core Courses	MID 1001	Basic Medical Science I	3
	MID 1002	Nursing Process	2
	MID 1003	Nursing Skills I	3
	MID 1004	Effective Communication in Nursing	2
	MID 1005	Health Psychology	2
	MID 1006	Nursing Practice I	3

Semester II

Category	Course Code	Course Name	Credits
University Course	GIG 1002	Ethnic Relations	2
	GIG 1004	Information Skills	2
	GLT xxxx	English for Communication Programme	3
Core Courses	MID 1007	Basic Medical Science II	3
	MID 1008	Nursing Skills II	4
	MID 1009	Pharmacology in Nursing	3
	MID 1010	Microbiology & Parasitology	2
	MID 1011	Nursing Practice II	4
	MID 1010	Sociology in Nursing	2

Year 2 (2019/2020)

Semester I

Category	Course Code	Course Name	Credits
University Course	GLT xxxx	English for Communication Programme	3
Core Course	MID 2001	Medical Nursing I	2
	MID 2002	Surgical Nursing I	2
	MID 2003	Nursing Concepts	2
	MID 2004	Nursing Practice III	4
	MID 2005	Basic Medical Science III	3

Semester II

Category	Course Code	Course Name	Credits
University Course	GLT 1005	Social Engagement	2
Core Course	MID 2006	Surgical Nursing II	2
	MID 2007	Primary Health Care and Public Health	2
	MID 2008	Nursing Practice IV	4
	MID 2009	Medical Nursing II	2
	MID 2010	Basic Medical Science IV	3
Elective Course	MID 2011	Moral and Ethics in Nursing Profession	2

Year 3 (2020/2021)

Semester I

Category	Course Code	Course Name	Credits
University Course		Faculty's External Elective Course	4
Core Course	MID 3001	Professionalism and Legal Aspects in Nursing	2
	MID 3002	Obstetrics and Gynecology Nursing	3
	MID 3003	Paediatrics Nursing	3
	MID 3004	Nursing Research	3
	MID 3005	Nursing Practice V	2

Semester II

Category	Course Code	Course Name	Credits
Core Course	MID 3006	Community Health Nursing	3
	MID 3007	Statistics in Nursing Research	3
	MID 3008	Mental Health Nursing	2
	MID 3009	Counseling Skills for Nurses	2
	MID 3010	Nursing Practice VI	4

Special Semester

Category	Course Code	Course Name	Credits
Core Course	MID 3011	Orthopaedic, Ophthalmology, Otorhinolaryngology, Gerontology Nursing	3
	MID 3012	Nursing Practice VII	3

Year 4 (2021/2022)

Semester I

Category	Course Code	Course Name	Credits
University core course		Co-curriculum Course	2
Core Course	MID 4001	Emergency, Intensive and Perioperative Nursing	3
	MID 4002	Management and Leadership in Nursing	2
	MID 4003	Research project	5
	MID 4004	Nursing Practice VIII	3
	MID 4005	Teaching Function of A Nurse	2

Semester II

Category	Course Code	Course Name	Credits
Core Course	MID 4006	Nursing Practice IX	4
	MID 4007	Internship	5

COURSE SUMMARY

YEAR I SEMESTER I (2018/2019)

MID 1001: Basics Medical Science I

3 credits

Learning Outcomes:

At the end of this course, students are able to:

1. identify the general principles and basic terminology for anatomy physiology and biochemistry.
2. explain the anatomy and physiology in the human body.

Course Synopsis

The course includes the anatomy, physiology and biochemistry of the cell, tissues, muscles, glands and the following systems:

- Musculoskeletal
- Circulatory
- Respiratory
- Digestive
- Renal

Reference Texts

Barret, K. E., Barman, S.M., Boitano, S. & Brooks, H. (2012). Ganong's. Review of Medical Physiology (24th Ed.). New York: McGraw Hill Medical.

Marieb, E.M. & Hoehn, K. (2016). Anatomy & physiology. (10th Ed.). Harlow: Essex Pearson.

Martini, F. H., Nath, J. L. & Bartholomew, E. F. (2014). Fundamentals of Anatomy & Physiology. (10th Ed.). New Jersey: Pearson.

Patton, K, T. & Thibodeau, G. A. (2013). Anthony's textbook of anatomy & physiology (20th Ed.). St. Louis, Mo.: Mosby/Elsevier.

Tortora, G. J. & Derrickson, B. H. (2011). Principles of Anatomy and Physiology (13th Ed.). New Jersey: John Wiley & Sons.

Course Assessment:

Course will be assessed by:

Continuous assessment - 40%

- Test 1 (20%)
- Test 2 (20%)

Final Examination: 60%

MID 1002: Nursing Process

2 credits

Learning Outcomes:

At the end of this course, students are able to:

1. explain the nursing theories and models.
2. explain the concept of nursing process.
3. explain the process of planning a nursing care plan using nursing process.

Course Synopsis:

This course consists of nursing theories and models as well as the required skills of the nursing process such as assessment, planning, implementation and evaluation.

Reference Texts:

Alfaro, R. (2009). Applying Nursing Process: A Tool for Critical Thinking (7th Ed.). Philadelphia: Lippincott Williams & Wilkins.
Carpenito, L. J. (2012). Nursing Diagnosis: Application to Clinical Practice (14th. Ed.). Philadelphia: Lippincott Williams & Wilkins.
Cox, C. L., (2010). Physical Assessment For Nurses. Lowa: Wiley-Blackwell Publication.
Gail, B. Ladwig, G.B. & Betty J. A. (2013). Mosby's Guide to Nursing Diagnosis. (4th. Ed.). St Louis: Mosby.
Ladwig, G. B, Ackley B. J. & Makic M. B. F. (2016). Mosby's Guide to Nursing Diagnosis. (5th. Ed.). Philadelphia: Elsevier Mosby.

Course Assessment:
Course will be assessed by:

Continuous Assessment: 40%

- Written (30%)
- Presentation (10%)

Final Examination: 60%

MID 1003: Nursing Skills I

3 credits

Learning Outcomes:

At the end of the course the students are able to:

1. explain the principle of body mechanics, observations microbial and environmental safety.
2. explain the responsibilities before, during and after performing nursing procedures.
3. perform nursing procedures according to principles.
4. explain the elements of effective documentation.

Course Synopsis:

The course includes topics regarding body mechanics and positioning, comfort and safety needs of patient, observation of patients, admission and discharge of patients and documentation.

Reference Texts:

Berman, A J. (2011). Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice. (9th Ed.). New York: Prentice-Hall.
Grodner, M., Roth, S. L., Walkingshaw, B. C. (2012). Nutritional Foundations and Clinical Applications: A Nursing Approach. (5th Ed.). Philadelphia: Elsevier Mosby.
Potter, P. & Perry, A. G. (2010). Basic Nursing Theory And Practice. (7th Ed.). New York: Mosby.
Potter P., Perry A. G., Stockert, P. & Hal,l. A. (2016). Fundamentals Of Nursing (9the Ed.). Philadelphia: Elsevier Mosby.
Taylor C. Lillis, C,LeMone, P. & Lynn P. (2011). Fundamentals Of Nursing. The Art And Science Of Nursing Care. (7th Ed.). China: Lippincott Williams & Wilkins.

Course Assessment:
Course will be assessed by:

Continuous Assessment: 40%

- Test (20%)
- Assignment (20%)

Final Examination: 60%

MID 1004: Effective Communication In Nursing

2 credits

Learning Outcomes:

At the end of the course the students are able to:

1. explain the process of communication, communication styles and skills with client and healthcare personnel.
2. identify the factors influencing and barriers to effective communication.
3. discuss the communication strategies for client in specific situation.
4. identify the communication skills during interview session.

Course Synopsis:

This course includes concept and element in communication. It also covers verbal and non-verbal, barriers in communication, communication styles, listening skills, questioning and interviewing skills

Reference Texts:

Arnold, E. & Boggo, K. U. (2003). Interpersonal Relationship: Professional Communication Skills For Nurses. (4th Ed.). St. Louise: W.B. Saunders Company.

Bach S. (2015). Communication and Interpersonal Skills in Nursing. (3rd Ed.). Singapore: SAGA.

Balzer-Riley, J. W. (2011) Communication in nursing (7th Ed.). St. Louis: Mosby.

Hayes, D. A. & Arshad R. (2011). Effective communication in Nursing. Oxford Fajar: Malaysia.

Servellen, V. & Marram, G. (2009). Communication skills for the health care professional: concepts, practice, and evidence. (2nd Ed.). Sudbury, Mass: Jones and Bartlett Publishers.

Course Assessment:

Course will be assessed by:

Continuous assessment: Assignment: 40%

- Role play (30%)
- Reflective report (10%)

Final Examination: 60%

MID 1005: Health Psychology

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain concepts of health psychology.
2. describe the developmental psychology from childhood to elderly, health behaviors and psychobiologic perspective of pain and illness.
3. explain the models and theories related to cognitive, psychosocial and behavioral in health psychology.

Course Synopsis:

This course aims to identify concept on psychological health and psychological development from conception to adulthood. This course consists of developmental theories on cognition and psychology. It also include of psycho-social aspects and health behaviour.

Reference Texts:

Berk, L. E. (2010). Development through the lifespan (5th Ed.). Boston: Allyn & Bacon.
Niven, N. (2006). Psychology of Nursing Care (2nd Ed.).New York: Palgrave MacMillan.
Ogden, J. (2007). Health psychology: a textbook, (4th Ed.). Berkshire, England: McGraw Hill Open University Press.
Papalia, D. E, Olds, S. W. & Feldman, R (2009). Human Development, New York Boston: McGraw Hill.

Course Assessment:

Course will be assessed by:
Continuous assessment: 40%

- Assignment & Presentation (20%)
- Test (20%)

Final Examination: 60%

MID 1006: Nursing Practice I

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. identify patients basic needs using assessment and communication skills.
2. perform basic nursing procedure according to nursing process approach.
3. perform individualized nursing care according to the patients' need.
4. record vital signs, intake output and basic nursing interventions in patients' chart.

Course Synopsis:

The course includes attachment to hospital wards to perform basic nursing procedures such as positioning, hygiene care, basic bed making, measuring vital signs and writing patient's report. It also provides opportunity for student to apply nursing process and communication skills.

Reference Texts:

Berman, A. J. (2010) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th Ed.) New York: Prentice-Hall.
Potter, P. A. & Perry, A. G. (2010) Basic Nursing Theory And Practice (7th Ed.) New York: Mosby.
Ingnativicus, D. D. and Workman M. L. (2015). Medical Surgical Nursing – patient centered collaborative care (9th Ed.). Philadelphia: W.B. Saunders.
Potter, P. A., Perry, A. G., Stockert, P. & Hall, A. (2013). Fundamentals of Nursing (8th Ed.). St. Louis: Elsevier Mosby.
Taylor, C. Lillis, C., LeMone, P. & Lynn, P. (2011). Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th Ed.). China: Lippincott Williams & Wilkins.

Course Assessment:

Continuous Assessment :100%

- Clinical assessment (40%)
- Reflective writing (20%)
- Case presentation (30%)
- Clinical evaluation (10%)

YEAR 1 SEMESTER 2 (2018/2019)

MID 1007: Basic Medical Sciences II

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. describe the macroscopic and microscopic structure of nervous, endocrine, sensory, reproductive and integumentary system.
2. explain the function and physiology of nervous, endocrine, sensory, reproductive and integumentary system.

Course Synopsis:

This course includes the anatomy, physiology and biochemistry of the following system:

- nervous system
- endocrine system
- sensory system
- reproductive system
- integumentary system

Reference Texts:

Applegate, E. J. (2011). Study guide for the anatomy & physiology learning system (4th Ed.). St. Louis, Mo.: Saunders/Elsevier.

Marieb, E. N. & Hoehn, K. (2013). Human anatomy & physiology (9th Ed.).Upper Saddle River: Pearson.

Patton, K, T. & Thibodeau, G. A. (2013). Anthony's textbook of anatomy & physiology (20th Ed.). St. Louis, Mo.: Mosby/Elsevier.

Thibodeau, G. A & Patton, K. T. (2012). Structure & function of the body (14th Ed.). St. Louis, Mo.: Elsevier/Mosby.

Waugh, A. & Grant, A. (2014). Ross and Wilson anatomy and physiology in health and illness. (12th Ed.). Edinburgh: Churchill Livingston. Elsevier.

Course Assessment:

Course will be assessed by:

Continuous Assessment: Test 40%

- Test 1 (20%)
- Test 2 (20%)

Final Examination: 60%

MID 1008: Nursing Skills II

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the nursing responsibilities before, during and after performing nursing procedures.
2. perform the nursing procedures according to principles.
3. explain the principles and nursing responsibilities of drugs administration.
4. discuss the nursing responsibilities in caring for patient with intravenous therapy and blood transfusion.

Course Synopsis:

This course covers medical and surgical nursing procedures. It also include topics such as fulfilling elimination needs, specimen collection, intravenous therapy, blood transfusion and management of deceased patients.

Reference Texts:

Berman, A J. (2011). Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th Ed.). New York: Prentice Hall.

Grodner, M., Roth, S. L. & Walkingshaw, B. C. (2012). Nutritional Foundations and Clinical Applications: A Nursing Approach (5th Ed.). Philadelphia: Elsevier Mosby.

Potter, P & Perry, A. G. (2010). Basic Nursing Theory And Practice (7th Ed.). New York: Mosby.

Potter P., Perry A. G., Stockert P. & Hall A. (2016). Fundamentals Of Nursing (9the Ed.). Philadelphia: Elsevier Mosby.

Taylor C., Lillis, C., LeMone, P. & Lynn P. (2011). Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th Ed.). China: Lippincott Williams & Wilkins.

Course coordinator:

Madam Rasnah Abdul Rahman

Course Assessment:

Course will be assessed by:
Continuous Assessment: 40%

- Assignment (20%)
- Test (20%)

Final Examination: 60%

MID 1009: Pharmacology in Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :
1. explain the basic terminologies, principles of pharmacology and classification of drugs.
2. explain the actions, side effects, and adverse reactions of the various drugs.
3. discuss the nursing responsibilities in drugs administration.

Course Synopsis:

This course includes knowledge on terminology in pharmacology, drugs classification, actions, side effects, and adverse reactions of the various drugs. It also covers nursing responsibilities in drugs administration.

Reference Texts:

Black, J. M. and Hawks, J. H. (2008). Medical Surgical Nursing – Clinical Management for Positive Outciome. (8th Ed.). St. Louis Saunders Elsevier.

Berman, A., Snyder, S. J., Kozier, B. & Erb, G. (2008). Kozier & Erb's Fundamentals of Nursing Concepts, Process And Practice. (8th Ed.). Upper Saddle River, N.J.: Pearson Prentice Hall.

Broyles, B. E., Reiss, B. S. & Evans, M. E. (2007). Pharmcological Aspects of Nursing Care. (7th Ed.). New York: Thomson Delmar Learning.

Philips, L.D. (2010). Manual of I.V. Therapeutics: Evidence-Based Practice for Infusion Therapy. (5th Ed.). Philadelphia: F.A. Davis Co.

Potter, P. A., & Perry, A. G. (2008). Fundamentals of Nursing. (7th Ed.). St. Louis, Mo.: London: Mosby.

