UNIVERSITY OF MALAYA

UNDER GRADUATE GUIDEBOOK

FACULTY OF MEDICINE

2015/2016

SEMESTER PROGRAM

INDEX

Message from Dean

Welcome to the Faculty of Medicine, University of Malaya.

Congratulations! You have been selected amongst hundreds of applicants from all over the country to enter into one of the programs at the Faculty of Medicine, University of Malaya. The University of Malaya's Faculty of Medicine is a national leader in medicine and the health sciences with many distinguished academic staff that are nationally and internationally renowned. By joining us you are taking an important first step on the path to becoming part of this distinguished group.

You are now entering into a new and exciting phase in your life that will prepare you for a career in the medical sciences. You will find that your university education will be vastly different from what you have experienced at school. You will be expected to undertake self-directed and independent learning far more then you have been used 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 by way of working in laboratories or behind technologically advanced diagnostic equipment in clinic or hospitals. 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 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 experience.

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.

PROFESSOR DR YANG FARIDAH ABDUL AZIZ

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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

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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Dr Raja Elina Afzan bt Raja Ahmad *MBChB (Otago), MMedSc (Mal), PhD (Liv)*

Training Lecturer:
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PRIMARY CARE MEDICINE

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Associate Professor Dr Koh Ong Hui *MBBS (Manipal, India), MPM (Mal)*
Associate Professor Dr Muhammad Muhsin bin Ahmad Zahari *MBBCh BAO (Ire), MPM (Mal)*
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Associate Professor Datin Dr Sharmilla Kanagasundram *MBBS (Manipal, India), MPM (Mal)*
Associate Professor Dr Stephen Thevananthan Jambunathan *MBBS (Manipal, India), MPM (Mal), Cert. In Psychotherapy (Melbourne)*
Associate Professor Dr Subash Kumar Pillai *MBBS (Karachi, Pakistan), MPM (Mal)*

Senior Lecturers:

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Dr Amarpreet Kaur *MBBCh (Wales, UK), MRCPsych (UK), Dip Med Sci in Clinical Psychiatry (UK), Dip in Clinical Hypnosis (D.Hyp)*
Dr Rusdi bin Abd Rashid *MBBS (Mal) MPM (Mal)*
Dr Yee Hway Ann @ Anne Yee *MBBS (Mal), MPM (Mal)*
Dr Zuraida Ahmad Sabki *MD (Mal), MPM (Mal)*

REHABILITATION MEDICINE

DEPARTMENT/UNIT | ACADEMIC STAFF

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Dr Anwar Suhaimi *MBBS (Mal), MRehabMed (Mal)*
Dr Chung Tze Yang *MBBS (Mal), MRehabMed (Mal)*
Dr Goh Hui Ting *BSc in Uni of Southern California (USA)*
Dr Norhamizan Hamzah *MBCUB (UK) MRehabMed (Mal)*

Professor Adjunct

Professor Dr Peter Lim Ai Chi *MBBS (Mysore), Board Cert (Phy Med & Rehab, USA), FAAPMR, FAMS, ABPMR (Sci Med)*

SOCIAL & PREVENTIVE MEDICINE

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Associate Professor Dr Karuthan Chinna *BSc (Ed) (Mal), MSc (Applied Stats)(MSU), PhD (MMU)*
Associate Professor Dr Mas Ayu Said *MBBS (Mal), MPH (Mal), MPH (Epid) (Mal), PhD (Mal)*
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Dr Marzuki bin Isahak *MBBS (Mal), MPH (Mal), DrPH (Mal)*
Dr Maslinor binti Ismail *MD (UKM), MPH (Mal), MPH (Family Health) (Mal)*
Dr Nasrin Agha Mohammadi *BSc. (Environmental Health Engineering) (Tehran), MSc (Civil Engineering) (USM), PhD (Mal)*
Dr Nik Daliana binti Nik Farid *MBBS (Adelaide), MPH (Mal), DrPH (Mal)*
Dr Rafdzah binti Ahmad Zaki *MBChB (Liverpool), MPH (Mal), DrPH (Mal)*

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Consultant:
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SURGERY

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Dr Ahmad Rafizi Hariz bin Ramli MBBS (Mal), MS (Mal)
Dr Chong Hoong Yin *MBBS (Mal), MS (Mal)*
Dr Koh Peng Soon MS (Mal)
Dr Lau Peng Choong MBBS (Mal), MS (Mal)
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Dr Suniza binti Jamaris *MBBS (Mal), MS (Mal)*
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Dr Chong Shun Siang Msurg, University Of Malaya (Um), Mbbs, University Of Malaya (Um)
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Dr Vincent Phua Chee Ee *MBBS (Mal), Mco (Mal)*
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TRAUMA & EMERGENCY

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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.

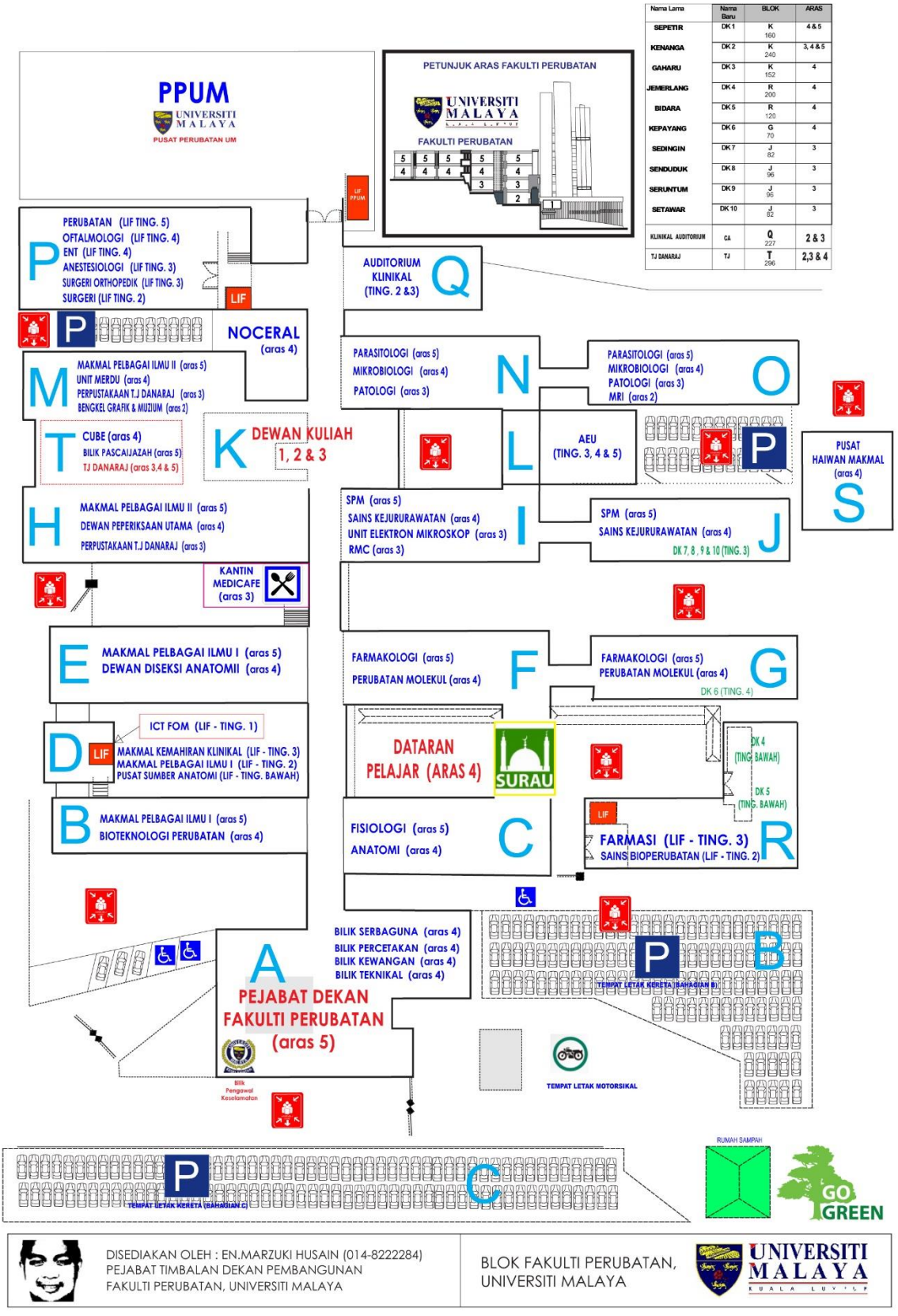
SHOPS - PHARMACY, FRUITSHOP & FLORIST

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

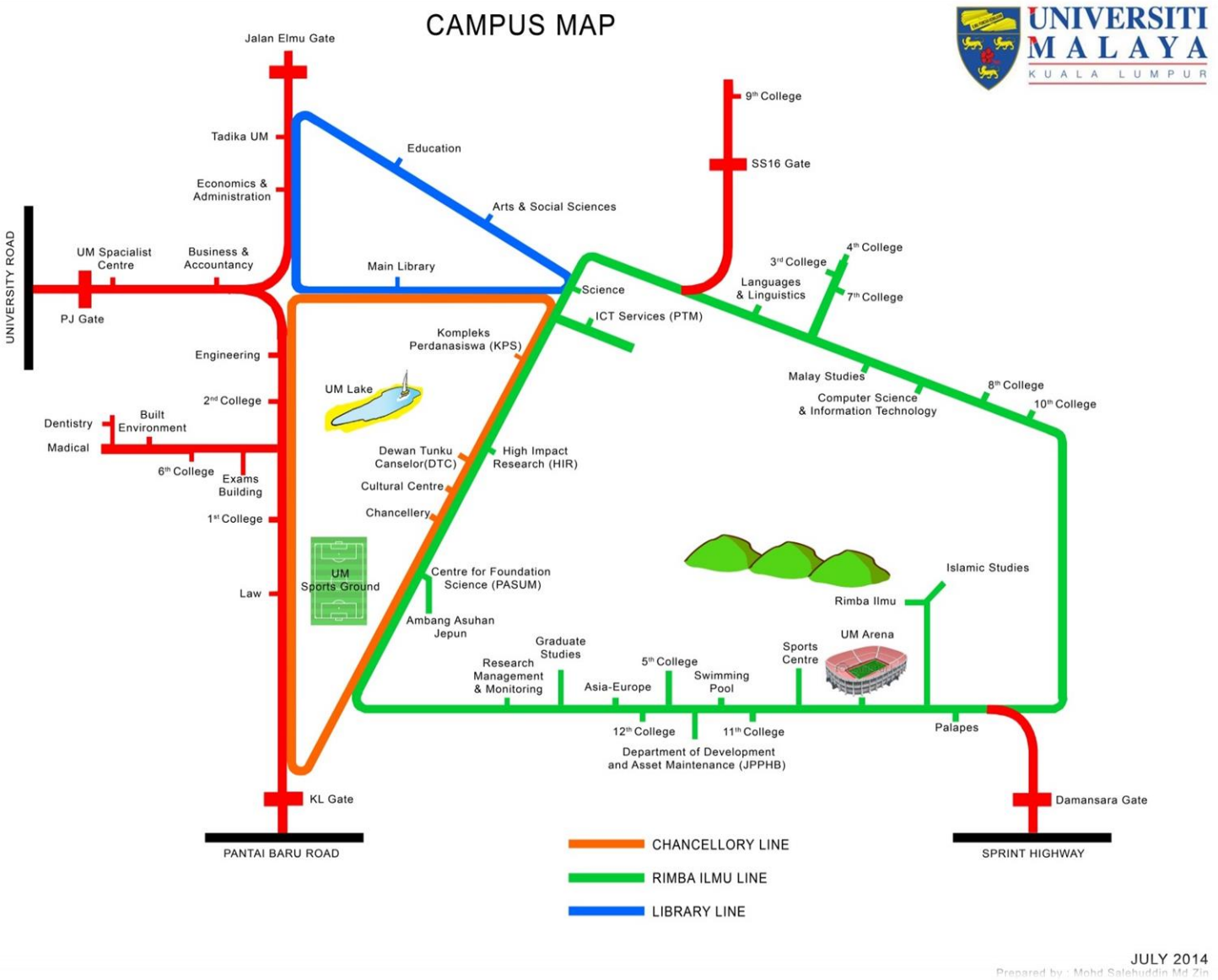
BANKING FACILITIES

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 Elmu 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
Languages & Linguistics
7th College
PJ Gate
ICT Services (PTM)
Kompleks Perdanasiswa (KPS)
Engineering
UM Lake
Malay Studies
8th College
Computer Science & Information Technology
10th College
2nd College
Dentistry
Built Environment
Madical
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)
Islamic Studies
Law
Rimba Ilmu
Ambang Asuhan Jepun
UM Arena
Graduate Studies
Sports Centre
Research Management & Monitoring
5th College
Asia-Europe
Swimming Pool
Palapes
12th College
11th College
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 2015/2016

Semester 1		
Orientation Programme	1 week	01.09.2015 – 06.09.2015
Lectures	9 weeks	07.09.2015 – 06.11.2015
Mid-Semester Break	1 weeks	07.11.2015 – 15.11.2015
Lectures	5 weeks	16.11.2015 – 18.12.2015
Revision	1 week	19.12.2015 – 27.12.2015
Examination	3 weeks	28.12.2015 – 16.01.2016
Semester Break	5 weeks	17.01.2015 – 21.02.2016
Total	**25 weeks**	

Semester 2		
Lectures	7 weeks	22.02.2016 – 08.04.2016
Mid Semester Break	1 week	09.04.2016 – 17.04.2016
Lectures	7 weeks	18.04.2016 – 03.06.2016
Revision	1 week	04.06.2016 – 12.06.2016
Examination	3 weeks	13.06.2016 – 02.07.2016
Total	**19 weeks**	

Semester 3 (Special Semester)		
Break	9 weeks	03.07.2016 – 04.09.2016
Lectures and Examination	8 weeks	03.07.2016 – 28.08.2016

Malaysia Day (16.9.2015)
Hari Raya AidilAdha (24.9.2015)
Maal Hijrah (14.10.2015)
Deepavali (10.11.2015)
Maulidur Rasul (24.12.2015)
Christmas (25.12.2015)
New Year (1.1.2016)
Thaipusam (23.1.2016)
Chinese New Year (8&9.2.2016)
Labour Day (1.5.2016)
Wesak Day (21.5.2016)
Nuzul Al-Qu'ran (22.6.2016)
Hari Raya Aidilfitri (7&8.7.2016)
National Day (31.8.2016)

REGULATIONS

1. REGISTRATION

(1) Course Registration

(a) A student is required to register for courses in accordance with the level of programme of study fixed. The level of programme of study fixed is determined by the credit completed by the student as follows:

Stage of Programme of Study	System of Study		
	Six Semester	Seven Semester	Eight Semester
Beginning	35 credit and below	35 credit and below	35 credit and below
Middle	36- 75 credit	36-85 credit	36-95 credit
Final	76 credit and above	86 credit and above	96 credit and above

(b) A student is required to register within the time frame stipulated. The activities involved in the registration process are per the table as follows:

Activity	Normal Semester	Special Semester	Fee Charges	Duration of Study
Registration				
(i) Final Stage	2 weeks before commencement of semester	1 week before commencement of semester	Yes	Yes
(ii) Middle Stage	1 week before commencement of semester	Week 1	Yes	Yes
(iii)Beginning Stage	Week 1	Week 1	Yes	Yes
Add/Drop				
(i) Add	Week 1 & 2	Week 1	Yes	Yes
(ii) Drop	Week 1 & 2	Week 1	No	Yes
Withdrawal				
Withdraw from course	Week 3 & 4	Week 2	Yes	Yes
Withdraw from semester on personal reasons	Week 1-2 Week 3-7	Week 1 Week 2	No Yes	Yes Yes

Withdraw from semester on student exchange programme grounds	Week 1-2 Week 3 -14	Week 1-2 Week 3-7	No Yes	No No
Withdraw from semester on medical grounds	Week 1-2 Week 3 -14	Week 1-2 Week 3-7	No Yes	No No

(c) A student is given a period of two weeks from the date of commencement of semester to complete course registration. Failure to do so may result in termination of study.

(d) A student shall register courses based on the structure of the programme of study. Any course which is registered other than stipulated in the structure of program of study shall not be considered for the purpose of completion of the degree.

(2) Attendance in Class

A student is required to attend all classes. A student who does not attend any one of the classes is required to immediately inform the lecturer concerned on his absence with the relevant supporting documents. It shall be the responsibility of the lecturer concerned to inform students of the consequences of the non-attendance in class and to keep a record of class attendance.

2. EXAMINATION

(1) Permission to Sit for Examination

A student shall bring Identification Card/Passport and the Student Registration Card for the purpose of verification of identification to sit for the final examination of a registered course.

(2) Method of Course Assessment

(a) The method of assessment of any course depends on the learning outcomes and content of the course. The ratio of contribution and weightage of the assessment in the total final marks shall be determined by the Faculty and approved by the Senate, for for example 40 % continuous assessment, 60 % final examination or 50 % continuous assessment, 50 % final examination. For the purposes of

these Regulations, continuous assessment includes assignments, projects, class tests, quizzes, tutorials and any other method as determined by the Faculty.

(b) Courses in the form of a 'practical' or 'project' such as Industrial Training, Academic Project or Teaching Practicum may be assessed 100% based on continuous assessment throughout the duration of the training, without examination.

(c) A student shall be informed of the results of the continuous assessment component for each course. The announcement shall be made as soon as possible immediately after the assessment of the component concerned but no later than the fifteen lecture week of a Normal Semester or the seventh week of a Special Semester.

(3) Grading Scheme

(a) The official University grades including the marks and their meaning are as follows:

Marks	Grade	Grade Point	Meaning
90-100	A+	4.00	High Distinction
80-89	A	4.00	Distinction
75-79	A-	3.70	Distinction
70-74	B+	3.30	Good
65-69	B	3.00	Good
60-64	B-	2.70	Good
55-59	C+	2.30	Pass
50-54	C	2.00	Pass
45-49	C-	1.70	Fail
40-44	D+	1.30	Fail
35-39	D	1.00	Fail
00-34	F	0.00	Fail

(b) The passing grade for all courses is a Gred C.

(c) Apart from the grades as stated in paragraph (a) above, the following grades may be given to a student for any course attended by him:

(i) (A) Grade I maybe given when:

(aa) a student has not taken the final examination for any course in any semester due to medical reasons/compassionate grounds and/or;

(bb) a student has not fulfill a part of the course requirement in a semester due to medical/compassionate grounds or by reasons beyond the control of the student which is acceptable to the Committee of Examiners concerned.

(B) Grade I which is given has to administered in accordance to paragraph 5 (5) University of Malaya (First Degree Studies) Regulation, 2013:

(ii) Grade K, given for courses that have been approved for the exemption of credit;

(iii) Grade P, given in the first semester for the progressive courses registered that are conducted over two (2) consecutive semesters;

(iv) Grade S, given for courses for which a student's performance is graded as satisfactory based on a range of 50 - 100;

(v) Grade U, given for courses where a student's performance is graded as unsatisfactory based on a range of 0 - 49;

(vi) Grade R, is given for a course which is audited that fulfils the minimum 80% attendance requirement. No credit is given for this grade; and

(vii) Grade UR, is given for a course which is audited but does not fulfil the minimum 80% attendance requirement. No credit is given for this grade.

(viii) Grade W, given for a course from which a student has withdrawn officially during a particular semester;

(ix) Grade W1, given for all courses where a student has officially withdrawn from a semester;

(x) Grade W2, given for all courses where a student has withdrawn officially from the University.

(4) Absence From Examination

Subject to the provisions stated in these Regulations, a student who does not attend the final examination for any course shall be given a zero mark for the final examination component of the course concerned.

(5) Dean's List

(i) A student who obtains a GPA of 3.70 and above in any Normal Semester and fulfils the following conditions shall be recorded with a "Pass with Distinction" for the semester concerned and his name shall be included in the Dean's List:

(A) has taken and sat for the examinations of courses totalling a minimum of 15 credits in the Normal Semester concerned consisting of a minimum of four courses, not including courses with credits that are not taken into account in the calculation of credit counted;

(B) has obtained no lower than a grade C for any course taken in the semester concerned; and

(C) has not repeated any course in the semester concerned.

(ii) Notwithstanding the fulfillment of the conditions in paragraph above, a student whose duration of study has been extended for the purpose of completing the balance of credits shall not be eligible for a "Pass with Distinction".

(iii) Only grades of courses that have been included in the calculation of the GPA shall be considered for a "Pass with Distinction".