Course coordinator:
Miss R.Kavitha Rasaiah

Course Assessment:
Course will be assessed by:
Continuous Assessment: 40%
- Assignment (20%)
- Test (20%)

Final Examination: 60%

MID 1010: Microbiology & Parasitology

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. describe the classification and characteristics of microorganism.
2. explain the etiology and pathogenesis of bacteria, virus, fungi, spirochete, protozoa, parasites and filariasis.
3. explain the principles of immunology and adverse immune response.
4. explain the safety practices in the prevention of communicable diseases.

Course Synopsis:

This course consists of knowledge on microbiology, parasitology, immunology and safety practices in the prevention of communicable diseases.

Reference Texts:

Abbas, A. & Lichtman, A. (2011). Basic immunology: functions and disorders of the immune system. Philadelphia: Saunders/Elsevier.

Cornelissen, C.N., Fisher, B. D. & Harvey, R. A. (2014). Lippincott's Illustrated Reviews: Microbiology. (3rd Ed.). Philadelphia: Lippincott Williams & Willkins.

Kenneth R., Ray C. G., Ahmad, N, Drew, W.L. & Plorde, J. (2014). Sherris medical microbiology (6th Ed.). New York: Mc Graw Hill Medical.

Livinson, W. (2014). Review of Medical Microbiology & Immunology. (13th Ed.). New York: Mc Graw Hill Medical..

Tortora, G. J., Funke, B. R. & Case, C. L. (2015). Microbiology: An Introduction. (12th Ed.). Upper Saddle River: Pearson.

Course Assessment:

Course will be assessed by:
Continuous Assessment: 40%

- Test 1 (20%)
- Test 2 (20%)

Final Examination: 60%

MID 1011: Nursing Practice II

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. identify individualized nursing care to patient in the wards.
2. perform nursing skills to meet basic patients needs according to activity of daily living.
3. perform nursing care to patient with enteral feeding, intravenous therapy, blood transfusion, oxygen theraphy, wounds, continuous bladder drainage and drainage tube.
4. identify the correct principles to administer the medications.

Course Synopsis:

The course includes attachment to ward to perform nursing procedures: enteral feeding, intravenous therapy, blood transfusion oxygen therapy, dressing and bandaging, catheterization and medication administration. It also provides opportunity for student to apply nursing process and communication skills.

Reference Texts:

Berman, A. J. (2010). Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.). New York: Prentice-Hall.

Ignativicus, D. D. and Workman M. L. (2015). Medical Surgical Nursing – patient centered collaborative care (9th Ed.). Philadelphia : W.B. Saunders.

Lehne, R. A. (2013). Pharmacology for nurses care. St. Louis: Elsevier Mosby.

Potter, P.A., Perry, A.G., Stockert, P. & Hall, A. (2013). Fundamentals of Nursing (8th Ed.). St. Louis: Elsevier Mosby.

Taylor, C. Lillis, C., LeMone, P. & Lynn, P. (2011). Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th Ed.) China: Lippincott Williams & Wilkins.

Course Assessment:

Course will be assessed by:
Continuous Assessment: 100%

MID 1012: Sociology in Nursing

2 credits

Learning Outcomes:

At the end of the course students able to :

1. explain basic concepts in sociology in relation to culture, community, norms, values, socialization and its importance in nursing.
2. discuss the hospital as a social institution, health beliefs and practices, biomedical innovation, social and cultural changes and its impact on health and illness.
3. identify the sociological aspect of the sick roles of the patients and the patient-practitioner relationship.

Course Synopsis:

The course consists of introduction to basic concepts and scopes in sociology such as topics on culture, norms, values, socialization, stratification in society and medicalization. It also includes topics on hospital as a social institution, health beliefs and practices, biomedical innovation, social and cultural changes and its impact on health and illness. Sick roles of patient and patient-practitioner relationship will also be discussed.

Reference Texts:

Ember, C. (2008). Culture Anthropology (12th.Ed.). New York : Prentice-Hall.
Hashim Awang (1990). Pengantar antropologi perubatan. Kuala Lumpur: Dewan Bahasa dan Pustaka.
Helman, C. (2007). Culture, health and illness : An introduction for health professionals (5th Ed.). London: Hodder Arnold.
Scrambler, G. (2008). Sociology as applied to medicine (6th Ed.). Edinburgh : Saunders/Elsevier

Course Assessment:

Course will be assessed by:
Continuous assessment: 40%

- Assignment (20%)
- Role play assessment (20%)

Final Examination: 60%

YEAR 2 SEMESTER 1 (2019/2020)

MID 2001: Medical Nursing I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. identify the nursing care of patients with shock and electrolyte imbalance and principles of standard and transmission-based precaution.
2. describe nursing care of patient with infectious disease.
3. determine nursing care of patient with cardiovascular and respiratory disorders.

Course Synopsis:

This course consists of patient with of shock and electrolyte imbalance. It also includes nursing care of patients with infectious diseases, cardiovascular and respiratory disorders.

Reference Texts:

Alexander, M. F, Fawcett, J. N & Runciman P. J. (2006). Nursing Practice Hospital And Home The Adult (3rd Ed.). Edinburgh: Churchill Livingstone Elsevier.

Black, J. M. & Hawks J. H. (2008). Medical Surgical Nursing – Clinical Management for Positive Outciome (8th Ed.). St. Louis Saunders Elsevier.

DeLaune,S.C. & Ladner,P.K. (2011). Nursing Faudamental: Standard and Practice. Cengage Asia Singapore.

LeMone, P. & Burke, K. M. (2008). Medical-surgical nursing care: Critical Thinking in Client Care (4th Ed). New Jersey: Pearson Prentice Hall.

Ignativicius, D. D & Workman M. L. (2009). Medical-surgical nursing: critical thinking for collaborative care. (6th Ed.). St.Louis: Saunders Elsevier.

Course Assessment:

Course will be assessed by:

Continuous Assessment : 40%

- Test I-20%,
- Assignment: 20%

Final Examination: 60%

MID 2002: Surgical Nursing I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the pre and post operative care and complications for surgical patients.
2. identify wound care and pain management in surgical patients.
3. determine the nursing care of patients with cancer, vascular,cardiothoracic, mammary and endocrine disorder.

Course Synopsis:

This course consist of nursing care of pre and post operative patients, post operative complications and discomfort. It also includes surgical care of patients with wound, vascular, cardiothoracic, mammary and endocrine disorder.

Reference Texts:

Berman, A J.& Snyder,S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall**

Berman A.J. & Snyder,S. (2011). Skills in Clinical Nursing (7th ed.). Prentice Hall.*

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.

LeMone, P. & Burke, K. M. (2008) Medical-surgical nursing care: Critical Thinking in Client Care (4th ed). New Jersey: Pearson Prentice Hall.

Potter, P. A., Perry, G., Hall, A. & Stockert P.A. (2009) Fundamentals of nursing (7th. ed.). St. Louis : Mosby.

Course Assessment:

Course will be assessed by:

Continuous assessment :

- Test I: 20%
- Test II: 20%

Final examination: 60%

MID 2003: Nursing Concepts

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. describe the various concepts and transcultural care in nursing.
2. explain theories related to the nursing concepts and transcultural care.
3. discuss the implication and nursing responsibilities of the nursing concepts.

Course Synopsis:

This course covers various nursing concepts, related theories and transcultural care nursing. The implication and nursing responsibilities of the nursing concepts will also be discussed.

Reference Texts:

Black, B.P. & Chitty, K.K. (2014). Professional Nursing: concepts & challenges. Elsevier, St. Louis. Missouri.
Giddens, J.F. (2014). Concepts for Nursing Practice. Elsevier Mosby. St Louis, Missouri.
Giger,J.N. (2012). Transcultural Nursing, (6th Ed). Elsevier Inc.St. Louis, Missouri.
Hood, L. J. (2010). Leddy & Pepper's Conceptual Bases of Professional Nursing (7th Ed.). Philadelphia: Wolters Kluwer Lippincott Williams & Wilkins.
Potter, P.A. (2013). Fundamentals of Nursing. (8th edition). Elsevier Mosby. St Louis, Missouri.

Course Assessment:
Course will be assessed by:

Continuous assessment: 40%
- Assignment 20%
- Test 20%

Final Examination: 60%

MID 2004: Nursing Practice III

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. provide pre and post operative care on surgical patients with cancer, vascular,cardiothoracic, mammary and endocrine.
2. perform nursing care to patient with medical conditions: infectious diseases, cardiovascular, respiratory disorders and cancer.
3. provide the management and nursing care of patients with shock and/or electrolyte imbalance.
4. demonstrate nursing procedures on medical and surgical patients.

Course Synopsis:

The course is a clinical attachment to medical and surgical wards to provide nursing care and perform medical-surgical procedures for patients with cancer, vascular, cardiothoracic, mammary, endocrine, infectious diseases, and respiratory disorders. It also provides opportunity for student to apply isolation technique on patients with infectious disease.

Reference Texts:

Berman, A J. & Snyder, S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th Ed.). New York. Prentice-Hall

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th Ed.) St. Louis Saunders Elsevier.

Corner, J. & Bailey,C. (2008) Cancer nursing : care in context (2nded.). Oxford: Blackwell Pub.

DeLaune,S.C. & Ladner,P.K. (2011). Nursing Faudamental: Standard and Practice. Cengage Asia Singapore.

LeMone, P. & Burke, K. M. (2008). Medical-surgical nursing care: Critical Thinking in Client Care (4th Ed). New Jersey: Pearson Prentice Hall.

Course Assessment:

Course will be assessed by:
Continuous Assessment: 100%

- Case study and presentation -30%
- Report writing - 20%
- OSCE - 40%
- Clinical Evaluation- 10%

MID 2005: Basic Medical Science III

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify fluid therapy and the management of patients with shock and electrolyte imbalance.
2. Explain the clinical manifestation of for patient with infectious diseases.
3. Describe the clinical manifestation and management of patient with mammary, cardiothoracic, vascular, respiratory, thyroid disorder and cancer.

Course Synopsis:

This course consists of topics on management of shock, fluid and electrolyte imbalance and fluid therapy. It also includes medical and surgical management of patients with cancer, mammary, cardiothoracic, respiratory, vascular and thyroid disorder.

Reference Texts:

Chabner, B. & Longo, D. L. (2011).Cancer chemotherapy and biotherap: principles and practice (5th Ed.) Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health

DeLaune,S.C. & Ladner,P.K. (2011). Nursing Faudamental: Standard and Practice. Cengage Asia Singapore.

LeMone, P. & Burke, K. M. (2008). Medical-surgical nursing care: Critical Thinking in Client Care (4th Ed). New Jersey: Pearson Prentice Hall.

Ignativicius, D. D & Workman M. L. (2009). Medical-surgical nursing: critical thinking for collaborative care. (6th Ed.). St.Louis: Saunders Elsevier.

Stephen, J, McPhee, Hammer, G. D. (2014). Pathophysiology of Diseases: An Introduction to Clinical Medicine. (7th Ed). New York: Mc Graw-Hill Education.

Course Assessment:

Course will be assessed by:
Continuous Assessment : 40%

- Test I-20%,
- Test II: 20%

Final Examination: 60%

YEAR 2 SEMESTER 2 (2019/2020)

MID 2006: Surgical Nursing II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify surgical nursing responsibilities in specific procedures related to gastrointestinal, hepatobiliary, urological, and neurosurgical disorders.
2. Determine the pre and post operative nursing care for patient with alteration of gastrointestinal, hepatobiliary, urological, neurosurgical disorders and burns.

Course Synopsis:

This course comprises pre operative and post operative nursing care of surgical patient with alteration gastrointestinal, renal and genitourinary, CNS diorders and burns. It also covers topics on specific investigations for surgery and surgical procedures.

Reference Texts:

Berman, A J.& Snyder,S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall**

Berman A.J. & Snyder,S. (2011). Skills in Clinical Nursing (7th ed.). Prentice Hall.*

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.

LeMone, P. & Burke, K. M. (2008) Medical-surgical nursing care: Critical Thinking in Client Care (4th ed). New Jersey: Pearson Prentice Hall.

Potter, P. A., Perry, G., Hall, A. & Stockert P.A. (2009) Fundamentals of nursing (7th. ed.). St. Louis : Mosby.

Course Assessment:

Course will be assessed by:

Continuous Assessment: 40%

- Assignment- 20%
- Test – 20%

Final Examination: 60%

MID 2007: Primary Health Care and Public Health

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Describe the concepts, elements and nursing roles in primary care, family and community health care, and environmental health.
2. Explain the concept of epidemiology, health promotion and health education.
3. identify the activities and concept of home visiting.

Course Synopsis:

This course includes the concepts and elements in primary, family and community health care, health promotion, health education, epidemiology, home visiting including the nursing roles.

Reference Texts:

McMurray, A. & Clendon, J. (2011). Community Health and Wellness: Primary Health Care in Practice (4th Ed.). Churchill Livingston Elsevier.*

Allender JA., Rector C., Warner KD Community & Public Health Nursing: Promoting the PUBLIC'S HEALTH International Edition 8th edition Copyright 2014 Wolters Kluwer Lippincott Williams & Wilkins

Clark MJ Copyright 2013 Community Health Nursing: Advocacy for Population Health 5th edition Pearson

Mary A. N & McEwen M Community/Public Health Nursing, 6th Edition
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Course Assessment:
Course will be assessed by:
Continuous assessment :

- Test : 10%
- Assignment : 30%

Final Examination : 60%

MID 2008: Nursing Practice IV

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. perform nursing care to patient with medical conditions; autoimmune, integumentary, renal, hematology, endocrine and neurological disorders.
2. provide surgical nursing care for patient with alteration of gastrointestinal, urological, neurological disorders and burns.
3. demonstrate medical-surgical nursing procedures on patients.

Course Synopsis:

The course is a clinical attachment to medical and surgical wards to provide nursing care and perform medical-surgical procedures for patients with autoimmune, integumentary, renal, hematology, endocrine, neurological, gastrointestinal, urological, and burns .It also provides opportunity for student to perform neurological assessment to patient with neurological disorders.

Reference Texts:

Berman, A J. & Snyder, S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th Ed.). New York. Prentice-Hall

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th Ed.) St. Louis Saunders Elsevier.

Corner, J. & Bailey,C. (2008) Cancer nursing : care in context (2nded.). Oxford: Blackwell Pub.

DeLaune,S.C. & Ladner,P.K. (2011). Nursing Faudamental: Standard and Practice. Cengage Asia Singapore.

LeMone, P. & Burke, K. M. (2008). Medical-surgical nursing care: Critical Thinking in Client Care (4th Ed). New Jersey: Pearson Prentice Hall.

Course Assessment:

Course will be assessed by:
Continuous Assessment: 100%

- Case study and presentation -30%
- Reflective writing -10%
- OSCE -50%
- Clinical Evaluation- 10%

MID 2009: Medical Nursing II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify the nursing responsibility in diagnostic procedure for patient with, gastrointestinal, renal, hematology, endocrine and neurological disorders.
2. determine the nursing care of patient with autoimmune, integumentary , gastrointestinal, integumentary, renal, hematology, endocrine and neurological disorders.

***Course Synopsis*:**

The course includes nursing care of patients with alterations of body systems which consist of autoimmune, integumentary, gastrointestinal, integumentary, renal, hematology, endocrine and neurological disorders. It's also includes nursing responsibilities in specific procedures related to the diseases.

Reference Texts:

Berman, A J.& Snyder,S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall.

Berman A.J. & Snyder,S. (2011). Skills in Clinical Nursing (7th ed.). Prentice Hall.*

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.

LeMone, P. & Burke, K. M. (2008) Medical-surgical nursing care: Critical Thinking in Client Care (4th ed). New Jersey: Pearson Prentice Hall.

Ignativicius, D.D & Workman M.L. (2005).Medical Surgical Nursing – A Nursing Process Approach Philadelphia: Saunders.

Course coordinator:
Madam Noor Hanita

Course Assessment:
Course will be assessed by:
Continuous Assessment: 40%

- Test
- Assignment

Final Examination: 60%

MID 2010: Basic Medical Science IV

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify etiology, pathophysiology, clinical manifestations, investigation, and complications in autoimmune disease, integumentary , gastrointestinal, renal, hematological, endocrine, neurological, urological system and burns.
2. Explain the medical management of patients with autoimmune disease, integumentary , gastrointestinal, renal, hematological, endocrine, neurological, urological system and burns.
3. Describe the surgical management of patients with autoimmune disease, integumentary, gastrointestinal, renal, hematological, endocrine, neurological, urological system and burns.

***Course Synopsis*:**

This course includes etiology, pathophysiology, clinical manifestations, investigation, complications, surgical and medical management in the autoimmune disease, integumentary , gastrointestinal, renal, hematological, endocrine, neurological, urological system and burns

Reference Texts:

Berman, A J.& Snyder,S. (2011) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall.
Berman A.J. & Snyder,S. (2011). Skills in Clinical Nursing (7th ed.). Prentice Hall.*
Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.
LeMone, P. & Burke, K. M. (2008) Medical-surgical nursing care: Critical Thinking in Client Care (4th ed). New Jersey: Pearson Prentice Hall.
Ignativicius, D.D & Workman M.L. (2005).Medical Surgical Nursing – A Nursing Process Approach Philadelphia: Saunders.

Course Assessment:
Course will be assessed by:
Continuous Assessment : 40%

- Test I-20% (week 7)
- Test II: 20% (week 14)

Final Examination: 60%

MID 2011: Moral and Ethics in Nursing Profession

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Describe moral and ethical principles in nursing.
2. Explain the code of professional conduct in nursing.
3. Explain the ethical dilemma and ethical decision making in patient care.
4. Discuss ethical issues in nursing practice, education, management and research.

***Course Synopsis*:**

The course includes definition of moral and ethics, ethical theories, ethical principles and code professional conduct that control nursing practice. It also covers ethical issues, ethical dilemmas and decision making in clinical practice, management, education and research.

Reference Texts:

Burkhardt, M.A. & Nathaniel A.K. (2009). Ethics & issues in contemporary nursing (3rd Ed.). Australia; Albany: Delmar.

Burnard, P. & Chapman, C.M. (2004) Professional And Ethics Issues In Nursing (3rd Ed.). London: Bailliere Tindall.

Butts J.B. & Rich, K.L. (2008) Nursing ethics: across the curriculum and into practice (2nd Ed.). Sudbury, MA: Jones and Bartlett Publishers.

Chitty, K. K. & Black, B.P. (2011). Professional Nursing: Concepts & Challenges. (6th Ed.) Maryland: Saunders Elsevier.

Fry, S.T., Veatch, R.M. & Taylor, C. (2011). Case Studies In Nursing Ethics.(4th Ed.). Sudbury, MA: Jones & Bartlett Learning.

Thompson, I.E., Melia K.M., Boyd, K.M. & Horsburgh, D. (2006) Nursing Ethics. (5th Ed.). London: Churchill Livingston.

Course Assessment:

Course will be assessed by:

Continuous Assessment:

- Test - (20%)
- Assignment - 20%

Final Examination: 60%

YEAR 3 SEMESTER I (2020/2021)

MID 3001: Professionalism and Legal Aspects in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the concept of professionalism in nursing.
2. Identify the types of law influencing nursing practice and health services.
3. Apply legal principles in medico-legal issues related to nursing practice.

***Course Synopsis*:**

This course consists of professionalism and challenges, nurses act, rules of employment, introduction to law, law related to healthcare practice, medico-legal issues & its application in nursing practice.

Reference Texts:

Black, B.P. (2013). Professional Nursing: Concept & Challenges (7th ed). Elsevier Inc.: St. Louise.
Hood, L.J. (2014). Leddy & Pepper's Conceptual Bases of Professional Nursing (8th ed). Lippincott: Philadelphia.
Glembocki, M.M., & Fitzpatrick, J.J. (2013). Advancing Professional Nursing Practice: Relationship-based care and the ANA Standards of Professional Nursing Practice. Creative Health Care Management: USA.
Puteri Nemie Jahn Kassim. (2012). Nursing Law and Ethics. International Law Book Services: Petaling Jaya.
Thompson, I.E., Melia, K.M., Boyd, K.M. & Horsburgh, D. (2006) Nursing Ethics (5th ed). Churchill Livingstone, Edinburgh.

Course Assessment:
Course will be assessed by:

Continuous assessments: Assignment : 40%
Final Examination: 60%

MID 3002: Obstetric & Gynecologic Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the physiological changes during pregnancy, labor and puerperium.
2. Identify the assessment and management of women during pregnancy, labour and puerperium.
3. Describe the assessment and care of newborn baby.
4. Discuss the management and nursing care of women with obstetrics and gynecological condition.

***Course Synopsis*:**

This course consists of knowledge and skills of Obstetric and Gynecology Nursing. It includes nursing care during the antenatal period, management of mothers in all stages of labour and puerperium. It also focuses on nursing care of the newborn and women with common obstetrics and gynaecology conditions.

Reference Texts:

Aminah Hashim, A., Sood, M., & Padubidri, V. (2008). Obstetric Nursing. Shah Alam: Oxford.
Hatfield, N. T., (2014). Introductory maternity & Pediatric nursing 3rd ed. Philadelphia: Lippincott Williams & Wilkins Health, 2014.
Leifer, G., (2012). Maternity nursing: An introductory text. 11 ed. St. Louis, Mo.: Elsevier/Saunders.
Lowdermilk, D.L., Perry S.E., Cashion, M.C., & Alden, K.R. (2012). Perry Maternity and Women's Health Care, 10th ed. St. Louis, MO.: Elsevier Mosby.
McKinney, E.S. James S.R. Murray, S.S., & Ashwill J.W. (2013). Maternal-Child Nursing 4th ed. St. Louis: Elsevier Saunders.
Ricci S.S., (2013). Essentials of Maternity, Newborn, and Women's Health Nursing, 3rd ed. Philadelphia:Wolters Kluwer Lippincott Williams and Wilkins.
Perry, S.E., (2012). Maternal and Newborn Nursing 2nd ed. (Clinical Companion). St. Louis, MO: Mosby.

Course Assessment:
Course will be assessed by:
Continuous Assessment: Test 20% Assignment 20%
Final Examination: 60%

MID 3003: Paediatrics Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the assessment and management of medical surgical conditions in paediatrics.
2. Determine the nursing care of paediatric patients with medical surgical conditions.
3. Identify the nursing responsibilities related to paediatrics skills.

***Course Synopsis*:**

This course prepares students on assessment and management of medical surgical conditions in paediatrics. It includes nursing care of paediatric patients with various medical surgical conditions and skills.

Reference Texts:

Daeschner,W. Jr & Richardson, C.J. (2012).Pediatric Nursing.Sanat Printers. Kandii.
Hockenberry, M J.(2014) Wong's essentials of pediatric nursing.(9th ed.). St. Louis : Mosby.
Hockenberry, M.J. & Wilson, D. (2014). Wong's Nursing care of Infant and Children.(9th ed). Elsevier Mosby, St. Louis. Missouri
Kyle, T. & Carman, S. (2013) Essentials pf Pediatric Nursing. (2nd ed.) Philadelphia. Lippincott Williams & Wilkins.
Sheridan, M., Sharma, A. & Cockerill, h. (2014) .Mary Sheridan's from Birth to Five Years: Children's Developmental Progress. NFER Publishing Co. Ltd., New York.

Course Assessment:
Course will be assessed by:
Continuous assessment : Assignment 20% Test: 20%
Final Examination: 60%

MID 3004: Nursing Research

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the principles of research process, its application to nursing and health practices and nurses' roles in the research process.
2. Describe research design and methodology applied in nursing research.
3. Discuss ethical considerations in nursing research.
4. Write a research proposal.

***Course Synopsis*:**

In this course, students will learn the research process applied in nursing practice. This course will provide introduction to both quantitative and qualitative research approaches. The steps involve in the research process will be examined, discussed and developed into nursing research proposal. This course also will encourage the students to analyse published nursing researches of its methodology and application to nursing practice. The importance of utilizing research finding into patient care will be emphasised. Nurses' role and responsibilities as consumer of research will be highlighted. Students will be provided opportunity to communicate their research ideas through oral presentation.

Reference Texts:

Grove, S. K., Gray, J.R. & Burns, N. (2015). Understanding nursing research : building an evidence-based practice (6th ed.). Missouri: Elsevier Saunders.

Creswell,J.W. (2014). Research design: Qualitative, quantitative and mixed method approaches (4th ed.). USA: Sage.

Kurup, C.P.B. (2014). Nursing Research & Statistics (3th ed.). New Delhi: Jaypee Brothers Medical Publications (P) Ltd.

LoBiondo-Wood, G. Haber, J. (2010) Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice. (7th ed.). St. Louis, Mosby.

Polit, D. F. & Beck, C. T. (2010). Essentials of nursing research: appraising evidence for nursing practice (7th ed.). Philadelphia: Wolters Kluwer Health

Course Assessment:
Course will be assessed by:
Continuous Assessment - Quiz 10%; Assignment 30%

Final Examination: 60%

MID 3005: Nursing Practice V

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify nursing interventions for women during pregnancy, labor, puerperium and with gynaecological conditions based on assessment.
2. Perform assessment and nursing care to babies and children with various medical, surgical and congenital problems.
3. Perform nursing skills related obstetrics & gynaecology and paediatric nursing.

***Course Synopsis*:**

The course provides clinical experiences in paediatric, obstetrics, gynaecology wards and clinics. It gives opportunity for students to practice nursing care of women during antenatal, intrapartum and postpartum, and with gynaecological conditions, nurse babies and children with various medical, surgical and congenital problems. Students are required to perform related nursing procedures.

Reference Texts:

Berman, A J. (2010) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier

Ignativicus, D.D. and Workman M.L. (2009) Medical Surgical Nursing – patient centered collaborative care (6th ed.). Philadelphia : W.B. Saunders

Potter & Perry (2010) Basic Nursing Theory And Practice (7th ed.) New York : Mosby

Taylor C. Lillis, C,LeMone, P. Lynn P. (2011) Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th ed.) China: Lippincott Williams & Wilkins

Course Assessment:
Course will be assessed by:

Continuous Assessment: 100%
- Case presentation 40%
- Report writing 10%
- Clinical assessment 40%
- Clinical Evaluation 10%

YEAR 3 SEMESTER 2 (2020/2021)

MID 3006: Community Health Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the concept of maternal and child health care and risk management.
2. explain the concept of school health services, occupational health and children with special needs including rehabilitation.
3. Identify the nutritional needs for maternal and child wellbeing.
4. Describe the immunization schedule in Malaysia.

***Course Synopsis*:**
This course consists of concepts of childheath assessment from babies to school children, high risk approach for children and mothers, school health services and handling children with special needs at community level. It includes nutrition for maternal and child wellbeing and immunization schedule as well as the role of the nurse in immunization and rehabilitation programme.

Reference Texts:

Yadav, H., Chong, M. C., See, T. L. (2011). Community Health Nursing. Oxford Fajar: Kuala Lumpur

Allender JA., Rector C., Warner KD Community & Public Health Nursing: Promoting the Public's Health International Edition 8th edition Copyright 2014 Wolters Kluwer Lippincott Williams & Wilkins

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Course Assessment:
Course will be assessed by:
Assignment: 20% Test 20%
Final Examination: 60%

MID 3007: Statistics in Nursing Research

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the use of statistics, variables, scale of measurements, measure of central tendency and variability.
2. demonstrate proficiency in data management and data entry.
3. summarize data into tabulation and graphical presentation.
4. perform descriptive and inferential statistical analysis and interpretation using basic statistical knowledge and skills.

Course Synopsis:

Students will be introduced to the usage of statistics in health context such as basic concept of descriptive and inferential statistics. Student will also learn the process of data entry and management, data analysis, data interpretation and presentation and also reporting the results. Students will be given opportunities to use the Statistical Package for the Social Sciences (SPSS) software for statistical analysis.

Reference Texts:

Chinna, K., Karuthan, K. & Choo, W.Y. (2012). Statistical analysis using SPSS. Kuala Lumpur: Pearson Malaysian Sdn Bhd.

Kurup, C.P.B. (2014). Nursing Research & Statistics (3th ed.). New Delhi: Jaypee Brothers Medical Publications (P) Ltd.

Lee, N.& Yadav., H (2010) Statistics for health care professionals, Kuala Lumpur: University of Malaya Press.

Polit, Denise F. (2010). Statistics and data analysis for nursing research (2nd ed.). Upper Saddle River, NJ: Pearson.

Sharma, S.K. (2015). Nursing research and statistics (2nd ed.).. India: Reed Elsevier India Pvt. Ltd.

Course Assessment:
Course will be assessed by:

Continuous Assessment: 40% (Quiz 20%; Assignment 20%)
Final Examination: 60%

MID 3008: Mental Health Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concepts of mental health and psychiatric conditions, assessment and management of the patients.
2. Determine the nursing care of patients with mental health and psychiatric conditions.
3. Identify the nursing responsibilities in relation to psychopharmacological, psychological and physical therapies.

***Course Synopsis*:**

This course provides students with knowledge and understanding about mental health disorders. It also includes mental health act, management modalities and nursing care of patients with common mental health disorders.

Reference Texts:

Casey, P. R. & Byng, R. (2011). Psychiatric in Primary Care (4th ed.). Cambridge: University Press.
Videbeck, S.L.(2014) Psychiatric-Mental Health Nursing. 6th ed. Philadelphia Lippincort: Williams Wilkins.
Malchiodi, C. A. (2013). Art therapy & health care. New York: The Guilford Press.
Silverman, W.K. & Field, A.P. (2011). Anxiety Disorder in Children & Adolescents. (2nd ed.). Cambridge: University Press.
Varcarolis E. M., Halter M. J. (Copyright 2013). Essentials of Psychiatric Mental Health Nursing Communication based care (2nd ed) Saunders, Elsevier Inc.

Course Assessment:
Course will be assessed by:
Continous assessment : Assignment: 20% Test 20%
Final Examination: 60%

MID 3009: Counseling Skills for Nurses

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain theories, aims, principles and process of counselling.
2. Identify the characteristics and nurses' roles in counselling.
3. Apply the counselling skills in specific situation.

***Course Synopsis*:**

This course provides exposure to basic theory and skills in counselling. It includes models, process, counselling in specific situations, ethical concerns and issues in counselling.