3. APPEALS

Appeal Against Examination Results

(1) A student who is not satisfied with the results of examination including the continuous assessment component and the final examinations of a course may appeal as provided in paragraph (b) below for the results to be reviewed. The appeal must be made within two weeks from the date of the official notification of the examination results.

(2) An appeal must be made to the Dean of the Faculty of the programme of study using the prescribed form accompanied by the original receipt of payment prescribed for the said appeal.

(3) The appeal form shall not be considered by the office of the Dean of the Faculty concerned if:

(a) it is submitted after the period mentioned in paragraph (1) above; and/or

(b) it is incomplete; and/or

(c) it is not submitted together with the original receipt of payment.

4. PROHIBITION AGAINST PLAGIARISM

(1) A student shall not plagiarize any idea/writing, data or invention belonging to another person.

(2) Plagiarism includes—

(a) the act of taking an idea, writing, data or invention of another person. and claiming that the idea, writing, data or invention is the result of one's own findings or creation; or

(b) an attempt to make out or the act of making out, in such a way, that one is the original source or the creator of an idea, writing, data or invention which has actually been taken from some other source.

(3) A student plagiarizes when he

(a) publishes, with himself as the author, an abstract, article, scientific or academic paper, or book which is wholly or partly written by some other person;

(b) incorporates himself or allows himself to be incorporated as a coauthor of an abstract, article, scientific or academic paper, or book, when he has not at all made any written contribution to the abstract, article, scientific or academic paper or book;

(c) forces another person to include his name in the list of co-researchers for a particular research project or in the list of co-authors for a publication when he has not made any contribution which may Qualify him as a co-researcher or co-author;

(d) extracts academic data which are the results of research undertaken by some other person, such as laboratory findings or field work findings or data obtained through library research, whether published or unpublished, and incorporate those data as part of his academic research without giving due acknowledgement to the actual source;

(e) uses research data obtained through collaborative work with some other person, whether or not that other person is a staff member or a student of the University, as part of another distinct personal academic research of his, or for a publication in his own name as sole author without obtaining the consent of his co-researchers

prior to embarking on his personal research or prior to publishing the data;

(f) transcribes the ideas or creations of others kept in whatever form whether written, printed or available in electronic form, or in slide form, or in whatever form of teaching or research apparatus or in any other form, and claims whether directly or indirectly that he is the creator of that idea or creation;

(g) translates the writing or creation of another person from one language to another whether or not wholly or partly, and subsequently presents the translation in whatever form or manner as his own writing or creation; or

(h) extracts ideas from another person's writing or creation and makes certain modifications without due reference to the original source and rearranges them in such a way that it appears as if he is the creator of those ideas.

LIST OF UNDERGRADUATE PROGRAMMES IN THE FACULTY

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

2015/2016

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.

Assoc. 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, analyze, 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	GIG1001	The Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia(TITAS)*	2
	GIG1002	Ethnic Relations *Hubungan Etnik*	2
	GIG1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG1004	Information Literacy *Literasi Maklumat*	2
	GLTXXXX	English for Communication Programme	6
	GIG1005	Social Enggagement *Jalinan Masyarakat*	2
	GKXXXXX	Co-Curriculum Course	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 (2015/2016)

Semester I

Category	Course Code	Course Name	Credits
University Course	GIG 1001	Islamic and Asian Civilisation (TITAS)	2
	GLTXXXX	English for Communication Programme	3
Core Course	MIB1001	Basic Pharmaceutical Chemistry	3
	MIB1002	Pharmaceutical Organic Chemistry	3
	MIB1003	Biochemistry	3
	MIB1004	Anatomy and Physiology	3
	MIB1005	Introduction to Pharmacy	2

Semester II

Category	Course Code	Course Name	Credits
University Course	GIG 1002	Ethnic Relations	2
	GIG 1003	Basic of Entrepreneurship Culture	2
	GIG 1004	Information Literacy	2
Core Course	MIB1006	Drug Action and Discovery	3
	MIB1007	Microbiology and Parasitology	2
	MIB1008	Physical Pharmacy	3
	MIB1009	Pharmacotherapy for EENT and Haematological Disorders	2

Year 2 (2016/2017)

Semester I

Category	Course Code	Course Name	Credits
University Course		Faculty's External Elective Courses (KELF)	4
	GLT XXXX	English for Communication Programme	3
Core Course	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 Disorders	3
	MIB2005	Pharmacotherapy for Infectious Diseases I	2

Semester II

Category	Course Code	Course Name	Credits
University Course	GKXXXXX	Co-curriculum	2
Elective Course		Faculty Elective Course*	3
Core Course	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 Disorders	3

Year 3 (2017/2018)

Semester I

Category	Course Code	Course Name	Credits
Core Course	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

Semester II

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

Special Semester

Category	Course Code	Course Name	Credits
University Course	GIG1005	Social Engagement	2
Core Course	MIB3016	Professional Pharmacy Attachment	2

Year 4 (2018/2019)

Semester I

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

Semester II

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

Faculty Elective Courses *

Course Code	Course Name	Credits
MIX1004	Introduction to Radiation Protection	2
MIX2001	Applications in Biomedical Science	2
MIX2002	Behavorial Science	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
MIB3020	Substance Abuse and Dependency	2
MIB3021	Pharmaceutical Biotechnology	2
MIB3022	Clinical Toxicology	2
MIB4010	Pharmacotherapy for Special Populations	2

COURSE SUMMARY

YEAR 1 SEMESTER 1 (2015/2016)

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

Introductory course to physical principles that are applied in pharmaceutical sciences. This course emphasizes on the importance of physical and chemical properties related to drugs and their dosage forms.

Reference Texts

1) Aulton ME, Taylor AMG (2001) Pharmaceutics: the science for dosage form design. 2nd ed. Churchill Livingstone, UK.
2) Chang R (2005) Chemistry, 8th ed. McGraw Hill, New York.
3) Florence AT, Attwood D (2006) Physicochemical principles of pharmacy, 4th ed. Pharmaceutical Press, UK.
4) Martin AN, Sinko PJ, 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 AH, Stenlake JB (2001) Practical Pharmaceutical Chemistry, Vol. 1 & 2, 4th ed. Bloomsbury Academic, UK.

Course Coordinator

Dr. Heh Choon Han

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 reaction, name and structure 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 course 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, W.S. (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. Rozana Othman

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) Analyze 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 course provides the knowledge on the basic biochemical systems in the human body.

Reference Texts

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

Course Coordinator

Dr. Aditya Arya

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) Sherwood L., (2013) Human physiology, From Cells to Systems (8th edition), Thomson Brooks/ Cole, Belmont.
2) Widmaier E.P. (2013) Vender's Human Physiology: The Mechanisms of Body Functions (13 edition), McGraw-Hill, New York.
3) Edith Applegate, MS. The Anatomy and Physiology Learning System, 4th Ed, W.B. Sauders Company 2010.
4) Ross and Wilson. Anatomy and Physiology in Health and Illness, 11th Ed, Churchill Living stone 2010.
5) R.L. Memmler, B. J. Cochen and D.L. Wood. Structure and Function of the Human Body, 10th Ed, Lippincott 2012.

Course Coordinator

Dr. Bassam Abdul Rasool Hassan

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) The Pharmaceutical Codex: Principles and practice of pharmaceutics. 12th Ed., The Pharmaceutical Press, London, 1994.
3) Martindale W.) The Extra Pharmacopoeia, The Pharmaceutical Press, latest edition.
4) Pharmacy Legislation of Malaysia, Malaysian Pharmaceutical Society.
5) Collett DM & Aulton ME (eds.). Pharmaceutical Practice, Churchill Livingstone, 1990.

Course Coordinator

Dr. Nur Akmarina Mohd Said

Course Assessment

Course will be assessed by Continuous Assessment 100%.

YEAR I SEMESTER II (2015/2016)

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

Course Coordinator

Assoc. Prof. Dr. Michael James Christopher Buckle

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 act against the parasites.

Course Synopsis

This course 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 act against different parasites. This course provides an opportunity to learn about aseptic, isolation and identification techniques of micro-organisms and factors that affect its development.

Reference Texts

1) Hugo WB and Russell AD. Pharmaceutical Microbiology. 8thEdn. 2011 Blackwell Scientific Publications
2) Richard A. Harvey. Microbiology. 2007 Lippincott Williams and Wilkins.
3) F. H. Kayser, K.A. Bienz, J. Eckert, R. M. Zinkernagel. Medical Microbiology. 2011 Georg ThiemeVerlag
4) Charles W Stratton. Clinical Microbiology: Quality in Laboratory Diagnosis. 2011 Demos Medical Publishing, LLC.
5) Bernard E. Matthews. Introduction to Parasitology - 98 editions. 2007. Cambridge University Press.
6) Burton J. Bogitsh. Human Parasitology - 4th edition. 2012. Academic Press, Inc.
7) Judith S. Heelan and Frances W. Ingersoll. Essentials of Human Parasitology - 02 editions. 2001. Delmar Publications
8) David T. John and William A. Petri. Markell and Voge's Medical Parasitology - 9th edition. 2006. W.B. Saunders Co

Course Coordinator

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) Recognize the concept of the disperse systems, surface phenomena, micromeritics and rheology and factors influencing stability of disperse systems.
2) Describe the mechanism action of surface active agents, rheology properties of pharmaceutical materials and the application of the disperse systems, surface phenomena, 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 course 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 lecturers, namely disperse systems, surface properties, micromeritics and rheology.

Reference Texts

1) Attwod, D., Florence, AT. Physical Pharmacy. London: Pharmaceutical Press, 2008.
2) Aulton, ME. Pharmaceutic: The science of dosage form design, 2nd ed. Edinburg: Churchill Livingston, 2001.
3) Martin, AN., Sinko, PJ., Singh, Y. Physical Pharmacy and Pharmaceutical Sciences: Physical Chemical and Biopharmaceutical Principles in the Pharmaceutical Sciences, 6th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2011.
4) Remington, Joseph, P. Remington: The Science and Practice of Pharmacy, 21st ed. Philadelphia: Lippincot Williams & Wilkins, 2006.
5) Roop, KH., Vyas, SP., Farhan, JH., Gaurav, KJ. Lachman/Liebeman: The theory and practice of Industrial pharmacy 4rd ed. India: CBS Publishers & Distributers, 2013.
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. The United States of Pharmacopeia 27/The National Formulary 22: USP 27/ NF 22. Baltimore: Port City Press, 2003.

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, the pathophysiology and management of eye, ear, nose and throat (EENT) and hematologic 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 hematologic disorders will also be emphasized.