Reference Texts:

Egan, G. (2002) The Skilled Helper : a problem-management and opportunity-development approach to helping (7th ed.). Belmont, Calif.: Thomson Brooks/Cole.
Suradi Salim (1996) Bimbingan Dan Kaunseling (Edisi Pertama) Utusan Publications & Distribution Sdn. Bhd.
Burnard, P (2005) Counsellling Skills For Health Professionals (4th ed.). Cheltenham: Nelson Thornes Ltd.
McLeod, J. (2009) An introduction to counselling (4th ed.) Open University press, McGraw Hill Co.
Nelson-Jones, R. (2003) Essential counselling and therapy skills: the skilled client model. London: SAGE Publications.

Course Assessment:
Course will be assessed by:
Continuous Assessment: 40%
- Assignment 30%
- Quiz 10%

Final Examination: 60%

MID 3010: Nursing Practice VI

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Perform nursing care to patient with mental health and psychiatric conditions.
2. Perform nursing care to maternal and child in community setting.
3. Perform school health service to children and children with special needs in the community.
4. Perform nursing skill related to mental and community health nursing.

***Course Synopsis*:**

The course includes attachment to psychiatric, primary health and community health setting. It also provides opportunity for students to practice specific nursing skills related to the psychiatric and community health.

Reference Texts:

Berman, A J. (2010) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall.

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.

Ingnativicus, D.D. and Workman M.L. (2009) Medical Surgical Nursing – patient centered collaborative care (6th ed.). Philadelphia : W.B. Saunders.

Potter & Perry (2010) Basic Nursing Theory And Practice (7th ed.) New York : Mosby

Taylor C. Lillis, C,LeMone, P. Lynn P. (2011) Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th ed.) China: Lippincott Williams & Wilkins

Course Assessment:
Course will be assessed by:

Continuous Assessment :100%
Case presentation – 20%
Portfolio-20%
Reflective writing – 10%
OSCE - 50%

YEAR 3 SEMESTER 3 (2020/2021)

MID 3011: Orthopaedic, Ophthalmology, Otorhinolaringology & Gerontology Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the clinical manifestation and management for patient with orthopaedic, ophthalmology, and otorhinolaryngology conditions.

2. determine nursing care for patient with with orthopaedic, ophthalmology, and otorhinolaryngology conditions.

3. explain management and nursing care of gerontological conditions.

***Course Synopsis*:**

This course consists of management and nursing care of patients with orthopaedic, ophthalmology, otorhinolaryngology and gerontology conditions.

Reference Texts:

Berman, A J. (2011). Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th Ed.). New York. Prentice-Hall.**
Black, J. M. & Hawks J. H, (2008). Medical Surgical Nursing – Clinical Management for Positive Outciome (8th Ed.). St. Louis: Saunders Elsevier.
Ignativicius, D. D. & Workman M. L. (2009). Medical-surgical nursing: critical thinking for collaborative care. (6th Ed.). St.Louis: Saunders Elsevier.**
LeMone, P. & Burke, K. M. (2008). Medical-surgical nursing care: Critical Thinking in Patient Care (4th Ed). New Jersey: Pearson Prentice Hall.
Taylor C. Lillis, C, LeMone, P. Lynn P. (2011). Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th Ed.). China: Lippincott Williams & Wilkins.**
Schoen, D. C. (2000). Adult orthopaedic nursing Philadelphia: Lippincott

Course Assessment:
Course will be assessed by:
Continuous Assessment: 40%

- Test- 20%
- Assignment-20%

Final Examination: 60%

MID 3012: Nursing Practice VII

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify nursing intervention when giving care to patient with orthopedic, eye, ear, and nose and throat disorder based on assessment.
2. Perform nursing care to elderly patient in hospital.
3. Perform nursing skill related to orthopedic, eye, ear, and nose and throat disorder and in the care of elderly.

***Course Synopsis*:**

The course provides clinical experiences in orthopaedic, EENT, and gerontology wards and clinics. It gives opportunity for students to practice nursing care and perform related nursing procedures.

Reference Texts:

Berman, A J. (2010) Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (9th ed.) New York. Prentice-Hall.

Black, J.M. and Hawks J.H, (2008) Medical Surgical Nursing – Clinical Management for Positive Outciome (8th ed.) St. Louis Saunders Elsevier.

Ingnativicus, D.D. and Workman M.L. (2009) Medical Surgical Nursing – patient centered collaborative care (6th ed.). Philadelphia : W.B. Saunders.

Potter & Perry (2010) Basic Nursing Theory And Practice (7th ed.) New York : Mosby

Taylor C. Lillis, C,LeMone, P. Lynn P. (2011) Fundamentals Of Nursing. The Art And Science Of Nursing Care (7th ed.) China: Lippincott Williams & Wilkins.

Course Assessment:

Course will be assessed by:

Continuous Assessment :100%

- Case presentation 40%
- Report writing 10%
- OSCE 50%

YEAR 4 SEMESTER I (2021/2022)

MID 4001: Emergency, Intensive and Preoperative Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the nursing assessment and management of patients with emergency conditions.
2. explain the nursing assessment and management of patients with critical illness and respiratory support.
3. explain the management of patients during preoperative, intraoperative and postoperative phases.
4. determine the nurses' roles and responsibilities in emergency, intensive and perioperative nursing.

***Course Synopsis*:**

This course consists of basics emergency, intensive and perioperative nursing. Emergency nursing covers management of patients during trauma, medical emergencies, resuscitation and medico-legal cases. Intensive care nursing covers care of patients with respiratory support and invasive and non-invasive monitoring, specific nursing procedures, continuous renal replacement therapy and renal transplant. Perioperative nursing covers asepsis, infection control and safety practices, anaesthetic drugs and nurses' responsibilities during perioperative period.

Reference Texts:

Hammond, B.B, & Zimmermann, P.G. (2012). Sheehy's Manual Emergency Care.(7th . ed) St.Louis,Mosby:Elsevier Australia.

Jauch, A., & Tscheshlog, B.A. (2014). Emergency Nursing made Incredibly Easy. (2nd .ed). Lippincott : Wolters Kluwer.

Diehl, T.S. (2012). Critical Care Nursing made incredibly easy. (3rd ed.). Philadelphia : Lippincott : Wolters Kluwer

Marino, P, L. (2013). The ICU book. (4th ed.). Lippincott : Wolters Kluwer

Urden, L.D., Stacy, K.M. & Lough, M.E. (2013). Critical Care Nursing. (7th ed.). St.Louis: Elsevier Mosby.

Phillips, N. F. (2013). Berry & Kohn's operating room technique (12th ed.). St. Louis, Mo: Elsevier.

Rothrock, J. C. (2015). Alexander's Care of the patient in surgery (15th ed.). St. Louis, Mo.: Elsevier/Mosby

Course Assessment:
Course will be assessed by:

Continuous Assessment: 40%
- Test I (20%)
- Test II (20%

Final Examination: 60%

MID 4002: Management and Leadership in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. explain the concepts, principles, processes and basic theories of nursing management and leadership.
2. identify the roles and responsibilities of nurse leaders in planning, organizing, staffing, directing, controlling, making decisions and improving patient care quality.
3. demonstrate ability to discuss specific strategies related to change management, conflicts management, team building, staff and personal/professional development, problem solving and delegation process within the nursing contexts.

***Course Synopsis*:**

This is an introduction course to the concepts and theories of nursing leadership and management. It aims to provide the students' knowledge on management and leadership principles, process and theories. The content also focuses on conflict management, change management, quality improvement and personal and professional development in nursing.

Reference Texts:

Ellis, P. & Bach, S. (2015). Leadership, management & team working in nursing (2nd ed.). London, UK: Saga Publication Ltd.

Kelly, P. (2012). Nursing Leadership and Management (3rd ed.). China: Cengage Learning

Marquis, B.L., & Huston, C.J. (2012). Leadership roles and management functions in nursing (7th ed.). Philadelphia: Lippincott

Yadav H., Khatijah Lim , Faridah Hashim & Zahrah Saad (2010), Nursing Management. Shah Alam Selangor: Oxford Fajar.

Yoder-Wise, P.S. (2014). Leading and managing in nursing (6th ed.). St Louis, US: Elsevier-Health Sciences Division.

Course Assessment:
Course will be assessed by:
Continuous Assessment: 40% [Quiz (10%) Assignments (30%)]
Final Examination: 60%

MID 4003: Research Project

5 credits

Learning Outcomes:

At the end of the course students are able to :

1. apply research process in carrying out a research project.
2. write a research project based on the research findings and according to the guidelines of writing project paper.
3. share the results of the research project through oral and poster presentation.

***Course Synopsis*:**

This course requires the students to conduct a nursing research according to the guideline given. Students may conduct their studies either in the field of nursing education, management or clinical practice using a quantitative research approach. Besides producing a research report, students are also required to present and defend their study findings through oral and poster presentation.

Reference Texts:

Creswell,J.W. (2014). Research design: Qualitative, quantitative and mixed method approaches (4th ed.). USA: Sage.

Grove, S. K., Gray, J.R. & Burns, N. (2015). Understanding nursing research: building an evidence-based practice (6th ed.). Missouri: Elsevier Saunders.

Kurup, C.P.B. (2014). Nursing Research & Statistics (3th ed.). New Delhi: Jaypee Brothers Medical Publications (P) Ltd.

LoBiondo-Wood, G. Haber, J. (2010) Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice. (7th ed.). St. Louis, Mosby.

Whittaker, A. & Williamson, G.R. (2011) Succeeding in research project plans and literature reviews for nursing students. Exeter U.K: Learning Matters Ltd.

Course Assessment:
Course will be assessed by
Continuous Assessment 100% (Project)

MID 4004: Nursing Practice VIII

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. identify the management of patients with emergency conditions, critical condition and patients requiring operations.
2. perform individualized nursing care according to the patients need in emergency unit, intensive care units and operation theatre.
3. demonstrate specific nursing skills related to emergency care, intensive care and perioperative care.

***Course Synopsis*:**

The course involves attachment to operation theatre, intensive care unit, and trauma & emergency unit for 6 weeks. It also provides opportunity for students to provide nursing care and related specific nursing skills.

Reference Texts:

Hammond, B.B, & Zimmermann, P.G. (2012). Sheehy's Manual Emergency Care.(7th . ed) St.Louis,Mosby:Elsevier Australia.

Jauch, A., & Tscheshlog, B.A. (2014). Emergency Nursing made Incredibly Easy. (2nd .ed). Lippincott : Wolters Kluwer.

Diehl, T.S. (2012). Critical Care Nursing made incredibly easy. (3rd ed.). Philadelphia : Lippincott : Wolters Kluwer

Marino, P, L. (2013). The ICU book. (4th ed.). Lippincott : Wolters Kluwer

Urden, L.D., Stacy, K.M. & Lough, M.E. (2013). Critical Care Nursing. (7th ed.). St.Louis: Elsevier Mosby.

Phillips, N. F. (2013). Berry & Kohn's operating room technique (12th ed.). St. Louis, Mo: Elsevier.

Rothrock, J. C. (2015). Alexander's Care of the patient in surgery (15th ed.). St. Louis, Mo.: Elsevier/Mosby

Course Assessment:

Course will be assessed by:
Continuous Assessment: 100%

- Case study and presentation (40%)
- Reflective writing (10%)
- OSCE (50%)

MID 4005: Teaching Function of A Nurse

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify the factors that influence clinical teaching-learning process, learning outcomes, teaching media and strategies according to the learners need.
2. Write a lesson plan for teaching and learning activities for a clinical teaching session.
3. Determine the assessment and evaluation method in planning clinical teaching.

***Course Synopsis*:**

This course provides the nurses with the knowledge on clinical teaching and learning process for client, students and staffs. It consists of factors influencing the teaching-learning process in clinical area, learning outcome, task analysis, preparation for teaching session and lesson plan, clinical teaching method and clinical evaluation.

Reference Texts:

Bastable, S. B. (2013). Nurse as educator: principles of teaching and learning for nursing practice (4th ed.). Sudbury: Jones and Bartlett.

Billings, D.M. & Judith A. Halstead. J.A. (2016) . Teaching in nursing : a guide for faculty (5th ed.), St. Louis, Mo. : Elsevier/Saunders.

Gaberson, K. B. & Oermann, M. H. (2014). Evaluation and Testing in Nursing Education: (4th ed.). New York: Springer Publishing.

Gaberson, K. B., Oermann, M. H. & Shellenbarger, T. (2015). Clinical Teaching Strategies in Nursing (4th ed.). New York: Springer Publishing.

Gardner, M & Suplee, P.D. (2010) Handbook Of Clinical Teaching In Nursing And Health Sciences Sudbury, Mass. : Jones and Bartlett Publishers.

McDonald, M. (2014) The nurse educator's guide to assessing learning outcomes. Burlington, MA : Jones & Bartlett Learning.

Course Assessment:
Course will be assessed by:

Continuous Assessment : 40%

- Assignment and Presentation - 40%

Final Examination : 60%

YEAR 4 SEMESTER 2 (20212022)

MID 4006: Nursing Practice IX

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Demonstrate ability in managing nursing care of patients using management and leadership skills.
2. Perform the functions of a team leader in nursing team.
3. Identify the patient's learning needs when planning a structured lesson plan before conducting a patient teaching session.

***Course Synopsis*:**

This course provide students the opportunites to manage nursing care of patients using management and leadership skills in the medical and surgical wards. Students will be given experience to function as a team member and team leader in the nursing team. Students are also required to conduct a patient teaching session according to the learner's need using a structured lesson plan.

Reference Texts:

Berman, A. J., Snyder, S. & Frandsen,G (2015). Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice (10th Ed.) Edinburgh: Pearson

Hinkle, J. L & Cheever, K.H. (2014). Brunner and Suddarth's Textbook of Medical Surgical Nursing (13th ed.). Philadelphia: Lippincott Williams & Wilkins

Gaberson, K. B., Oermann, M. H. & Shellenbarger, T. (2015). Clinical Teaching Strategies in Nursing (4th ed.). New York: Springer Publishing.

LeMone, P., Burke, K. M., Bauldoff, G. & Gubrud,P. (2015). Medical-surgical nursing: clinical Reasoning in Patient Care (6th Ed). Edinburgh : Pearson

Marquis B.L & Huston C.J. & (2015). Leadership Roles and Management Functions in Nursing: Theory and Application (8th Ed.). : Philadelphia: Lippincott Williams & Wilkins.

Course Assessment:

Course will be assessed by:
Continuous Assessment: 100%

- Patient teaching – 40%
- Patient Round Assessment (hand-over report) – 30%
- Nurse Manager's Evaluation Report – 10%
- Clinical Portfolio – 20%

MID 4007: Internship

5 credits

Learning Outcomes:

At the end of the course students are able to :

1. Demonstrate an ability to apply comprehensive professional knowledge in nursing care at a hospital setting.
2. Perform the roles of a registered professional nurse according to the requirement of nursing board by integrating ethical principles and interpersonal communication skills.
3. Identify the specific nursing management and leadership skills while performing the role as a team leader of a nursing team in the ward.

***Course Synopsis*:**

This course provides an experience for the students to perform as a professional nurse under supervision in a hospital. This may enhance the role transitions process from student to professional nurse besides strengthening their nursing skills. The students also will have the opportunity to apply the managerial and leadership skills in the management of patients.