Reference Texts

1) Katzung B, Masters S & Trevor A. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2015 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

Course Coordinator

Dr. Fatiha Hana Shabaruddin

Course Assessment

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

YEAR 2 SEMESTER 1 (2016/2017)

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 course 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. and Weaver, D.F. (2005) Medicinal Chemistry: A Molecular and Biochemical Approach. 3rd ed. Oxford University Press, USA.

Course Coordinator

Assoc. Prof. Dr. Michael James Christopher Buckle

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) Recognize 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 course introduces the principles and analytical technique of practice which are used in drugs quality control and 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

Dr. Rozana Othman

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 semisolid dosage forms.
2) prepare liquid and semisolid dosage forms in laboratory scale.
3) perform physical quality control evaluations for liquid and semisolid dosage forms.

Course Synopsis

The course introduces to the students the overall concept on liquid and semisolid dosage forms. Students will be introduced to equipment used in manufacturing for liquid and semisolid 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, AT. Physical Pharmacy. London: Pharmaceutical Press, 2008.
2) Aulton, ME. Pharmaceutic: The science of dosage form design, 2nd ed. Edinburg: Churchill Livingston, 2001.
3) Martin, AN., Sinko, PJ., Singh, Y. Physical Pharmacy and Pharmaceutical Sciences: Physical Chemical and Biopharmaceutical Principles in the Pharmaceutical Sciences, 6th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2011.
4) Remington, Joseph, P. Remington: The Science and Practice of Pharmacy, 21st ed. Philadelphia: Lippincot Williams & Wilkins, 2006.
5) Roop, KH., Vyas, SP., Farhan, JH., Gaurav, KJ. Lachman/Liebeman: The theory and practice of Industrial pharmacy 4rd ed. India: CBS Publishers & Distributers, 2013.
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. The United States of Pharmacopeia 27/The National Formulary 22: USP 27/ NF 22. Baltimore: Port City Press, 2003.

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 Disorders

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 integrate 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 JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
2) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2006.
3) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
4) Katzung BG (Ed). Basic and clinical pharmacology. 13th ed. Appleton & Lange, 2014.
5) HP Rang, MM Dale. Pharmacology 8th ed. Churchill Livingstone, 2015
6) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
7) British National Formulary; 2016 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2016 or later edition.

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. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2014 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

Course Coordinator

Mrs. Noorasyikin Shamsuddin

Course Assessment

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

YEAR 2 SEMESTER II (2016/2017)

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.
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 system 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 course 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 course also emphasizes on the concepts and techniques in standardization of plant drugs, and 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, WC., Trease and Evans Pharmacognosy (2009), 16th edition. Saunders Elsevier, Amsterdam, Netherlands.
2) Heinrich M., Barnes J., Gibbons S. and Williamson EM., Fundamentals of Pharmacognosy and Phytotherapy (2004), First Edition Churchill Livingstone, Elsevier, Amsterdam, Netherlands.
3) Wallis,TE., Text Book of Pharmacognosy (2005), 5th Edition. Pitman Publishers, London, UK.*Course*

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) Recognize 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's Pharmaceutics (2013): The Design and Manufacture of Medicines, 4th edition, Churchill livingstone, UK.
2) Remington: The Science and Practice of Pharmacy (2012), 22nd edition. Mack Publishing Co. USA.
3) Ansel's pharmaceutical dosage forms and drug delivery systems (2011), 9 th edition, Loyd V. Allen, Nicholas G. Popovich, Howard C. Ansel, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, USA.
4) British Pharmacopoeia 2012.
5) United States Pharmacopoeia 36-NF 31, 2012.
6) The Theory and Practice of Industrial pharmacy (1986), by Lachman and Lieberman, 3 rd edition, Lea & Febiger, Philadelphia, USA.

Course Coordinator

Dr. Aditya Arya

Course Assessment

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

MIB2009: Basic Immunology and Pharmacotherapy for Immune Disorder

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 integrate 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, immunization and vaccination.

Reference Texts

1) Katzung B, Masters S & Trevor A. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2014 or later edition
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition

Course Coordinator

Dr. Faizah Safina Bakrin

Course Assessment

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

MIB2010: Pharmacotherapy for Infectious Disease II

3 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 integrate 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 JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
2) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2006.
3) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
4) Katzung BG (Ed). Basic and clinical pharmacology. 13th ed. Appleton & Lange, 2014.
5) HP Rang, MM Dale. Pharmacology 8th ed. Churchill Livingstone, 2015
6) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
7) British National Formulary; 2016 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2016 or later edition.

Course Coordinator

Course Assessment

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

MIB2011: Pharmacotherapy for Cardiovascular Disorders

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 integrate 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. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2014 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

Course Coordinator

Dr. Nur Akmarina Mohd Said

Course Assessment

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

YEAR 3 SEMESTER 1 (2017/2018)

MIB3001: Solid Pharmaceutical Dosage From Design

3 credits

Learning Outcomes

At the end of the course students are able to :

1) Recognize the concept of solid dosage forms.
2) Recognize 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

Student will be introduced to overall concept and characteristics of solid pharmaceutical dosage form. Student 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. Student will be also trained to do quality control tests of solid dosage forms.

Reference Texts

1) Aulton's Pharmaceutics (2013): The Design and Manufacture of Medicines, 4th edition, Churchill livingstone, UK.
2) Remington: The Science and Practice of Pharmacy (2012), 22nd edition. Mack Publishing Co. USA.
3) Ansel's pharmaceutical dosage forms and drug delivery systems (2011), 9 th edition, Loyd V. Allen, Nicholas G. Popovich, Howard C. Ansel, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, USA.
4) British Pharmacopoeia 2012. 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 of the prescriptions. Methods of dosage calculation, dispensing instructions and labeling of extemporaneous preparations are also included.

Reference Texts

1) Aulton's Pharmaceutics (2013): The Design and Manufacture of Medicines, 4th edition, Churchill Livingstone, UK.
2) British National Formulary (BNF) 67 - 2014.
3) Cooper & Gunn's (2008): Dispensing for Pharmaceutical Students. 12th edition, Carter SJ(ed), Churchill Livingstone, UK.
4) British Pharmaceutical Codex (BPC) (2012), Pharmaceutical Society of Britain, the pharmaceutical press, UK.
5) Pharmaceutical Calculations (2001), 11th edition, Stoklosa MJ & Ansel HC, Lippincott, William & Wilkins, Philadelphia, USA.
6) Martindale: The complete drug reference, (2014), 38th ed., Royal Pharmaceutical Society, the pharmaceutical press, UK.

Course Coordinator

Dr. Mahibub Mahamadsa Kanakal

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 difference 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 course 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) Clinical Pharmacokinetics/ edited by John E. Murphy ISBN 9789746520836 - Bethesda, Md : American Society of Health-System Pharmacists, 2009.
2) Clinical Pharmacokinetics/ edited by Soraya Dhillon, Andrzei Kostrzewski ISBN 9780853695714 - London : Pharmaceutical Press, 2009.
3) Clinical Pharmacokinetics and pharmacodynamics : concepts and applications / Malcolm Rowland and Thomas N. Tozer ISBN 9780781750097 - New York : Lippincott Williams & Wilkins, 2011.
4) Biopharmaceutics and Pharmacokinetics / Venkateswarlu, V Pharmamed ISBN: 9788188449514 ; Hyderabad [India]: PharmaMed Press, 2008. On Ebrary e-Books.
5) Therapeutic drug monitoring / edited by GE Schumacher Appleton and Lange, Norwalk, Connecticut, 1995.

Course Coordinator

Dr. Lo Yoke Lin

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 integrate 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. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
2) Katzung BG (Ed). Basic and clinical pharmacology. 13th ed. McGraw-Hill, 2015.
3) HP Rang, MM Dale. Pharmacology 7th ed. Churchill Livingstone, 2012.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 8th ed. McGraw-Hill, 2011.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 7th ed. Williams and Wilkins, 2000.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2013.
7) British National Formulary; 2014 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2013 or later edition.

Course Coordinator

Dr. Aditya Arya

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, 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 integrate 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, Masters S & Trevor A. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2014 or later edition.
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

Course Coordinator

Dr. Najihah Mohd Hashim

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) Basic & clinical biostatistics *4th ed.* Dawson, Beth. New York: McGraw-Hill, 2004.
2) Principles of biostatistics *2nd ed.* Pagano, Marcello. Pacific Grove, CA: Duxbury, 2000.
3) Pharmacoepidemiology, *5th ed.* B. L. Strom, S. E. Kimmel and S. Hennessy (Eds), Oxford, UK:Wiley-Blackwell, 2012.
4) Epidemiology. Gordis, Leon. Philadelphia, USA: Elsevier/Saunders, 2009.
5) How to read a paper: the basics of evidence based medicine 2nd ed. Greenhalgh, Trisha. London: BMJ, 2001.
6) Articles handout in lectures.

Course Coordinator

Assoc. 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) Essential Management Skills for Pharmacy and Business Managers (2013) Titus De Silva, Productivity Press.
2) Pharmacy Management, Leadership, Marketing and Finance (2012) by Marie A. Chisholm-Burns, Allison M. Vaillancourt, Marv Shepherd, ISBN-13:978-1449660284 2nd Edition. Jones & Bartlett Learning, USA.

Course Coordinator

Dr. Nur Akmarina Mohd Said

Course Assessment

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

YEAR 3 SEMESTER II (2017/2018)

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

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

Reference Texts

1) Aulton's Pharmaceutics (2013): The Design and Manufacture of Medicines, 4th edition, Churchill livingstone, UK.
2) Remington: The Science and Practice of Pharmacy (2012), 22nd edition. Mack Publishing Co. USA.
3) Ansel's pharmaceutical dosage forms and drug delivery systems (2011), 9 th edition, Loyd V. Allen, Nicholas G. Popovich, Howard C. Ansel, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, USA.
4) British Pharmacopoeia 2012.
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%.

MIB3011: Pharmacotherapy for Cancer, Pain and Renal Disorders

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 integrate 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. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2015 or later edition
8) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

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 Disorder

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 integrate 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. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
2) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
3) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
4) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
5) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
6) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
7) British National Formulary; 2014 or later edition. Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or later edition.

Course Coordinator

Dr. Bassam Abdul Rasool Hassan

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-analyses.
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-analyses according to quality criteria.

Course Synopsis

The aim of this course 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 course 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) Evidence-based medicine: how to practice and teach EBM Sackett, David L. Philadelphia: Saunders, 2000.
3) How to read a paper: the basics of evidence based medicine 2nd ed. Greenhalgh, Trisha. London: BMJ, 2001.
4) Articles handout in lectures.

Course Coordinator

Assoc. Prof. Datin Dr. Zoriah Aziz

Course Assessment

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

MIB3015: Ethics and Legislation in Pharmacy

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 product 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) Practice 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

Dr. Mahibub Mahamadsa Kanakal

Course Assessment

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

YEAR 3 SPECIAL SEMESTER (2017/2018)

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 hospitals, community pharmacies or pharmaceutical industries.
2) Describe the various services provided in a hospital pharmacy, a community pharmacy or a pharmaceutical industry.

Course Synopsis

This module involves attachment of students to a hospital and community pharmacy or pharmaceutical industry. The student will be familiar with the roles of pharmacists in the various sector 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 atau edisi terbaru.
2) USP-DI Vol. I Information for the Health Care Provider, Pennyslvania, The United States Pharmacopoeia Convention, Inc, edisi terbaru.
3) Blenkinsopp A and Paxton P. Symptoms in the Pharmacy: A Guide to the Management of Common Illness, Blackwell Scientific Publications, 2009.
4) Handbook of Nonprescription Drugs, American Pharmacists Association, edisi terbaru.
5) MIMS, CMPMedica Pacific Ltd., Malaysia, 2014 atau edisi terbaru.
6) Waterfield J. Community Pharmacy Handbook. Pharmaceutical Press, London, 2008.
7) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 atau edisi terbaru.

Course Coordinator

Assoc.Prof. Dr. Chua Siew Siang

Course Assessment

Course will be assessed by Continuous Assessment 100%

YEAR 4 SEMESTER 1 (2018/2019)

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 (2012), 22nd edition. 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) Good Manufacturing Practices for Pharmaceuticals: A Plan for Total Quality Control from Manufacturer to consumer (2000), 5th edition by Sidney Willig, CRC Press, USA
6) Pharmaceutical Inspection Co-operation Scheme GMP guidelines, 2014..

Course Coordinator

Dr. Mahibub Mahamadsa Kanakal

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 MF, Sculpher MJ, Torrance GW, O'Brien BJ, Stoddart GL (2005) *Methods for the Economic Evaluation of Health Care Programmes.* 3rd edition. Oxford Press.
2) Elliott R, Payne K (2005) *Essentials of Economic Evaluation in Health Care.* 4th edition. Pharmaceutical Press.
3) Morris S, Devlin N, Parkin D (2007) *Economic Analysis in Health Care.* John Wiley and Sons.
4) Gray A, ClarkeP, 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 emphasized. 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 emphasized through role-play.

Reference Texts

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

Course Coordinator

Assoc. Prof. Dr. Chua Siew Siang

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.
   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 KA. Developing clinical practice skills for pharmacists. American Society of Health-System Pharmacists Publication 2006.
2) Tietze KJ. Clinical skills for pharmacists: a patient-focused approach. St. Louis: Elsevier/Mosby, 2012.
3) Katzung B, Masters S & Trevor A. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
4) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
5) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
6) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
7) Walker R. Clinical pharmacy and therapeutics. Churchill Livingstone, 2003
8) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
9) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or new edition.

Course Coordinator

Dr. Lo Yoke Lin

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.
   produce a written research protocol and an oral protocol presentation.

Course Synopsis

Students will be introduced to various types of research, for 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 next coming semester.

Reference Texts

1) Field A, Hole GJ (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 LY, Samsinah Hj. Hussain (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

Mrs. Syireen Alwi

Course Assessment

Course will be assessed by Continuous Assessment 100%

YEAR 4 SEMESTER II (2018/2019)

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 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's Pharmaceutics (2013): The Design and Manufacture of Medicines, 4th edition, Churchill livingstone, UK.
2) Remington: The Science and Practice of Pharmacy (2012), 22nd edition. 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) Good Manufacturing Practices for Pharmaceuticals: A Plan for Total Quality Control from Manufacturer to consumer (2000), 5th edition by Sidney Willig, CRC Press, USA.
7) Pharmaceutical Inspection Co-operation Scheme GMP guidelines, 2014.

Course Coordinator

Dr. Mahibub Mahamadsa Kanakal

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 KA. Developing clinical practice skills for pharmacists. American Society of Health-System Pharmacists Publication 2006.
2) Tietze KJ. Clinical skills for pharmacists: a patient-focused approach. St. Louis: Elsevier/Mosby, 2012.
3) Katzung B, Masters S & Trevor A. Basic and Clinical Pharmacology, 12th ed. McGraw Hill, 2012.
4) Brunton L, Chadner B & Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed. McGraw Hill, 2011.
5) Rang H & Dale M. Rang and Dale Pharmacology, 7th ed. Elsevier, 2011.
6) Dipiro JT, Talbert RL, Yee GC & Matzke GR. Pharmacotherapy: A Pathophysiologic Approach, 9th ed. McGraw-Hill, 2014.
7) Herfindal ET and Gourley DR. Textbooks of Therapeutics. Drug and Disease management, 8th ed. Williams and Wilkins, 2007.
8) Koda Kimble MA, Kradjan WA, Young LY & Guglielmo BJ. Applied Therapeutics. The clinical use of drugs, 10th ed. Lippincott Williams and Wilkins 2012.
9) Drug Information Handbook. Lexi-Comp's Clinical Reference Library 2014 or new edition.

Course Coordinator

Dr. Lo Yoke Lin

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 GJ (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 LY, Samsinah Hj. Hussain (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

Mrs. Syireen Alwi

Course Assessment

Course will be assessed by Continuous Assessment 100%

2015/2016

UNDERGRADUATE GUIDEBOOK

Faculty of Medicine

BIOMEDICAL SCIENCE

Message from Head of Department

On behalf of the academic staff, a warm welcome to the Biomedical Science Programme for the 2015/2016 academic year.

We appreciate the intellectual ability and enthusiasm that you bring with you.

This guidebook was prepared as a quick reference for you to familiarise yourselves with the course structure, requirement and goals of the programme, which is being offered under the Department of Biomedical Science.

Biomedical Science is well recognised worldwide as a professional course. In this country, several moves towards professionalisation of this programme have been made.

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 to grow to be a holistic, competent Biomedical Science graduate. We hope you will make full use of your time for self-development to become knowledgeable, skilful and ethical with our guidance.

You can contact the course coordinators whenever the need arises by referring to the information as stated in the guidebook.

Again, I welcome you to the Biomedical Science Programme and I hope your time throughout the duration of this programme will be fruitful and exciting, challenging you in new and different ways.

Professor Dr. Chua Kek Heng
Head
Department of Biomedical Science

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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 Chemistry, 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 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. 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 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 (less 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 (15%)	GIG1001	Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia* (TITAS)	2
	GIG1002	Ethnic Relations *Hubungan Etnik*	2
	GIG1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG1004	Information Literacy *Literasi Maklumat/*	2
	GLTXXXX	English for Communication	6
	GIG1005	Social Engagement *Jalinan Masyarakat*	2
	GKXXXX	Co-Curriculum Courses	2
		Faculty's External Elective Course *Kursus Elektif Luar Fakulti*	3
		Total	**21**
Faculty Courses (85%)		Core Courses	**80**
		Elective Courses	**35**
		Total Credits	**136**

2. International Students:

Course Level		Course Name	Credits
University Courses (15%)	GIG1001	Islamic and Asian Civilisation *Tamadun Islam dan Tamadun Asia* (TITAS)	2/K
	GIG1006	*Introduction to Malaysia* *Pengenalan Kepada Malaysia*	2
	GIG1003	Basics of Entrepreneurship Culture *Asas Pembudayaan Keusahawanan*	2
	GIG1004	Information Literacy *Literasi Maklumat/*	2
	GLTXXXX	English for Communication	6
	GLT1001	Basic to Malay Language Bahasa Melayu Asas	
	GIG1005	Social Engagement *Jalinan Masyarakat/*	2
	GKXXXXX	Co-Curriculum Courses	2
		Faculty's External Elective Course *Kursus Elektif Luar Fakulti*	3
		Total	**21**
Faculty Courses (85%)		Core Courses	**80**
		Elective Courses	**35**
		Total Credits	**136**

COURSE STRUCTURE

Year 1 (2015/2016)

Semester I

Category	Course Code	Course Name	Credits
University Course	GIG1001	Islamic and Asian Civilisation (TITAS)	2
	GLT XXXX	English for Communication Programme	3
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
	GIG1003	Basics of Entrepreneurship Culture	2
	GIG1005	Social Engagement	2
	GIG1004	Information Literacy	2
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 (2016/2017)

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
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 (2017/2018)
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 Haematology	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

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

Year 4 (2018/2019)

Semester I

Category	Course Code	Course Name	Credits
Core Course	MIC4001	Research Design in Biomedical Science	6
	MIC4002	Biomedical Science Horizons	3
Elective Faculty/ Department Course	MIC4003	Advanced Human Physiology	3
	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	MIC4007	Neuroscience	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

* Elective Faculty

YEAR 1 SEMESTER I (2015/2016)

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. Philadephia: Elsevier Churchill Livingstone.

Course Coordinator

Dr. Wong Kah Hui
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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. (2014) Vender's Human Physiology. The Mechanisms of Body Functions (10th edition), McGraw-Hill, New York.
2. Costanzo L. S., (2010) Physiology (4th edition), Saunders Elsevier, London.
3. Sherwood L., (2010) Human Physiology. From Cells to Systems (7th edition), Thomson Brooks/Cole, Belmont.
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%)

MIC1001: Biochemistry for Biomedical Science (4 credit hours)

Learning Outcomes

1. Identify characteristics and reactions of biomolecules.
2. Describe the concept of integration of metabolism.
3. Describe the roles of the main tissues and organs in the body in metabolic regulation and homeostasis.
4. Describe the basic techniques in biochemical analysis.

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, Stryer L. 2006. Biochemistry. 6th edition. W.H.Freeman.

Additional Texts/Reading Materials

2. Murray RK, Granner DK, Mayers PA, Rodwell VW. 2006. Harper's Biochemistry. 27th edition. McGraw-Hill Medical.
3. Nelson DL, Cox MM. 2012. Lehninger Principles of Biochemistry. 6th edition. WH Freeman.
4. 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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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. (2013). Essential Cell Biology (5th edition). Garland Science.
2. Snustad D. P. and Simmons M. J. (2011). Principles of Genetics (6th edition). Wiley.
3. Futuyma D. (2009). Evolution (2nd edition). Sinauer Associates, Inc..