Reference Texts:

Harris, J.L , Roussel, L. & Thomas P.L. (2013). Initiating and Sustaining the Clinical Nurse Leader Role: A Practical Guide (2nd ed.). Burlington, MA: Jones & Bartlett Pub.

Russel –Chapin L.A., Sherman, N. E. & Ivey, A.E. (2016) Your supervised practicum and internship : field resources for turning theory into action. New York: Routledge.

Gaberson, K. B., Oermann, M. H. & Shellenbarger, T. (2015). Clinical Teaching Strategies in Nursing (4th ed.). New York: Springer Publishing.

LeMone, P., Burke, K. M., Bauldoff, G. & Gubrud,P. (2015). Medical-surgical nursing: clinical Reasoning in Patient Care (6th Ed). Edinburgh : Pearson

Marquis B.L & Huston C.J. & (2015). Leadership Roles and Management Functions in Nursing: Theory and Application (8th Ed.). : Philadelphia: Lippincott Williams & Wilkins.

Course Assessment:

Course will be assessed by:
Continuous Assessment 100%

- Performance assessment – 30%
- Ward Round – 40%
- Assignment and Presentation - Report – 30%

2018/2019

UNDERGRADUATE GUIDEBOOK

Faculty of Medicine

PHARMACY (HONS.)

Message from Head of Department

On behalf of the lecturers and staff in the Department, I would like to extend my heartiest welcome and congratulations to our first year students and returning students of the Pharmacy programme. You are now on the path that leads you to registration as pharmacists in Malaysia.

As one of the universities in Malaysia offering a four-year Bachelor of Pharmacy (Hons.) programme since 1995, the Department is here to provide you with the foundation and groundwork to help you achieve excellence in the field you have chosen.

With hard work and perseverance, we hope the next four years of your learning here will be a memorable journey on the path to becoming a highly respected, competent, and ethical professional as well as a valuable member of a healthcare team. From now, as pharmacy students, we expect you to fully absorb the ethics and conduct expected of pharmacists in all aspects of your life; in the classroom, on campus and off campus. Your action would reflect on the Pharmacy Department, University of Malaya, your profession, and yourself.

Your suggestions and comments throughout your course of study would be deeply appreciated.

Prof. Datin Dr. Zoriah Aziz
Head
Department of Pharmacy

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Programme Title, Philosophy, Principles and Outcomes

Programme Title

Title of the conferred degree : Bachelor of Pharmacy (Hons)

Programme Philosophy

The Bachelor of Pharmacy (Hons) degree programme that is offered by the University of Malaya holds true to the following philosophy, which is in line with the nation's requirements:

- *The programme offers a broad-based curriculum and training with opportunities for specialisation. The programme supports evidence-based practices and consists of dynamic characteristics with room for future advancement.*

Programme Principles

In line with the programme philosophy, the programme offered is based on the following principles:

- The basic training given is broad-based and encompasses all aspects of the pharmacy practice, from pharmaceutical sciences to its application in the field of clinical pharmacy.
- The programme utilises interactive teaching methods and incorporates evidence-based practices in an effort to promote critical thinking and analysis in all the taught disciplines.
- The education provided is dynamic and farsighted to equip the graduates to face current and future challenges.
- Emphasis is given on basic communication and thinking skills as well as the benefits of modern communication technology.
- The training encompasses the importance of patient/customer-oriented therapy as well as uses a multi-disciplinary approach to deliver effective and efficient healthcare services.

Programme Outcomes

The following are the programme outcomes where at the end of the programme the students are able to:

PO1: Master in-depth and accurate knowledge towards current and future needs in all the areas of pharmacy.

PO2: Formulate, analyse, manufacture medicines and resolve issues of pharmaceutical care.

PO3: Demonstrate a responsible attitude and ability to interact courteously with members of the community.

PO4: Act in a professional manner and with integrity in accordance with the Malaysian Pharmacy Code of Conduct.

PO5: Communicate and cooperate effectively as a team member of healthcare professionals and demonstrate strong leadership capabilities.

PO6: Apply pharmaceutical care skills to resolve health-related issues.

PO7: Apply information management skills, life-long learning to foster professional development.

PO8: Possess management and entrepreneurship skills in the various areas of pharmacy profession.

ACADEMIC PROGRAMME & COURSE STRUCTURE

PROGRAMME STRUCTURE

Category	Courses Code	Course Name	Credits
University Courses	GIG 1001	The Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia (TITAS)*	2
	GIG1002	Ethnic Relations *Hubungan Etnik*	2
	GIG 1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG 1004	Information Literacy *Literasi Maklumat*	2
	GIG 1005	Social Enggagement *Jalinan Masyarakat*	2
	GLT XXXX	English for Communication Programme *Program Bahasa Inggeris Komunikasi*	6
	GKX XXXX	Co-Curriculum Course *Kursus Ko-Kurikulum*	2
		Faculty's External Elective Courses *Kursus Elektif Luar Fakulti (KELF)*	4
	Total		**22**
Core Courses	Programme Core Courses *Kursus Teras Program*		99
Elective Courses	Faculty Elective Courses *Kursus Elektif Fakulti*		7
	Programme Elective Courses *Kursus Elektif Program*		10
Grand Total			**138**

COURSE STRUCTURE

Year 1 (2018/2019)

Semester I

Category	Course Code	Course Name	Credits
University Courses	GIG1001	Islamic and Asian Civilisation	2
	GIG1003	Basics of Entrepreneurship Culture	2
Core Courses	MIB1001	Basic Pharmaceutical Chemistry	3
	MIB1002	Pharmaceutical Organic Chemistry	3
	MIB1003	Biochemistry	3
	MIB1004	Anatomy and Physiology	3
	MIB1005	Introduction to Pharmacy	2

Total Credit Hours: 18

Semester II

Category	Course Code	Course Name	Credits
University Courses	GIG1002	Ethnic Relations	2
	GIG1004	Information Skills	2
	GLTXXXX	English for Communication Programme	3
Core Courses	MIB1006	Drug Action and Discovery	3
	MIB1007	Microbiology and Parasitology	2
	MIB1008	Physical Pharmacy	3
	MIB1009	Pharmacotherapy for EENT and Haematological Disorders	2

Total Credit Hours: 17

YEAR 1 TOTAL CREDIT HOURS: 35

Year 2 (2019/2020)

Semester I

Category	Course Code	Course Name	Credits
University Courses	GLTXXXX	English for Communication Programme	3
		Faculty's External Elective Courses (KELF)	4
Core Courses	MIB2001	Medicinal Chemistry	2
	MIB2002	Pharmaceutical Analysis	3
	MIB2003	Pharmaceutical Dosage Form Design for Liquids and Semi-solids	2
	MIB2004	Pharmacotherapy for Gastrointestinal and Respiratory System	3
	MIB2005	Pharmacotherapy for Infectious Diseases I	2

Total Credit Hours: 19

Semester II

Category	Course Code	Course Name	Credits
University Courses	GKXXXXX	Co-curriculum Course	2
	GIG1005	Social Engagement	2
Elective Course		Faculty Elective Course*	2
Core Courses	MIB2006	Chromatography, Electrochemistry and Radiochemistry	2
	MIB2007	Pharmacognosy	2
	MIB2008	Sterile Pharmaceutical Dosage Form Design	2
	MIB2009	Basic Immunology and Pharmacotherapy for Immune Disorders	2
	MIB2010	Pharmacotherapy for Infectious Diseases II	2
	MIB2011	Pharmacotherapy for Cardiovascular Diseases	3

Total Credit Hours: 19

YEAR 2 TOTAL CREDIT HOURS: 38

Year 3 (2020/2021)

Semester I

Category	Course Code	Course Name	Credits
Elective Course		Programme Elective Course**	2
Core Courses	MIB3001	Solid Pharmaceutical Dosage Form Design	3
	MIB3003	Extemporaneous Preparations	2
	MIB3004	Principles and Applications of Pharmacokinetics	2
	MIB3005	Pharmacotherapy for Endocrine Disorders	3
	MIB3006	Anaesthesia and Pharmacotherapy for Neurological Disorders	2
	MIB3007	Biostatistics and Epidemiology	2
	MIB3008	Management Skills for Pharmacists	2
	MIB3016	Professional Pharmacy Attachment	2

Total Credit Hours: 20

Semester II

Category	Course Code	Course Name	Credits
Elective Courses		Faculty Elective Course*	2
		Programme Elective Courses**	4
Core Courses	MIB3010	Advanced Pharmaceutical Dosage Form Design	3
	MIB3011	Pharmacotherapy for Renal Disorders, Cancer and Pain	2
	MIB3012	Pharmacotherapy for Psychiatric Disorders	2
	MIB3014	Evidence-based Pharmacotherapy	2
	MIB3015	Pharmacy Ethics and Legislation	2

Total Credit Hours: 17

YEAR 3 TOTAL CREDIT HOURS: 37

Year 4 (2021/2022)

Semester I

Category	Course Code	Course Name	Credits
Elective Course		Programme Elective Courses**	4
Core Courses	MIB4001	Pharmaceutical Quality Assurance	2
	MIB4002	Pharmacoeconomics	2
	MIB4004	Hospital and Community Pharmacy Practice	3
	MIB4005	Clinical Clerkship I	2
	MIB4006	Research Methodology	2

Total Credit Hours: 15

Semester II

Category	Course Code	Course Name	Credits
Elective Course		Faculty Elective Course*	3
Core Courses	MIB4007	Industrial Pharmacy and Regulatory Control	2
	MIB4008	Clinical Clerkship II	2
	MIB4009	Research Project	6

Total Credit Hours: 13

YEAR 4 TOTAL CREDIT HOURS: 28

Faculty Elective Courses *

Course Code	Course Name	Credits
MIX1004	Introduction to Radiation Protection	2
MIX2001	Applications in Biomedical Science	2
MIX2002	Behavioral Science	2
MIX3001	Techniques in Molecular Medicine	2
MIX3002	Drugs: From Target to Market	2
MIX4001	Introduction to Qualitative Research	3

Programme Elective Courses **

Course Code	Course Name	Credits
MIB3017	Pharmaceutical Product Development	2
MIB3018	Veterinary Pharmacy	2
MIB3019	Drug Literacy	2
MIB3021	Pharmaceutical Biotechnology	2
MIB3022	Clinical Toxicology	2
MIB4010	Pharmacotherapy for Special Populations	2

COURSE SUMMARY

YEAR 1 SEMESTER 1 (2018/2019)

MIB1001: Basic Pharmaceutical Chemistry

3 credits

Learning Outcomes

At the end of this course, students are able to:

1) describe the states of matter.
2) explain the principles associated with gases, liquids, solids, and solutions.
3) apply the concept of thermodynamics and kinetics in pharmacy.

Course Synopsis

This is an introductory module to physical principles that are applied in pharmaceutical sciences. This module emphasises on the importance of physical and chemical properties related to drugs and their dosage forms.

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2001). Pharmaceutics: The Science of Dosage Form Design (2nd ed.). Churchill Livingstone, UK.
2) Chang, R. (2005). Chemistry (8th ed.). McGraw Hill, New York.
3) Florence, A.T., & Attwood, D. (2006). Physicochemical Principles of Pharmacy (4th ed.). Pharmaceutical Press, UK.
4) Martin, A.N., Sinko, P.J., & Singh Yashveer (2011). Martin's physical pharmacy and pharmaceutical sciences: Physical Chemical and Biopharmaceutical Principles in The Pharmaceutical Sciences (6th ed.) Lippincott Williams and Wilkins, USA.
5) Beckett, A.H., & Stenlake, J.B. (2001). Practical Pharmaceutical Chemistry, Vol. 1 & 2 (4th ed.). Bloomsbury Academic, UK.

Course Coordinator

Assoc. Prof. Dr. Rozana Othman

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1002: Pharmaceutical Organic Chemistry

3 credits

Learning Outcomes

At the end of this course, students are able to:

1) state the functional groups, organic reactions, names, and structures of organic compounds.
2) explain how organic structures and bonds influence physical and chemical properties of a compound.
3) identify chemical substances in drugs and pharmaceutical usage.

Course Synopsis

The module describes a general view on the organic chemistry aspects to determine drug characters, which are important in pharmaceutical analyses and drug actions.

Reference Texts

1) McMurry, J. (2012). Organic Chemistry (8th ed.). Thomson-Brooks/Cole, USA.
2) Lemke, T.L., Roche, V.F., & Zito, S.W. (2011). Review of Organic Functional Groups. Introduction to Medicinal Organic Chemistry (5th ed.). Lippincott Williams & Wilkins, USA.
3) Barber, J., & Rostron, C. (2013). Pharmaceutical Chemistry. Oxford University Press, UK.

Course Coordinator

Dr. Leong Kok Hoong

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1003: Biochemistry

3 credits

Learning Outcomes

At the end of the course the students are able to:

1) identify and explain the system of cell biology.
2) describe the chemical classification and metabolism of carbohydrates, lipids, amino acids, peptides, and proteins.
3) analyse the system bioenergetics, enzymes, vitamins and nucleic acids.
4) interrelate metabolism in humans.
5) analyse disturbances in the mechanisms of the immune system in the body and identify the most suitable methods of treatment and medicines used.

Course Synopsis

This module provides the knowledge on the basic biochemical systems in the human body.

Reference Texts

1) Harvey, R., & Ferrier, D. (2011). Lippincott's Illustrated Reviews. Biochemistry (5th ed.). Lippincott Williams & Wilkins, USA.
2) Berg, J.M., Tymoczko, J.L., & Stryer, L. (2007). Biochemistry (6th ed.). W.H. Freeman and Company.
3) Devlin, T. (2002). Textbook of Biochemistry with Clinical Correlations (5th ed.).
4) Champe, P.C., & Harvey, R.A. (2008). Lippincott's Illustrated Reviews: Biochemistry (4th ed.) Lippincott Williams & Wilkins, USA.
5) Lehninger, A.L., Nelson, D.L., & Cox, M.M. (2003). Principles of Biochemistry (2nd ed.). Worth Publishers, New York.
6) Montgomery, R., Conway, T.W. & Spector, A.A. (2006). Biochemistry: A Case–oriented Approach (10th ed.) Mosby.

Course Coordinator

Dr. Amira Hajirah Abdul Jamil

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1004: Anatomy and Physiology

3 credits

Learning Outcomes

At the end of the course the students are able to:

1) describe the overall organization, function, and anatomy of the human body (cells, tissues, and organs).
2) outline the function and the importance of each of the following systems: endocrine, cardiovascular, lymphatic, digestive, urinary, reproductive, nervous, and respiratory systems.
3) discuss the fundamentals of homeostasis and its importance in regulating normal physiology.

Course Synopsis

Students will be exposed to the main anatomical and physiological systems in a human body after being introduced to the basic knowledge of physiology and anatomy.

Reference Texts

1. Tortora, G. J., & Bryan H. D. (2009). Principles of Human Anatomy and Physiology (12th ed.). John Wiley & Sons, Inc.
2. Sukkar, M.Y., El-Munshid, H.A., & Ardawi, M.S.M. (2000). Concise Human Physiology (2nd ed.). Blackwell Science.
3. Guyton. A.C., & Hall, J.E. (2011). Textbook of Medical Physiology (12th ed.). W.B. Saunders Co., USA.
4. Pocock, G., Richards, C.D., & Richards, D.A. (2013). Human Physiology. Oxford.
5. Barret, K.E., Barman, S.M., Boitano, S., & Brooks, H. (2012). Review of Medical Physiology (24th ed.). McGraw Hill.
6. Mohd Noor, N. (2014). Ilustrated Human Physiology. Pearson.

Course Coordinator

Dr. Amira Hajirah Abdul Jamil

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1005: Introduction to Pharmacy

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the career spectrum of the pharmacy profession in Malaysia.
2) discuss the roles of a pharmacist in promoting good health and appropriate drug usage in the context of the Malaysian healthcare system.
3) identify current issues and challenges relating to the pharmacy profession.

Course Synopsis

This module introduces the history and development of pharmacy profession in Malaysia. The various fields of pharmacy and the roles of a pharmacist in each field will be described. Some sources of information related to pharmacy requirements and challenges related to this profession will be discussed.

Reference Texts

1) British National Formulary (BNF), British Medical Association, latest edition.
2) Lund, W. (1994). The Pharmaceutical Codex: Principles and Practice of Pharmaceutics (12th ed.). Pharmaceutical Press, London.
3) Martindale, W. The Extra Pharmacopoeia (Latest edition). Pharmaceutical Press, London.
4) Pharmacy Legislation of Malaysia, Malaysian Pharmaceutical Society.
5) Collett, D.M., & Aulton, M.E. (1990). Pharmaceutical Practice. Churchill Livingstone.

Course Coordinator

Dr. Fatiha Hana Shabaruddin

Course Assessment

Course will be assessed by Continuous Assessment 100%.

YEAR 1 SEMESTER II (2018/2019)

MIB1006: Drug Action and Discovery

3 credits

Learning Outcomes

At the end of the course students are able to:

1) explain the principles of drug action based on the concepts of pharmacodynamics and pharmacokinetics.
2) discuss how the molecular structure and the physico-chemical properties of organic compounds affect drug action.
3) describe the strategies involved in drug discovery.

Course Synopsis

This module introduces the principles of drug action and how the physico-chemical properties of organic molecules underlie drug design and action.

Reference Texts

1) Katzung, B.G. (2004). Basic and Clinical Pharmacology (9th ed.). Appleton & Lange.
2) Rang, H.P., Dale, M.M., Ritter, J.M., & Moore, P.K. (2003). Pharmacology (5th ed.). Churchill Livingstone.
3) Patrick, K. (2002). Goodman & Gilman's The Pharmacological Basis of Therapeutics (10th ed.). McGraw-Hill.
4) Grahame-Smith, D.G., & Aronson, J.K. (2001). Clinical Pharmacology and Drug Therapy (3rd ed.). Oxford University Press.
5) Patrick, G.L. (2013). An Introduction to Medicinal Chemistry (5th ed.). Oxford University Press, United Kingdom.
6) King, F.D. (2003). Medicinal Chemistry: Principles and Practice (2nd ed.). Royal Society of Chemistry, United Kingdom.

Course Coordinator

Dr. Heh Choon Han

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1007: Microbiology and Parasitology

2 credits

Learning Outcomes

At the end of the course students are able to:

1) identify the basic microbiology and morphology of bacteria.
2) recognise the genetic, classification, reproduction, and importance of pathogenesis of microbial infections.
3) explain basic parasitology, structure, and classification of parasites.
4) demonstrate an understanding on the pathogenesis of parasitic infections and the mechanism of action of drugs against the parasites.

Course Synopsis

This module provides the knowledge on the various aspects of microbiology and parasitology including important parasites in Malaysia, epidemiology, brief life cycle, brief diagnosis, symptom and treatment and mechanism of action of drugs against different parasites. This module provides an opportunity to learn about aseptic, isolation and identification techniques of micro-organisms, and factors that affect its development.

Reference Texts

1) Hugo, W.B., & Russell, A.D. (2011). Pharmaceutical Microbiology (8th ed.). Blackwell Science.
2) Harvey, R.A. (2007). Microbiology. Lippincott Williams and Wilkins.
3) Kayser, F. H., Bienz, K.A., Eckert, J., & Zinkernagel, R.M. (2011). Medical Microbiology. Georg ThiemeVerlag.
4) Stratton, C.W. (2011). Clinical Microbiology: Quality in Laboratory Diagnosis. Demos Medical Publishing.
5) Matthews, B.E. (2007). Introduction to Parasitology (98th ed.). Cambridge University Press.
6) Bogitsh, B.J. (2012). Human Parasitology (4th ed.). Academic Press Inc.
7) Heelan, J.S., & Ingersoll, F.W. (2001). Essentials of Human Parasitology (2nd ed.). Delmar Publications.
8) John, D.T., & Petri, W.A. (2006). Markell and Voge's Medical Parasitology (9th ed.). W.B. Saunders Co.

Course Coordinator

Dr. Phan Chia Wei

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1008: Physical Pharmacy

3 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the concept of the disperse systems, surface phenomena, micromeritics and rheology, and factors influencing stability of disperse systems.
2) describe the mechanism of action of surface active agents, rheology properties of pharmaceutical materials and the application of the disperse systems, surface phenomena, and micromeritics and rheology in pharmaceutical formulations.
3) determine the stability of disperse systems, critical micelle concentration, powder characteristics, and viscosity of pharmaceutical materials.

Course Synopsis

The module introduces the basic principles of physical pharmacy required in the pharmaceutical formulations. The physicochemical properties of pharmaceutical materials together with the methods to determine their properties are also included. Students will perform laboratory works that are related to the topics given in the lectures, namely disperse systems, surface properties, and micromeritics and rheology.

Reference Texts

1) Attwod, D., & Florence, A.T. (2008). Physical Pharmacy. Pharmaceutical Press, London.
2) Aulton, M.E (2001). Pharmaceutic: The Science of Dosage Form Design (2nd ed.). Churchill Livingston, Edinburg.
3) Martin, A.N., Sinko, P.J., & Singh, Y. (2011). Physical Pharmacy and Pharmaceutical Sciences: Physical Chemical and Biopharmaceutical Principles in the Pharmaceutical Sciences (6th ed.) Lippincott Williams & Wilkins, USA.
4) Gerbino, P.P. (2006). Remington: The Science and Practice of Pharmacy (21st ed.). Lippincot Williams & Wilkins, USA.
5) Roop, K.H., Vyas, S.P., Farhan, J.H., & Gaurav, K.J. (2013). Lachman/Liebeman: The Theory and Practice of Industrial pharmacy (4th ed.). CBS Publishers & Distributers, India.
6) British Pharmacopeia Commision. British Pharmacopeia 2014. General Medical Council (Great Britain), Great Britain: Medicines Commision.
7) The United States of Pharmacopeial Convention (2003). The United States of Pharmacopeia 27/The National Formulary 22: USP 27/ NF 22. Port City Press, Baltimore.

Course Coordinator

Dr. Riyanto Teguh Widodo

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB1009: Pharmacotherapy for EENT and Haematological Disorders

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the mechanisms of drug interactions, adverse drug reactions, as well as the pathophysiology and management of eye, ear, nose and throat (EENT) and haematologic disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects and drug interactions of drugs used in EENT and haematology disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is designed to help students understand the mechanisms of drug interactions and adverse drug effects. The pathophysiology and management of fever, eye, ears, nose and throat (EENT), as well as haematologic disorders will also be emphasised.

Reference Texts

1) Katzung, B.G., Masters, S.B., & Trevor, A.J. (2012). Basic and Clinical Pharmacology (12th ed.) McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2007). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins, USA.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2015 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Mrs. Noorasyikin Shamsudin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

YEAR 2 SEMESTER 1 (2019/2020)

MIB2001: Medicinal Chemistry

2 credits

Learning Outcomes

At the end of the course students are able to:

1) explain the biological activity of the major drug classes.
2) describe the development of important drugs in the major drug classes and their structure-activity relationships.
3) predict the activity of analogues of important drugs based on their chemical structures.

Course Synopsis

This module deepens the understanding of the physicochemical concepts, which underlie drug design and action.

Reference Texts

1) Patrick, G.L. (2013). An Introduction to Medicinal Chemistry (5th ed.). Oxford University Press, United Kingdom.
2) Nogrady, T., & Weaver, D.F. (2005). Medicinal Chemistry: A Molecular and Biochemical Approach (3rd ed.). Oxford University Press, USA.

Course Coordinator

Assoc. Prof. Dr. Najihah Mohd Hashim

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2002: Pharmaceutical Analysis

3 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the concept of monographs and pharmacopeia standard.
2) describe the principles of major analytical methods.
3) apply major analytical methods in structural determination and quality control.

Course Synopsis

The module introduces the principles and analytical technique of practice, which are used in drugs quality control, dosage form, and research and development.

Reference Texts

1) Watson, D. (2012) Pharmaceutical Analysis. Churchill Livingston, UK.
2) Pavia, D.L., Lampman, G.M., Kriz, G.S. and Vyvyan, J. A. (2009) Introduction to Spectroscopy (5th ed.). Saunders College Publishing, USA.
3) Moffat, A.C. (2011). Clarke's Analysis of Drugs and Poisons (4th ed.). Pharmaceutical Press, United Kingdom.
4) Sanders, J.K.M., Constable, E.C., Hunter, B.K. and Pearce, C.M. (1995). Modern NMR Spectroscopy (2nd ed.). Oxford University Press, Oxford.

Course Coordinator

Prof. Dr. Chung Lip Yong

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2003: Pharmaceutical Dosage Form Design for Liquids and Semi-solids

2 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the concepts and the industrial manufacturing process of liquid and semi-solid dosage forms.
2) prepare liquid and semi-solid dosage forms in laboratory scale.
3) perform physical quality control evaluations for liquid and semi-solid dosage forms.

Course Synopsis

The module introduces to the students the overall concept on liquid and semi-solid dosage forms. Students will be introduced to equipment used in manufacturing of liquid and semi-solid dosage forms. Students will prepare liquid and semi-solid dosage forms in laboratory scale together with the evaluation for physical qualities.

Reference Texts

1) Attwod, D., & Florence, A.T. (2008). Physical Pharmacy. Pharmaceutical Press, London.
2) Aulton, M.E., & Taylor, K.M. (2001). Pharmaceutics: The Science of Dosage Form Design (2nd ed.). Churchill Livingstone, UK.
3) Martin, A.N., Sinko, P.J., & Singh, Y. (2011). Physical Pharmacy and Pharmaceutical Sciences: Physical Chemical and Biopharmaceutical Principles in the Pharmaceutical Sciences (6th ed.) Lippincott Williams & Wilkins, USA.
4) Gerbino, P.P. (2006). Remington: The Science and Practice of Pharmacy (21st ed.). Lippincot Williams & Wilkins, USA.
5) Roop, K.H., Vyas, S.P., Farhan, J.H., & Gaurav, K.J. (2013). Lachman/Liebeman: The Theory and Practice of Industrial pharmacy (4th ed.). CBS Publishers & Distributers, India.
6) The British Pharmacopeia Commision. The British Pharmacopeia 2014. General Medical Councel (Great Britain), Great Britain: Medicines Commision, 2014.
7) The United States of Pharmacopeial Convention (2003). The United States of Pharmacopeia 27/The National Formulary 22: USP 27/ NF 22. Port City Press, Baltimore.

Course Coordinator

Dr. Riyanto Teguh Widodo

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2004: Pharmacotherapy for Gastrointestinal and Respiratory Systems

3 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of gastrointestinal and respiratory disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects and drug interactions of drugs used in gastrointestinal and respiratory disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of gastrointestinal and respiratory drugs, and clinical management of gastrointestinal and respiratory disorders will be covered. Students will be introduced to the concept of management of various gastrointestinal and respiratory disorders such as peptic ulcer disease, hepatic disorders, inflammatory bowel disease, asthma, and chronic obstructive airway disease (COAD).

Reference Texts

1) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
2) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
3) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
4) Katzung, B.G. (2014). Basic and clinical pharmacology (13th ed.). Appleton & Lange.
5) Rang, H.P., & Dale, M.M. (2015). Pharmacology (8th ed.). Churchill Livingstone.
6) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
7) British National Formulary (2016 or later edition).
8) Drug Information Handbook (2016 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Mrs. Syireen Alwi

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2005: Pharmacotherapy for Infectious Diseases I

2 credits

Learning Outcomes

At the end of the course students are able to:

1) discuss the pathophysiology and management of infectious diseases of various organ systems, such as gastrointestinal, respiratory, urogenital, cardiovascular, and central nervous system.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in infectious diseases.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues involving infectious diseases.

Course Synopsis

This module is one of the series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of antimicrobials and clinical management of infectious diseases will be discussed. Students will be introduced to the concept of management of infectious diseases in various organ systems such as infections of the cardiovascular, respiratory, gastrointestinal, and central nervous system.

Reference Texts

1) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Mrs. Noorasyikin Shamsuddin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

YEAR 2 SEMESTER II (2019/2020)

MIB2006: Chromatography, Electrochemistry and Radiochemistry

2 credits

Learning Outcomes

At the end of the course students are able to:

1) explain the use of the concepts of electrochemistry in pharmaceutical analysis.
2) apply the principles of chromatography.
3) apply the concepts of radiochemistry to pharmacy.

Course Synopsis

The module is the continuation of pharmaceutical analysis, to introduce the principles and analytical techniques, which are used in the quality control of drugs and their dosage forms and research and development.

Reference Texts

1) Poole, C.F. (2003). The Essence of Chromatography. Elsevier, Amsterdam.
2) Hahn-Deinstrop, E. (2007). Applied Thin-Layer Chromatography: Best Practice and Avoidance of Mistakes (2nd ed.). Wiley-VCH, Weinheim.
3) McNair, H.M., Miller, J.M. (2009). Basic Gas Chromatography (2nd ed.). John Wiley and Sons, New Jersey.
4) Snyder, L.R., Kirkland, J.J., & Dolan, J.W. (2010). Introduction to Modern Liquid Chromatography. (3rd ed.). Wiley, New Jersey.
5) Theobald, A.E., Sampson, C.B. (2011). Sampson's Textbook of Radiopharmacy. Pharmaceutical Press, London.
6) Wang, J. (2006) Analytical Electrochemistry. (3rd ed.). Wiley-VCH Publishers, USA.

Course Coordinator

Dr. Leong Kok Hoong

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2007: Pharmacognosy

2 credits

Learning Outcomes

At the end of the course students are able to:

1) relate the importance of bridging allopathic systems of medicine with traditional systems of medicine.
2) interpret the cell types, cell inclusions, and the metabolic pathways of secondary metabolite production in plants.
3) recognise the phytoconstituents with suitable examples and plants used in Homoeopathic, Chinese, Ayurvedic, and Malay systems of medicine.
4) demonstrate the methods of herbal drug evaluation and standardization.

Course Synopsis

This module provides the overview of potential natural sources of drugs and development of natural drugs in the form acceptable to allopathic system of medicine especially from plants. The relationship between the biogenetic pathways and pharmaceutically important secondary metabolites is explained. The module also emphasises on the concepts and techniques in standardization of plant drugs. Aspects on quality control are introduced. The effect of period of collection, method of storage, and processing on the quality of plant drugs will also be explained.