Course Coordinator

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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. Joel R. Helms. 2009. Mathematics for Medical and Clinical Laboratory Professionals. Delmar Cengage Learning.
2. Lorraine J. Doucette. 2010. Mathematics for the Clinical Laboratory. Saunders W B Company.

Course Coordinator

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Course Assessment

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

YEAR 1 SEMESTER II (2015/2016)

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. (2014) Vender's Human Physiology. The Mechanisms of Body Functions (10th edition), McGraw-Hill, New York.
2. Costanzo L. S., (2010) Physiology (4th edition), Saunders Elsevier,London.
3. Sherwood L., (2010) Human Physiology. From Cells to Systems (7th edition), Thomson Brooks/Cole, Belmont.
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%)

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

6. Widmaier E.P., Raff H. and Strang K.T. (2014) Vender's Human Physiology. The Mechanisms of Body Functions (10th edition), McGraw-Hill, New York.
7. Costanzo L. S., (2010) Physiology (4th edition), Saunders Elsevier,London.
8. Sherwood L., (2010) Human Physiology. From Cells to Systems (7th edition), Thomson Brooks/Cole, Belmont.
9. Raman A, Ruby H. dan Afandi M. (1995) Fisiologi Manusia, (Edisi Kedua), Penerbit Fajar Bakti, Kuala Lumpur.
10. 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

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. Geo. Brooks, Karen C. Carroll, Janet Butel, Stephen Morse. Jawetz, Melnick, & Adelberg's Medical Microbiology, 26th Edition. McGraw-Hill LANGE 2012.
2. Kathleen Park Talaro, Marjorie Kelly Cowan, Barry Chess. Foundations in Microbiology , 7th edition. McGraw-Hill Higher Education 2009.
3. Gerard J. Tortora. Microbiology: An Introduction, 9th Edition. Pearson Education, 2008.

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

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. (2005). Primers of Biostatistics (6th edition). McGraw Hill Professional.

Additional Texts/Reading Materials

1. Norman, Geoffrey Norman, and David Streiner (2008) Biostatistics: The Bare Essentials 3/e (with SPSS). BC Decker Inc, 3rd edition.
2. David M. Lane HyperStat Online Statistics Textbook:@1993-2007): http://davidmlane.com/hyperstat/

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 identify 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.

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

Lecturers from FOM.

Course Assessment

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

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. (2008). Molecular Biology of the Cell. Garland Science.
2. Watson, J. D., et al. (2004). Molecular Biology of the Gene (5th Edition). Pearson Education.
3. Lewin, B. (2000). Genes: VII. Oxford University Press.
4. Strachan, T. & Read, A. P. (2004). Human Molecular Genetics 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. Describe 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. (2011). Phlebotomy Essentials (5th Edition). Lippincott Williams & Wilkins.
2. Strasinger, S. (2008). Urinalysis and Body Fluids (5th 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. Centre of Disease Control and Prevention (2009). Biosafety in Microbiological and Biomedical Laboratories (5th edition). U.S Department of Health and Human Services.

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. Geo. F. Brooks, Karen C. Carroll, Janet Butel & Stephen Morse. (2012) Jawetz, Melnick, & Adelberg's Medical Microbiology (26th edition). McGraw Hill Medical.
2. Paul G. Engelkirk and Janet Duben-Engelkirk. (2008). Laboratory Diagnosis of Infectious Diseases: Essentials of Diagnostic Microbiology. Lippincott Williams & Wilkins.

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. Vinay Kumar, Abdul K. Abbas, John C. Aster. Robbins Basic Pathology, 2013. 9th Edition. Elsevier Saunders.
2. KL McCance and SE Huether. Pathophysiology: The Biologic Basis For Disease In Adults And Children, 2009. 6th edition. Elsevier Mosby.
3. EN Marieb and K Hoehn: Human Anatomy and Physiology. 9th Edition, 2012. Pearson Benjamin Cummings.

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. John D. Bancroft and Marilyn Gamble (2007) Theory and Practice of Histological Techniques. Churchill Livingstone, 6th edition.
2. Practical handbook prepared by the Department of Biomedical Science.

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 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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YEAR 3 SEMESTER I (2017/2018)

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

Learning Outcomes

1. Apply critical thinking in problem solving and decision making.
2. Distinguish 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. Alec Fisher. (2011). *Critical Thinking: An Introduction* (2nd Edition). Cambridge University Press.
2. Richard W. Paul & Linda Elder. (2005). *Learn the Tools the Best Thinkers Use - Concise Edition*. Pearson/Prentice Hall.
3. Richard Platt, Jonathan S. Adelstein. (2007). *Communication*. Kingfisher.

Course Coordinator

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Course Assessment

Course will be assessed by Continuous Assessment (100%)

MIC3002: Fundamental Haematology (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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03-79676660/6661

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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03-79674902

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. Vogelstein, K. & Kinzler, K. W. (2002).*The Genetic Basis of Human Cancer* (2nd Edition). McGraw-Hill.
2. Knowles, M. & Selby, P. (2005). *Introduction to the Cellular and Molecular Biology of Cancer* (4th Edition). Oxford University Press.
3. King, R. J. B. & Robins M. K. (2006). *Cancer Biology* (3rd Edition). Pearson Prentice Hall.

Course Coordinator

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03-79676654

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: Critical 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. Harmening, D. M. (2007). *Laboratory Management: Principles and Processes*. D.H. Pub. & Consulting.
3. 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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03-79676611

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. Macer, D. R. J. (2006). *A cross-cultural introduction to Bioethics*. Eubios Ethics Institute.
2. 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. Explain the mechanisms of action, pharmacokinetics and adverse effects of drugs.
2. Distinguish pharmacological actions of drugs used in specific diseases.
3. Interpret concepts and techniques in classical pharmacology research, clinical trials, GCMS, HPLC, pharmacoequivalence 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. (2011). *Rang and Dale's Pharmacology* (7th Edition). Elsevier Churchill Livingstone.
2. Katzung, B., Masters, S. & Trevor, A. (2011). *Basic and Clinical Pharmacology* (12th Edition). McGraw Hill Professional.
3. Harvey, R. A. (2012). *Lippincott's Illustrated Reviews: PHARMACOLOGY* (5th Edition). Lippincott William & Wilkins.

Course Coordinator

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Course Assessment

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

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%)

YEAR 4 SEMESTER I (2018/2019)

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

Learning Outcomes

1. Conduct a 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.

References

Current scientific papers, individual laboratory protocols

Course Coordinator

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03-79674948 / 03-79676455

Course Assessment

Not applicable

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%)

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%)

YEAR 4 SEMESTER II (2018/2019)

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 exposes the students to scientific research techniques. Students are given the opportunity to conduct research independently from a selection of fields. The course trains student 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 Supervisor's evaluation (20%) Oral presentation (40%) Written thesis (40%)

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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03-79674902

Course Assessment

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

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%)

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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03-79674901

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. Micklos, D. A., & 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

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%)

YEAR 4 SPECIAL SEMESTER (2018/2019)

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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2015/2016

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 nursing leaders 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!

Khatijah Lim Abdullah
Head
Department of Nursing Science

ACADEMIC STAFF

HEAD OF DEPARTMENT

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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. Ever since its formation, the unit has been involved in the undergraduate teaching leading to Bachelor in Nursing Sciences.

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 semester 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

Courses Leve	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	6
	GIG 1005	*Jalinan Masyarakat*	2
	GKX XXXX	Co-Curriculum Course	2
		External Faculty Elective *Kursus Elektif Luar Fakulti* (KELF)	4
	Total		22
Faculty Courses	Core Courses*		116
	Elective Courses *Kursus Elektif (Pilihan Jabatan)*		4
Total			**142**

COURSE STRUCTURE

Year 1 (2015/2016)

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	MTEJ1111	Basic Medical Science I	3
	MTEJ1113	Nursing Process	2
	MTEJ1114	Nursing Skills I	2
	MTEJ1117	Effective Communication in Nursing	2
	MTEJ1118	Health Psychology	2
	MTEJ1171	Nursing Practice I	2

Semester II

Category	Course Code	Course Name	Credits
University Course	GIG 1002	Ethnic Relations	2
	GIG 1004	Information Literacy	2
Core Courses	MTEJ1112	Basic Medical Science II	2
	MTEJ1115	Nursing Skills II	4
	MTEJ1116	Pharmacology and Handling of Medication	2
	MTEJ1119	Sociology in Nursing	2
	MTEJ1120	Parasitology and Microbiology	2
	MTEJ1172	Nursing Practice II	2

Special Semester

Category	Course Code	Course Name	Credits
University Course	GIG1005	Social Engagement	**2**

Year 2 (2016/2017)

Semester I

Category	Course Code	Course Name	Credits
University Course		Faculty's External Elective Course	3
	GLT XXXX	English for Communication Programme	3
Core Course	MTEJ2111	Basic Medical Science III	3
	MTEJ2113	Primary Health Care & Public Health	2
	MTEJ2115	Medical Nursing I	2
	MTEJ2117	Surgical Nursing I	2
	MTEJ2119	Nursing Concepts	2
	MTEJ2171	Nursing Practice III	4

Semester II

Category	Course Code	Course Name	Credits
University Course	GLT XXXX	English for Communication Programme	3
Core Course	MTEJ2112	Basic Medical Science IV	3
	MTEJ2114	Family Health & CommunityHealth Nursing I	2
	MTEJ2116	Medical Nursing II	2
	MTEJ2118	Surgical Nursing II	2
	MTEJ2172	Nursing Practice IV	4
Elective Course	MTEJ2301	Moral and Ethics in Nursing Profession	2

Year 3 (2017/2018)

Semester I

Category	Course Code	Course Name	Credits
University Course		Faculty's External Elective Course	3
Core Course	MTEJ3111	Family Health & Community Health NursingII	2
	MTEJ3113	Obstetrics and Gynecology Nursing	3
	MTEJ3114	Paediatrics Nursing	2
	MTEJ3115	Critical Thinking in Nursing	2
	MTEJ3116	Nursing Research	2
	MTEJ3171	Nursing Practice V	4