Reference Texts

1) Evans, W.C. (2009). Trease and Evans Pharmacognosy (16th ed.). Elsevier.
2) Heinrich, M., Barnes, J., Gibbons, S., & Williamson, E.M. (2004). Fundamentals of Pharmacognosy and Phytotherapy (1st ed.). Elsevier.
3) Wallis,T.E. (2005). Text Book of Pharmacognosy (5th ed.). Pitman Publishers, London, UK.

Course Coordinator

Dr. Shaik Nyamathulla

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2008: Sterile Pharmaceutical Dosage Form Design

2 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the concept of sterile dosage forms, industrial manufacturing process, and process control of sterile dosage forms.
2) prepare sterile pharmaceutical dosage form extemporaneously using aseptic technique.
3) perform compendial and non-compendial quality control (QC) tests for sterile dosage forms.

Course Synopsis

Students will be introduced to the overall concept and calculations on sterile dosage forms. Students will be introduced to equipments used in the manufacturing and requirement of the manufacturing plant for sterile dosage forms. Students will be given the chance to use the equipment available for practicals in preparation of this dosage form. Students will do hands-on quality control tests and extemporaneous preparation of sterile dosage forms.

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2013). Aulton's Pharmaceutics: The Design and Manufacture of Medicines (4th ed.). Elsevier.
2) Remington: The Science and Practice of Pharmacy (22nd ed.). Mack Publishing Co. USA.
3) Allen, L.V., Popovich, N.G., & Ansel, H.C. (2011). Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems (9 th ed.). Lippincott Williams & Wilkins, USA.
4) Stationery Office (Great Britain). (2012). British Pharmacopoeia 2012. Stationery Office, London.
5) United States Pharmacopoeia 36-NF 31, 2012.
6) Lachman, L., Lieberman, H.A., & Kanig, J.L. (1986). The Theory and Practice of Industrial pharmacy (3 rd ed.). Lea & Febiger, Philadelphia, USA.

Course Coordinator

Dr. Shaik Nyamathulla

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2009: Basic Immunology and Pharmacotherapy for Immune Disorders

2 credits

Learning Outcomes

At the end of the course students are able to:

1) discuss the concepts of immunology, pathophysiology, and the management of hypersensitivities and various immune disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in various autoimmune disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues related to these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of drugs act on the immune system and clinical management of autoimmune disorders will be discussed. Students will also be introduced to the concept of basic immunology, such as inflammation, antigen and immunogenicity, cold-chain reactions and immunization and vaccination.

Reference Texts

1) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Sim Maw Shin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2010: Pharmacotherapy for Infectious Diseases II

2 credits

Learning Outcomes

At the end of the course students are able to:

1) discuss the pathophysiology and management of infectious diseases caused by viruses, fungals, and mycobacterias.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in infectious diseases caused by these organisms.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues involving infectious diseases.

Course Synopsis

This module is one of the series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, the pharmacology of antimicrobials and clinical management of infectious diseases will be discussed. Students will be introduced to the concept of management of infectious diseases caused by viruses, fungi, and mycobacteria. The mechanism of antibiotic resistance, antibiotic policy, and surgical prophylaxis are also given emphasis.

Reference Texts

1) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
2) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
3) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
4) Katzung, B.G. (2014). Basic and clinical pharmacology (13th ed.). Appleton & Lange.
5) Rang, H.P., & Dale, M.M. (2015). Pharmacology (8th ed.). Churchill Livingstone.
6) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
7) British National Formulary (2016 or later edition).
8) Drug Information Handbook (2016 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Phan Chia Wei

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB2011: Pharmacotherapy for Cardiovascular Diseases

3 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of cardiovascular and cerebrovascular disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in cardiovascular and cerebrovascular disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of cardiovascular drugs and clinical management of cardiovascular disorders will be covered. Students will be introduced to the concept of management of various cardiovascular disorders such as hypertension, heart failure, coronary artery disease, arrhythmias, hyperlipidaemia, and stroke. Blood clotting disorders will also be given emphasis.

Reference Texts

1) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Mrs. Syireen Alwi

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

YEAR 3 SEMESTER 1 (2020/2021)

MIB3001: Solid Pharmaceutical Dosage Form Design

3 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the concept of solid dosage forms.
2) recognise the industrial manufacturing process and process control of solid dosage forms.
3) perform compendial and non-compendial quality control (QC) tests for solid dosage forms.
4) describe the types, usage, and storage of solid dosage forms.

Course Synopsis

Students will be introduced to overall concept and characteristics of solid pharmaceutical dosage form. Students will be introduced to all basic equipments involved in the manufacturing of solid pharmaceutical dosage form. Student will be trained hands-on in optimization of formulation and manufacturing of solid dosage forms using the facilities in the pilot plant. Students will be also trained to do quality control tests of solid dosage forms.

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2013). Aulton's Pharmaceutics: The Design and Manufacture of Medicines (4th ed.). Elsevier.
2) Remington: The Science and Practice of Pharmacy (22nd ed.). Mack Publishing Co. USA.
3) Allen, L.V., Popovich, N.G., & Ansel, H.C. (2011). Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems (9 th ed.). Lippincott Williams & Wilkins, USA.
4) Stationery Office (Great Britain). (2012). British Pharmacopoeia 2012. Stationery Office, London.
5) United States Pharmacopoeia 36-NF 31, 2012.

Course Coordinator

Dr. Shaik Nyamathulla

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3003: Extemporaneous Preparations

2 credits

Learning Outcomes

At the end of the course students are able to:

1) interpret prescriptions.
2) prepare formulations following standards from BNF and BPC.
3) design conventional formulations of extemporaneous preparations.
4) demonstrate the good dispensing practice.

Course Synopsis

Most of the content of this module involves practical session of dispensing of extemporaneous preparations of various dosage forms (solid, liquid, semi-solid). Students will be trained in reading and screening prescriptions. Methods of dosage calculation, dispensing instructions, and labeling of extemporaneous preparations are also included.

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2013). Aulton's Pharmaceutics: The Design and Manufacture of Medicines (4th ed.). Elsevier.
2) British National Formulary (BNF) 67 (2014 or later edition).
3) Carter, S.J. (2008). Cooper & Gunn's Dispensing for Pharmaceutical Students (12th ed.). Churchill Livingstone, UK.
4) Pharmaceutical Society of Britain (2012). British Pharmaceutical Codex (BPC). The Pharmaceutical Press, UK.
5) Stoklosa, M.J., & Ansel, H.C. (2011). Pharmaceutical Calculations (11th ed.). Lippincott William & Wilkins, Philadelphia, USA.
6) Royal Pharmaceutical Society (2014). Martindale: The complete drug reference (38th ed.). The Pharmaceutical Press, UK.

Course Coordinator

Dr. Shaik Nyamathulla

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3004: Principles and Applications of Pharmacokinetics

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the different approaches in pharmacokinetic analyses.
2) determine pharmacokinetic parameters by interpreting the relationship between dosing regimen and time course of serum, plasma, or other body fluid drug concentration data.
3) formulate appropriate dosing regimens utilizing derived pharmacokinetic parameters in specific patient demographics and organ function.

Course Synopsis

This module is designed to help students to understand the principles of pharmacokinetics, and to apply these principles to pharmacy practice including therapeutic drug monitoring of specific drugs, leading to the quality use of drugs and better patient outcome.

Reference Texts

1) Murphy, J., & American Society of Health-System Pharmacists. (2008). Clinical pharmacokinetics (4th ed.). Bethesda, MD: American Society of Health-System Pharmacists.
2) Dhillon, S., & Kostrzewski, A., MRPharmS. (2009). Clinical pharmacokinetics. Pharmaceutical Press, London.
3) Rowland, M., & Tozer, T. (2011). Clinical pharmacokinetics and pharmacodynamics : Concepts and applications (4th ed.). Lippincott Williams & Wilkins, USA
4) Venkateswarlu, V. (2008). Biopharmaceutics and Pharmacokinetics. PharmaMed Press.
5) Schumacher, G. (1995). Therapeutic drug monitoring. Appleton & Lange.

Course Coordinator

Dr. Wong Yuen Fei

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3005: Pharmacotherapy for Endocrine Disorders

3 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of endocrine and metabolic disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in endocrine and metabolic disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of endocrine drugs and clinical management of endocrine disorders will be covered. Students will be introduced to the concept of management of various endocrine disorders such as diabetes mellitus, diabetes insipidus, thyroid and parathyroid disorders, adrenal, pituitary and hypothalamus glands disorders, obesity, and osteoporosis.

Reference Texts

1) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
2) Katzung, B.G. (2015). Basic and clinical pharmacology (13th ed.). McGraw-Hill.
3) Rang, H., & Dale, M. (2012). Pharmacology (7th ed.). Churchill Livingstone.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2011). Pharmacotherapy: A Pathophysiologic Approach (8th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2000). Textbooks of Therapeutics. Drug and Disease management (7th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2013 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Amira Hajirah Abdul Jamil

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3006: Anaesthesia and Pharmacotherapy for Neurological Disorders

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of neurological disorders, as well as principles of the premedication and anaesthesia.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in neurological disorders, local, and general anaesthetics.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, the clinical management of neurological disorders, principles of premedication and anaesthesia, as well the pharmacology and application of related drugs will be covered. Students will be introduced to the concept of management of various neurological disorders such as Alzheimer, Parkinson, and epilepsy.

Reference Texts

1) Katzung, B.G. (2012). Basic and clinical pharmacology (12th ed.). McGraw-Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2007). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Nur Akmarina Mohd Said

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3007: Biostatistics and Epidemiology

2 credits

Learning Outcomes

At the end of the course students are able to:

1) calculate and interpret measures of frequency (rates, ratios, incidence, prevalence) and effects (relative risk, odds ratio, absolute risk NNT).
2) describe advantages, disadvantages, elements of study design, and appropriate effect measures for various epidemiological study designs.
3) identify potential sources of bias and their probable effect on the validity of a study or study findings (selection bias, information bias, confounding).
4) detect confounding and effect modification (including stratification, randomization, matching).

Course Synopsis

Introduces biostatistical and epidemiological concepts necessary for the interpretation, evaluation, and communication particularly applicable to biomedical health sciences. Topics include: descriptive statistics, estimation and hypothesis testing, correlation, regression, contingency tables, graphical data displays, introduction to SPSS, biomedical study design, randomization, control bias, variability, and confounding. Data analysis using SPSS will be an essential component of the module. Students participate in group projects, group discussions, and oral presentations.

Reference Texts

1) Dawson, B., & Trapp, R. (2004). Basic & clinical biostatistics (4th ed., A lange medical book). McGraw-Hill.
2) Pagano, M., & Gauvreau, K. (2000). Principles of biostatistics (2nd ed.). Duxbury.
3) Strom, B.L., Kimmel, S.E., & Hennessy, S. (2012). Pharmacoepidemiology, (5th ed.). Wiley-Blackwell.
4) Gordis, L. (2009). Epidemiology. Elsevier/Saunders.
5) Greenhalgh, T. (2001). How to Read a Paper: The Basics of Evidence Based Medicine (2nd ed.). BMJ Books.
6) Article handouts in lectures.

Course Coordinator

Prof. Datin Dr. Zoriah Aziz

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3008: Management Skills for Pharmacists

2 credits

Learning Outcomes

At the end of the course students are able to:

1) define a healthy working environment in various settings of a pharmacy profession.
2) discuss the basic entrepreneurship skills needed for pharmacists.
3) demonstrate the skills in resolving issues through problem solving, conflict, and stress management.
4) apply effective management skills such as proper leadership, effective delegation, empowerment, and motivation in real time.

Course Synopsis

Students will be introduced and exposed to the theory of management and its application in the profession of pharmacy.

Reference Texts

1) Titus De Silva (2013). Essential Management Skills for Pharmacy and Business Managers. Productivity Press.
2) Chisholm-Burns, M.A., Vaillancourt, A.M., & Shepherd, M. (2012). Pharmacy Management, Leadership, Marketing and Finance (2nd ed.). Jones & Bartlett Learning, USA.

Course Coordinator

Assoc. Prof. Dr. Najihah Mohd Hashim

Course Assessment

Course will be assessed by Continuous Assessment 50% and a Final Examination 50%.

MIB3016: Professional Pharmacy Attachment

2 credits

Learning Outcomes

At the end of the course students are able to:

1) discuss the roles of pharmacists in both hospital pharmacies, and community pharmacies or pharmaceutical industries.
2) describe the various services provided in a both hospital pharmacy, and community pharmacy or pharmaceutical industry.

Course Synopsis

This module involves attachment of students to both hospital pharmacy, and community pharmacy or pharmaceutical industry. The student will be familiar with the roles of pharmacists in the various sectors of pharmacy services and also know the activities or services provided by these pharmacies.

Reference Texts

1) British National Formulary (BNF), British Medical Association (2014 or later edition).
2) The United States Pharmacopoeia Convention. Information for the Health Care Provider. USP-DI Vol. 1. Pennyslvania,
3) Blenkinsopp, A., & Paxton, P. (2009). Symptoms in the Pharmacy: A Guide to the Management of Common Illness. Blackwell Scientific Publications.
4) Handbook of Nonprescription Drugs, American Pharmacists Association.
5) MIMS, CMPMedica Pacific Ltd., Malaysia (2014 or later edition).
6) Waterfield, J. (2008). Community Pharmacy Handbook. Pharmaceutical Press, London.
7) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinators

Miss Mary Lee Hong Gee, Dr. Wong Yuen Fei & Dr. Riyanto Teguh Widodo

Course Assessment

Course will be assessed by Continuous Assessment 100%.

YEAR 3 SEMESTER II (2020/2021)

MIB3010: Advanced Pharmaceutical Dosage Form Design

3 credits

Learning Outcomes

At the end of the course students are able to:

1) identify advanced dosage forms, which are new in the market and those in research stage.
2) illustrate the use of various types of polymers in the formulation of advanced dosage forms.
3) formulate slow release, sustained release, targeted release dosage forms, and those suitable for macromolecular delivery.
4) describe the types, usage, and storage of advanced dosage forms.

Course Synopsis

Students will be introduced to overall concept and principles of advanced pharmaceutical products. Students will be introduced to the basic materials and equipment in manufacturing of advanced products. Students will be introduced to various types of advanced products in the market or those that are still in the research pipeline.

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2013). Aulton's Pharmaceutics: The Design and Manufacture of Medicines (4th ed.). Elsevier.
2) Remington: The Science and Practice of Pharmacy (22nd ed.). Mack Publishing Co. USA.
3) Allen, L.V., Popovich, N.G., & Ansel, H.C. (2011). Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems (9 th ed.). Lippincott Williams & Wilkins, USA.
4) Stationery Office (Great Britain). (2012). British Pharmacopoeia 2012. Stationery Office, London..
5) United States Pharmacopoeia. (2012). 36-NF 31.

Course Coordinator

Assoc. Prof. Dr. Mohamed Ibrahim Noordin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3011: Pharmacotherapy for Renal Disorders, Cancer and Pain

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of cancer, pain, and renal disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in the management of cancer, pain and renal disorders.
3) interpret laboratory test results based on the principles of patient management.
4) solve pharmaceutical care issues that are relevant to these disorders.

Course Synopsis

This module is one of the series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, the pharmacology of drugs used for the clinical management of pain, cancer, and renal disorders will be taught. Students will be introduced to the concepts of the clinical management of various pain disorders, cancers such as solid and non-solid cancers, as well as renal disorders, which include acute kidney injury and chronic renal failure.