Semester II

Category	Course Code	Course Name	Credits
University Course		Faculty's External Elective Course	3
		Co-Curriculum	2
Core Course	MTEJ3112	Family Health and Community Health Nursing III	2
	MTEJ3117	Statistics in Nursing Research	2
	MTEJ3118	Mental Health Nursing	2
	MTEJ3119	Counseling Skills for Nurses	2
	MTEJ3120	Management and Leadership in Nursing	2
	MTEJ3172	Nursing Practice VI	4
Elective Course	MTEJ3301	Information Technology in Nursing	2

Year 4 (2018/2019)

Semester I

Category	Course Code	Course Name	Credits
Core Course	MTEJ4111	Emergency, Intensive and Perioperative Nursing	3
	MTEJ4112	Gerontology Nursing	2
	MTEJ4113	Management Strategies	2
	MTEJ4180	Nursing Research Project	3
	MTEJ4171	Nursing Practice VII	3
	MTEJ4173	Internship I	2

Semester II

Category	Course Code	Course Name	Credits
Core Course	MTEJ4114	Transcultural Nursing	2
	MTEJ4115	Teaching Function for Nurses	2
	MTEJ4116	Professionalism & Legal Aspects in Nursing	2
	MTEJ4172	Nursing Practice VIII	4
	MTEJ4174	Internship II	2

Special Semester

Category	Course Code	Course Name	Credits
Core Course	MTEJ4175	Internship III	5

Note

i. *Students are only allowed a total of 18 credits in Semester 1 Year 1.*
ii. *Students are allowed to register maximum 20 credit hours during normal semester and 9 credit hours in special semester.*
iii. *Information is subjected to changes according to University's ruling.*

COURSE SUMMARY

YEAR I SEMESTER I (2015/2016)

MTEJ 1111: 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 structure, function and chemical reactions in the human cell.
3. Describe the main macro molecule and its function in the human cell.
4. Explain the relationship between macro molecule in carbohydrate lipid and protein metabolism.
5. Discuss the importance of the relationship of bodily changes and alterations in body systems that occur due to diseases.

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 and
- Integumentary

Reference Texts

1. Applegate, E.J. (2010). *Study guide for the Anatomy & Physiology Learning System*, (4th Ed.) London : W.B. Saunders Co.
2. Barret, K. E. (2010) Ganong's. *Review of Medical Physiology* (23th ed.) New York: McGraw Hill Medical.
3. Carola, R., Harley, J.P & Norback, C.R. (1992). *Human Anatomy & Physiology.* New Cork : McGraw-Hill Inc.
4. Marieb, E.N. (2008). *Anatomy & Physiology* (9th Ed). San Francisco: Pearson Benjamin Cummings.
5. Thibodeau, G.A (2003). *Anthony's Textbook of Anatomy & Physiology* (17th ed.). St. Louis : Mosby
6. Tortora, G. J. (2009). *Principles of Anatomy and Physiology* (12th Ed.). Hoboken, NJ: John Wiley & Sons.

Course Coordinator:

Course Assessment

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

MTEJ 1113: Nursing Process

2 credits

Learning Outcomes:

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

1. Identify the purpose of theories and models in nursing education and clinical practice.
2. Describe clearly the steps and activities of the nursing process when providing care to patients.
3. Integrate nursing process when providing individualized and systematic care to patients.
4. Plan a standard and individualized care plan based on nursing process.
5. Explain the importance of the use of nursing process when managing patients in health care services.

Course Synopsis

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

Reference Texts

1. Alfaro, R. (2009). *Applying Nursing Process: A Tool for Critical Thinking (7th Ed.)* Lippincott Williams & Wilkins Philadelphia.
2. Cox, C. L., (2010). *Physical Assessment For Nurses,* Wiley-Blackwell Pub., Ames, Iowa
3. Iyer, P. W., Taptich, B. J. & Bernocchilosey, D (1995). *Nursing Process and Nursing Diagnosis* W.B .Saunders Co. Philadelphia.
4. Kemp, N. (1994).*The Nursing Process and Quality Care* San Diego, California.
5. Riehl, J.P. & Roy, S.C. (1980). *Conceptual Models For Nursing Practice, (2nd Ed.)* Appleton-Century –Crofts, New York.
6. Rorden , J.W. & Taft, E. (1990). *Discharge Planning Guide For Nurses* W.B Saunders Co. Philadelphia.
7. Thompson, J. M., McFarland, G.., Hirsh, J. E. & Tucker, S. M. (2002). *Mosby's Clinical Nursing* (5th. Ed.) Mosby Co., St Louis.
8. Wilkinson, J. M. (2007) *Nursing Process and Critical Thinking* (4th Ed). New Jersey : Pearson Prentice Hall.

Course coordinator:

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

MTEJ 1114: Nursing Skills I

2 credits

Learning Outcomes:

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

1. Explain the concepts of health and nursing process
2. Explain the nursing skills performed for effective care of patient using nursing process.
3. Demonstrate the basic nursing procedures and body mechanic while providing nursing care.
4. Write report and basic reflective writing.
5. Discuss the importance of nursing process in improving holistic nursing care to patients.

Course Synopsis

The course includes topics regarding:

- Nursing Process
- Report writing and reflective report
- Body mechanics and positions in nursing
- Comfort and safety needs of patient
- Handling of patients for ward admission and discharge

Reference Texts

1. Berman, A J. (2010) Kozier & Erb's *Fundamentals of Nursing Concepts, Process And Practice* (9th Ed.) New York. Prentice-Hall.
2. Grodner, M., Roth, S.L., Walkingshaw, B.C. (2012) *Nutritional Foundations and Clinical Applications: A Nursing Approach* (5th Ed.) Elsevier Mosby.
3. Potter & Perry (2010) *Basic Nursing Theory And Practice* (7th Ed.) New York : Mosby
4. 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:

Course Assessment

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

MTEJ 1117: Effective Communication In Nursing

2 credits

Learning Outcomes:

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

1. Explain effective communication styles.
2. Communicate effectively when taking history and when providing nursing care.
3. Demonstrate listening and questioning skills during clinical interaction with patient, family and health care personnel.
4. Analyze critically the outcome of interaction that assists in nursing care of patients.
5. Discuss the importance of communication styles, the use of verbal and body language.

Course Synopsis

This course includes:

- Communication style and behavior.
- The use of verbal and body language which is appropriate in patient care.
- Listening skills and becoming effective listener.
- Questioning skills in an interview.
- Students' involvement in role play and interaction activity using scenario in the clinical area.

Reference Texts

1. Arnold, E. & Boggo, K.U. (2003) *Interpersonal Relationship : Professional Communication Skills For Nurses* (4th Ed.) W.B. Saunders Company: St. Louis.
2. Balzer-Riley, J. W. (2007) *Communication in nursing* (6th Ed.) Mosby :St. Louis.
3. Berglund, C. & Saltman, D. (2002) *Communication For Health Care* (1st Ed.) Oxford University Press, UK.
4. Morrison, P. & Burnard, P. (1997) *Caring And Communicating : The Interpersonal Relationship In Nursing* (2nd Ed.) Palgrave, New York.

Course coordinator:

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

MTEJ 1118: Health Psychology

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify the psychological, psychosocial and psychobiological aspects that have impacts on a healthy and sick individual.
2. Explain the relationship of developmetal theories in cognitive, psychosocial and morals when perfoming assessment on patient.
3. Describe the trastition of life and crisis from conception to adulthood.
4. Enhance positive self developmet and confidence when communicating with others.
5. Discuss the ecological, environmental and cultural influence in developing health behaviours.

Course Synopsis

This course aims at identifying several important issues on psychological health and psychological conception to adulthood. This course consists of developmental development from theories on cognition, psychosocial and morals. The focus is in on the concept of self-development to help students enhance their confidence when communicating with others.

Reference Texts

1. Berk, L. E. (2010). *Development through the lifespan* (5th Ed.) Boston: Allyn & Bacon
2. Niven, N (1994), *Health Psychology : An Introduction For Nurses And Other Health Care Professionals* (2nd Ed.) Churchill Livingstone.
3. Papalia, D.E, Olds, S.W., Feldman, R (2009) *Human Development*,:McGraw Hill :New York Boston
4. Sarafino, E.P. (2006). *Health psychology: biopsychosocial interactions* (5th Ed.) John Wiley & Sons. New Jersey.
5. Taylor, S.E. (2006). Health psychology (6th Ed.). NY:McGraw-Hill Companies, Inc.
6. Woolfolk, A. (2010). *Educational Psychology*. (11th Ed.). Pearson Education Inc. New Jersey.

Course coordinator:

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

MTEJ 1171: Nursing Practice I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply the principles, and theories in nursing practice.
2. Apply nursing process in basic nursing care to patient based on using nursing theories and practice.
3. Perform individualized and systematic nursing care based on nursing process.
4. Practice nursing procedures using principles of body mechanics when giving nursing care to patients.
5. Write effective nursing report.
6. provide nursing care with the importance of patients' cleanliness and environment in ensuring client comfort and safety.

Course Synopsis

The course includes aspects of clinical practices regarding:

- Principles, theory and nursing practice
- Nursing process in nursing
- Application of knowledge on health sciences, behavior and nursing in practice.
- Personal hygiene
- Principles of body mechanics and
- Nursing report

Reference Texts

1. Berman, A J. (2010). Kozier & Erb's *Fundamentals of Nursing Concepts, Process and Practice* (9th Ed.) New York. Prentice-Hall
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier
3. Ignativicus, D.D. and Bayne M.V. (2002) *Medical Surgical Nursing* – critical thinking for collaborative care Philadelphia : W.B. Saunders
4. Potter & Perry (2010) *Basic Nursing Theory And Prac*tice (7th Ed.) New York : Mosby
5. 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.
6. Williams, L & Hopper P.D., (2008). *Understanding Medical Surgical Nursing* (3th Ed.) Philadelphia: F.A. Davis Co.

Course coordinator:

Course Assessment
Continuous assessment 100% (Clinical).

YEAR 1 SEMESTER 2 (2015/2016)

MTEJ 1112: Basic Medical Sciences II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Describe the macroscopic and microscopic structure of nervous, endocrine, sensory and reproductive system.
2. Explain the structure, function and physiology of nervous, endocrine, sensory and reproductive system.
3. Apply the knowledge of organ structure and function in disease development and the rationale of the nursing care given.
4. Identify the characteristics of malfunctions in the nervous system, endocrine, sensory and reproductive system.
5. Discuss the integration of bioscience knowledge in understanding of disease process.