Reference Texts

1) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2015 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Fatiha Hana Shabaruddin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3012: Pharmacotherapy for Psychiatric Disorders

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the pathophysiology and management of psychiatric disorders.
2) explain the mechanisms of action, pharmacokinetic properties, adverse effects, and drug interactions of drugs used in psychiatric disorders.
3) interpret laboratory test results with the principles of patient management.
4) solve pharmaceutical care issues for these disorders.

Course Synopsis

This module is one of a series of modules that integrates the discipline of pharmacology and clinical pharmacy. In this module, pharmacology of psychiatric drugs and clinical management of psychiatric disorders will be covered. Students will be introduced to the concept of management of various psychiatric disorders such as depression, anxiety, schizophrenia, and Alzheimer. Substance-related disorders will also be given emphasis.

Reference Texts

1) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
2) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
3) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
4) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
5) Herfindal, E.T., & Gourley, D.R. (2006). Textbooks of Therapeutics. Drug and Disease management (8th ed.). Lippincott Williams and Wilkins.
6) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
7) British National Formulary (2014 or later edition).
8) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Sim Maw Shin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3014: Evidence-Based Pharmacotherapy

2 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the format, steps, processes, and application of systematic reviews and meta-analysis.
2) relate the methodology and statistical concepts associated with systematic reviews and meta-analysis.
3) interpret the results of a systematic review and meta-analysis.
4) appraise systematic reviews and meta-analysis according to quality criteria.

Course Synopsis

The aim of this module is to provide an introduction to systematic review methodology and critical appraisal skills. Attention will be restricted to the quantitative evaluation of effectiveness in health-related research. Topics include the role of systematic reviews and meta-analysis and their impact, developing a protocol for a systematic review, literature searching, critical appraisal of primary studies and systematic reviews, data extraction synthesis, and meta-analysis. The module will use a combination of group work, discussion, and presentation.

Reference Texts

1) Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. Higgins JPT, Green S (editors). The Cochrane Collaboration, 2011. Available from www.cochrane-handbook.org.
2) Sackett, D.L. (2000). Evidence-based Medicine: How to Practice and Teach EBM. Churchill Livingstone.
3) Greenhalgh, T. (2001). How to Read a Paper: The Basics of Evidence Based Medicine (2nd ed.). BMJ Books.
4) Article handouts in lectures.

Course Coordinator

Prof. Datin Dr. Zoriah Aziz

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB3015: Pharmacy Ethics and Legislation

2 credits

Learning Outcomes

At the end of the course students are able to:

1) apply the different pharmacy legislation in daily carrying on the business of pharmacy.
2) apply the requirement of regulatory authority on different pharmaceutical products in Malaysia.
3) perform enforcement and court presentation on pharmacy cases in Malaysia.
4) relate advice to other professional and the general public on legislation of drug and pharmaceutical in Malaysia.
5) practise the professional ethics of pharmacist.

Course Synopsis

Students will be introduced to the concept of basic laws and legislation followed by the understanding of the five Malaysian pharmaceutical legislations. These legislations govern the control on chemical and pharmaceutical material, medicine, advertisement of medicine and medical matters, and the professional ethics of pharmacist.

Reference Texts

1) The Poisons Act 1952.
2) The Medicines Advertisement and Sales act 1956.
3) The Drug sales Act 1952.
4) Registration of Pharmacists Act 1951.
5) Dangerous Drugs Act 1952.
6) Pharmacist Malaysian Code of Conduct.
7) Medicine Trade Act.

Course Coordinator

Assoc. Prof. Dr. Mohamed Ibrahim Noordin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

YEAR 4 SEMESTER I (2021/2022)

MIB4001: Pharmaceutical Quality Assurance

2 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the Quality System enforced on pharmaceutical manufacturers, wholesalers, and importers.
2) discuss the requirement of Quality System for analytical laboratories.
3) explain the validation technique for manufacturing process and quality control in pharmaceutical industry.

Course Synopsis

Students will be introduced to the overall concept of Quality Assurance, the need of Quality Assurance in Pharmaceutical Industries and its applications. Student will be introduced to the concept of GMP plan layout for the manufacturing facility of dosage forms. Students will be introduced to different elements of Quality Assurance, principles of GMP, GLP, GSP and their regulations. International standards of quality and their relevance to Quality Assurance will be explained

Reference Texts

1) Remington: The Science and Practice of Pharmacy (22nd ed.). Mack Publishing Co. USA.
2) Sale of Drugs Act 1952.
3) Rules of Drugs and Cosmetics act 1984.
4) Quality Assurance guidelines Malaysia and the Union Health Organization (WHO), 2014.
5) Willig, S. (2000). Good Manufacturing Practices for Pharmaceuticals: A Plan for Total Quality Control from Manufacturer to consumer (5th ed.). CRC Press, USA.
6) Pharmaceutical Inspection Co-operation Scheme GMP guidelines, 2014.

Course Coordinator

Assoc. Prof. Dr. Mohamed Ibrahim Noordin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB4002: Pharmacoeconomics

2 credits

Learning Outcomes

At the end of the course students are able to:

1) explain different methods of economic evaluations of health care programmes.
2) determine the different types of costs that relate to different perspectives used in economic evaluations.
3) critically appraise published economic evaluations of health care programmes for health care decision making.

Course Synopsis

Students will be taught the key principles of pharmacoeconomics and be exposed to issues relating to the delivery of health care. The use of data from economic evaluations to inform health care decision making will be discussed.

Reference Texts

1) Drummond, M.F., Sculpher, M.J., Torrance, G.W., O'Brien, B.J., & Stoddart, G.L. (2005). Methods for the Economic Evaluation of Health Care Programmes (3rd ed.). Oxford Press.
2) Elliott, R., & Payne, K. (2005). Essentials of Economic Evaluation in Health Care (4th ed.). Pharmaceutical Press.
3) Morris, S., Devlin, N., & Parkin, D. (2007). Economic Analysis in Health Care. John Wiley and Sons.
4) Gray, A., Clarke, P., Wolstenholme, J., & Wordsworth, S. (2010). Applied Methods of Cost-Effectiveness Analysis in Health Care. Oxford University Press.

Course Coordinator

Dr. Fatiha Hana Shabaruddin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB4004: Hospital and Community Pharmacy Practice

3 credits

Learning Outcomes

At the end of the course students are able to:

1) describe the roles of hospital and community pharmacists.
2) evaluate common health problems presented at community pharmacies and provide appropriate counselling.
3) interpret screening tests such as blood glucose levels.
4) perform prescriptions screening and resolve any discrepancies.

Course Synopsis

The roles of hospital and community pharmacists will be explained in detail. Students will be trained to check prescriptions thoroughly and to prevent medication errors. Emphasis will be placed on therapeutic uses of drugs, abnormal doses, drug-drug interactions, and contraindications. Issues related to medication adherence will be emphasised. The general structure of a community pharmacy including benchmarking requirements will be discussed. Measures to encourage the general public on self-care will be provided. Screening tests such as blood glucose tests will be explained. Some common minor health ailments and general principles of responding to symptoms in a community pharmacy will be discussed. Methods of counselling and interactions between a pharmacist with patients and doctors will be emphasised through role-play.

Reference Texts

1) British National Formulary (BNF), British Medical Association (2014 or later edition).
2) The United States Pharmacopoeia Convention. Information for the Health Care Provider. USP-DI Vol. 1. Pennyslvania.
3) Blenkinsopp, A., & Paxton, P. (2009). Symptoms in the Pharmacy: A Guide to the Management of Common Illness, Blackwell Scientific Publications.
4) Handbook of Nonprescription Drugs, American Pharmacists Association, or later edition.
5) MIMS, CMPMedica Pacific Ltd., Malaysia (2014 or later edition).
6) Waterfield, J. (2008). Community Pharmacy Handbook. Pharmaceutical Press, London.
7) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Dr. Wong Yuen Fei

Course Assessment

Course will be assessed by Continuous Assessment 100%.

MIB4005: Clinical Clerkship I

2 credits

Learning Outcomes

At the end of the course students are able to:

1) demonstrate an understanding of medical case reports of patients.
2) interpret laboratory results with regards to the pathophysiologic changes due to diseases.
3) identify the pharmaceutical care issues from the clerked cases.
4) apply the principles of drug management to resolve pharmaceutical care issues associated with it.

Course Synopsis

This module includes clerkships at the wards in University Malaya Medical Centre (UMMC). The focus of this module is on clerkship and clinical case presentation by the students in order to further equip them to provide pharmaceutical care to patients.

Reference Texts

1) Galt, K.A. (2006). Developing Clinical Practice Skills for Pharmacists. American Society of Health-System Pharmacists Publication.
2) Tietze, K.J. (2012). Clinical Skills for Pharmacists: A Patient-focused Approach. Elsevier/Mosby.
3) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
4) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
5) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
6) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
7) Walker, R. (2003). Clinical Pharmacy and Therapeutics. Churchill Livingstone.
8) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
9) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Miss Mary Lee Hong Gee

Course Assessment

Course will be assessed by Continuous Assessment 100%.

MIB4006: Research Methodology

2 credits

Learning Outcomes

At the end of the course students are able to:

1) recognise the basic principles of research, various types of research, and the importance of research ethics.
2) manage relevant information from multiple sources.
3) produce a written research protocol and an oral protocol presentation.

Course Synopsis

Students will be introduced to various types of research, e.g. laboratory-based, technology-based, and social research that involve survey work. Besides being exposed to methods for protocol writing and usage of referencing manager, students will also be exposed to the importance of ethics in research. This module will prepare the students for Research Project module in the coming semester.

Reference Texts

1) Field, A., & Hole, G.J. (2008). How to Design and Report Experiments. SAGE Publications Ltd, London.
2) Smith, F. (2002). Research Methods in Pharmacy Practice. Pharmaceutical Press, London.
3) Chung, L.Y., & Hussain, S. (2003). Bachelor of Pharmacy (Honours) Undergraduate Research Guidelines for MWEF 3185 Research Methodology and MWEF 3186 Research Project. Department of Pharmacy, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.

Course Coordinator

Prof. Dr. Chung Lip Yong

Course Assessment

Course will be assessed by Continuous Assessment 100%.

YEAR 4 SEMESTER II (2021/2022)

MIB4007: Industrial Pharmacy and Regulatory Control

2 credits

Learning Outcomes

At the end of the course students are able to:

1) compare the trend and forecast of the global pharmaceutical industry to that in Malaysia.
2) describe the process of drug registration with the National Pharmaceutical Control Bureau of Malaysia.
3) discuss the techniques and requirements of research in production of generic products.

Course Synopsis

Students will be introduced to the concept of comprehensive characteristics of the pharmaceutical industry in Malaysia and compare that with developed countries. Students will be introduced to Malaysian pharmaceutical regulatory control, method of registration, and legal issues. Students will be introduced to the principles of drug development, at laboratory level, pilot scale level, at the factory level, and the process of "scaling-up".

Reference Texts

1) Aulton, M.E., & Taylor, K.M. (2013). Aulton's Pharmaceutics: The Design and Manufacture of Medicines (4th ed.). Elsevier.
2) Remington: The Science and Practice of Pharmacy (22nd ed.). Mack Publishing Co. USA.
3) Sale of Drugs Act 1952.
4) Rules of Drugs and Cosmetics act 1984.
5) Quality Assurance guidelines Malaysia and the Union Health Organization (WHO), 2014.
6) Willig, S. (2000). Good Manufacturing Practices for Pharmaceuticals: A Plan for Total Quality Control from Manufacturer to consumer (5th ed.). CRC Press, USA.
7) Pharmaceutical Inspection Co-operation Scheme GMP guidelines, 2014.

Course Coordinator

Assoc. Prof. Dr. Mohamed Ibrahim Noordin

Course Assessment

Course will be assessed by Continuous Assessment 40% and a Final Examination 60%.

MIB4008: Clinical Clerkship II

2 credits

Learning Outcomes

At the end of the course students are able to:

1) identify specific characteristics in age or disease-related changes that need special attention with regards to optimizing drug therapy and minimizing adverse drug reactions.
2) evaluate the drug therapy for patient care in the ward.
3) formulate an effective therapeutic management plan for drug and non-drug treatment for a particular disease state.

Course Synopsis

This module is a continuation of the Clinical Clerkship I. The learning for this module is based on ward visits and discussion with the clinical preceptors. The focus of this module is on the clerkship and the clinical case presentation by students in order to further equip them to provide pharmaceutical care to patients.

Reference Texts

1) Galt, K.A. (2006). Developing Clinical Practice Skills for Pharmacists. American Society of Health-System Pharmacists Publication.
2) Tietze, K.J. (2012). Clinical Skills for Pharmacists: A Patient-focused Approach. Elsevier/Mosby.
3) Katzung, B., Masters, S., & Trevor, A. (2012). Basic and Clinical Pharmacology (12th ed.). McGraw Hill.
4) Brunton, L., Chadner, B., & Knollman, B. (2011). Goodman and Gilman's The Pharmacological Basis of Therapeutics (12th ed.). McGraw Hill.
5) Rang, H., & Dale, M. (2011). Rang and Dale Pharmacology (7th ed.). Elsevier.
6) Dipiro, J.T., Talbert, R.L., Yee, G.C., & Matzke, G.R. (2014). Pharmacotherapy: A Pathophysiologic Approach (9th ed.). McGraw-Hill.
7) Walker, R. (2003). Clinical Pharmacy and Therapeutics. Churchill Livingstone.
8) Alldredge, B.K., Corelli, R.L., Ernst, M.E., Guglielmo, B.J., Jacobson, P.A., Kradjan, W.A., & Williams, B.R. (2013). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs (10th ed.). Lippincott Williams and Wilkins, USA.
9) Drug Information Handbook (2014 or later edition). Lexi-Comp's Clinical Reference Library.

Course Coordinator

Miss Mary Lee Hong Gee

Course Assessment

Course will be assessed by Continuous Assessment 100%.

MIB4009: Research Project

6 credits

Learning Outcomes

At the end of the course students are able to:

1) apply the principles of research in carrying out data collection.
2) analyse data correctly.
3) compose research findings.
4) critique research findings in relation to published literature.
5) produce a written dissertation according to the requirements and an oral presentation of the research findings using audiovisual aid.

Course Synopsis

Students will carry out their research project under the supervision and guidance of the respective lecturers in the Dept. of Pharmacy. They will collect data, analyse them and write up their dissertations. Every student will also present their work orally.

Reference Texts

1) Field, A., & Hole, G.J. (2008). How to Design and Report Experiments. SAGE Publications Ltd, London.
2) Smith, F. (2002). Research Methods in Pharmacy Practice. Pharmaceutical Press, London.
3) Chung, L.Y., & Hussain, S. (2003). Bachelor of Pharmacy (Honours) Undergraduate Research Guidelines for MWEF 3185 Research Methodology and MWEF 3186 Research Project. Department of Pharmacy, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.

Course Coordinators

Prof. Dr. Chung Lip Yong & Dr. Phan Chia Wei

Course Assessment

Course will be assessed by Continuous Assessment 100%.

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Thank you

PREPARED BY;

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FACULTY OF MEDICINE
UNIVERSITY OF MALAYA