Course Synopsis

This course covers the teaching of:

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

Reference Texts

1. Applegate, E.J. (2010). *Study guide for the Anatomy & Physiology Learning System*, (4th Ed.) London : W.B. Saunders Co.
2. Marieb, E.N. (2008). *Anatomy & Physiology* (9th Ed.) San Francisco: Pearson Benjamin Cummings.
3. Marieb, E.N., Wilhelm P.B., & Mallat J.B. (2010) *Human Anatomy* (6th Ed.) Pearson Education.
4. Thibodeau, G.A. & Paton, K.T. (2010). *Anatomy & Physiology* (7th Ed.)St. Louis: Mosby Elsevier.
5. Waugh, A &.Grant A., (2010). *Ross and Wilson Anatomy & Physiology in Health and Illness* (11th Ed.). China: Churchill Livingstone.
6. Martini, F.H., Timmons, M.J., Tallitsch, R.B., (2008) *Human Anatomy*, (6th Ed.) San Francisco: Pearson Benjamin Cummings.

Course coordinator:
Course Assessment
Course will be assessed by Continuous Assessment 40% and a Final Exam 60%.

MTEJ 1115: Nursing Skills II

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the basic principles of observations, nutrition, elimination and specimens collection.
2. Explain accurate assessment and planning of care before carrying out procedures on patients.
3. Perform basic procedures on patients safely.
4. Perform surgical procedures on patients safely.
5. Explain the nursing care of patient with oxygen therapy, urinary catheter, intravenous therapy and blood transfusion.
6. Demonstrate skills and caring attitudes when providing care to clients and managing the deceased.

Course Synopsis
This course consists of teaching on:

- principles of observation
- basic nursing procedures (oxygen, nasogastric tube and urinary catheter)
- Nursing patients with oxygen therapy, nasogastric tube and urinary catheter.
- general pre and post operative nursing care
- surgical asepsis and procedures
- fulfilling elimination needs
- specimens collection
- management of deceased patients

Reference Texts

1. Berman, A. & Synder, S. (2012). *Kozier & Erb's Fundamental of Nursing: Concepts, Process and Practice.* (5th Ed.) Pearson Education Inc. United States.
2. 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.
3. De Laune, S.C. & Ladner, P.K. (2011). *Nursing Fundamentasl: Standards & Practice.* Cengage Learning Asia Pte. Ltd. Singapore.
4. Potter, P.A., & Perry, A.G., (2007) *Basic Nursing: Essential for Practice.* (6th Ed.) St. Louis, Mosby Elsevier.
5. Potter, P.A., & Perry, A.G., (2008). Fundamentals of Nursing (7th Ed.) St. Louis, London: Mosby.
6. Rasnah A. R, Salizar M.L, (2005). *Prosedur Kejururawatan menggunakan Proses Kejururawatan,* Petaling Jaya, Pearson Prentice Hall.
7. 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
8. Walsh. M., Crumbie. A. & Watson J.E., J.A. (2007) *Watson's Clinical Nursing And Related Sciences* (7th Ed.) Edinburgh; New York: Bailliere Tindall/Elsevier.

Course coordinator:

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

MTEJ 1116: Pharmacology and Handling of Medication

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify knowledge, principles and basic pharmacology terminologies and classification of drugs.
2. Explain 6 main principles in administering topical, oral medication and injection.
3. Calculate the dosage of oral drugs, injections, dilution of solution safely and effectively.
4. Prepare parenteral drugs from ampoules and vial without violating the principles.
5. Identify the side effects or complications that arise.
6. Discuss responsibilities in handling medication safely.

Course Synopsis

This course includes teaching on:

- pharmacological terminology and drugs classification
- calculation of oral medications and injections
- procedures on administration of medications – orally, topical and injections
- nurses responsibilities during administration of medication

Reference Texts

1. 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.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Broyles B.E.; Reiss, B.S. & Evans M.E. (2007) *Pharmcological Aspects of Nursing Care* (7th Ed) New York: Thomson Delmar Learning.
4. Holland jr, L.N. & Adams, M.P. (2012). *Cores concepts in Pharmacology.* (3rd Ed.) Pearson Education Inc. United States.
5. Kee, J.L.; Hayes, E.R. & McCuistion, L.E. (2005) *Pharmacology: A Nursing Process Approach* (5th Ed) Philadelphia: W.B. Saunders Co.
6. Lilley, L.L., Harrington, S., & Synder, J.S. (2005). *Pharmacology and the Nursing Process.* (4th Ed.) Mosby Inc. Philadelphia.
7. Lilley, L.L.; Harrington, S. & Snyder, J.S. (2005) *Pharmacology and the Nursing Process* (4th Ed.) St. Louis: Mosby Elsevier.
8. Philips, L.D. (2010) *Manual of I.V. Therapeutics: Evidence-Based Practice for Infusion Therapy* (5th Ed) Philadelphia: F.A. Davis Co.
9. Potter, P.A., & Perry, A.G., (2008). Fundamentals of Nursing (7th Ed.) St. Louis, London: Mosby.
10. Weinstein S,M. (2006) *Plumer's Principles and Practice of Intravenous Therapy* (8th Ed.) Philadelphia: Lippincott Williams & Wilkins.

Course coordinator:

Course Assessment

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

MTEJ 1119: Sociology in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain basic concepts in sociology in relation to culture, community, norms and values.
2. Identify human as a socio-culture being which has cultural characteristics, beliefs, norms, values and unique roles in community.
3. Discuss the relationship between sociology and individual health behaviour in perceptions toward disease and rehabilitation.
4. Identify the impacts of health behaviour in Malaysia based on belief pattern and health practices.
5. Discuss the hospital as a social institution that play a role in providing services to patient.
6. Discuss the impacts of social change, social and cultural imbalance on health and disease.

Course Synopsis

The course is planned to include topic such as introduction and scope in sociology, human as a social cultural being, cultural characteristics, beliefs, norms, role, status, socialization. It also includes social, economical and political effects in Malaysian community and social factors that influence health and diseases.

Reference Texts

1. Cockerham, W.C. (2010). *Medical Sociology*. (11th Ed.) Pearson Education Inc. New Jersey.
2. Ember, C. And Ember, M. (1988) *Culture Anthropology* (5th Ed.) Prentice-Hall International Edition. Englewood Cliffs, New Jersey.
3. Hashim Awang (1994) *Antropologi Perubatan* DBP. Kuala Lumpur.
4. Helman, C. (1990) *Culture, Health and Illness: An Introduction for Health Professionals* (2nd Ed.) Butterworth Heinemann Ltd. London.
5. Scrambler, G. And Patrick, D. (1991) *Sociology As Applied To Medicine* Bailliere Tindall. London.

Course coordinator:

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

MTEJ 1120: Parasitology and Microbiology

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the etiology, pathogenesis and clinical characteristics of bacteria, virus, fungi, spirochete, protozoa, parasites and filariasis.
2. Explain the purpose for classification and identification of organism.
3. Discuss the epidemiology and prevention of communicable disease.
4. Discuss safety practices, competency and current skills in the safety needs in hospital and community.
5. Discuss the positive behaviour towards the effective roles in the community in prevention of communicable diseases.
6. Explain the importance of communications skills in public health education towards prevention of communicable diseases

Course Synopsis

The objective of this course is to expose students to knowledge on microbiology, parasitology, immunology and infectious control. Student will be able to demonstrate management and communication skills in control of communicable disease in hospital and community.

Reference Texts

1. Abbas, A., Lichtman, A. (2011) *Basic immunology : functions and disorders of the immune system* Philadelphia, PA : Saunders/Elsevier.
2. Brock, D.T. et. Al (1993). *Asas mikrobiologi & penggunaannya*. Kuala Lumpur : Dewan Bahasa & Pustaka.
3. Inglis, T.J.J., Speers, D., Leung, and M.J. (2002). *Microbiology and Infection* Edinburgh: New York: Churchill Livingstone.
4. Levinson**,** W., (2008) *Review of medical microbiology and immunology* (10th Ed.) New York: McGraw-Hill Medical.
5. Peters, W., & Pasvol, G (2002) *Topical Medicine & Parasitology* (5th Ed.) St. Louis: Mosby.
6. Ryan, Kenneth J., Ray C.G., Ahmad, N, Drew, W.L., Plorde, J.J. (2010) *Sherris medical* microbiology (5th Ed**.).** New York: Mc Graw Hill Medical.
7. Stucke, V.A (1993). *Microbiology For Nurses* (7th Ed.) ELBS.
8. Wan Omar Abdullah (1996). *Imunoparasitologi Perubatan*. Kuala Lumpur : Dewan Bahasa & Pustaka.

Course coordinator:

Course Assessment

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

MTEJ 1172: Nursing Practice II

2 credits

Learning Outcomes:

At the end of the course students able to :

1. Perform observations on the patient accurately and safely.
2. Provide general nursing care to patients using oxygen, nasogastric tube feeding, intravenous therapy and urinary catheter.
3. Administer medication accurately and safely based on 6R principles.
4. Provide nursing care to patients who have undergone surgery.
5. Demonstrate safe nursing care on patients and management of the deceased person.

Course Synopsis

This course includes clinical practice aspects on:

- Principles of on observation.
- Basic procedures and nursing patients on oxygen, nasogastric tube feeding and urinary catheter.
- Nursing patients undergoing surgery and surgical asepsis.
- Provide elimination needs, collect specimens and management of the deceased person.

Reference Texts

1. Berman, A J. (2010) Kozier & Erb's *Fundamentals of Nursing Concepts, Process and Practice* (9th Ed.) New York. Prentice-Hall.
2. Berman, A. & Synder, S. (2012). *Kozier & Erb's Fundamental of Nursing: Concepts, Process and Practice.* (5th Ed.) Pearson Education Inc. United States.
3. 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.
4. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
5. De Laune, S.C. & Ladner, P.K. (2011). *Nursing Fundamentasl: Standards & Practice.* Cengage Learning Asia Pte. Ltd. Singapore.
6. Potter & Perry (2010) *Basic Nursing Theory And Prac*tice (7th Ed.) New York : Mosby.
7. 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:

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

YEAR 2 SEMESTER 1 (2016/2017)

MTEJ 2111: Basic Medical Sciences III

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the etiology of disease and the effects of pathophysiology on the body structure and function.
2. Explain basic and genetic development in the human body.
3. Compare chemotherapy used in virus, bacterial and fungal infection.
4. Describe the clinical manifestation in altered body system and effect of shock.
5. Discuss the nursing care and rehabilitation process in patient with alterations in musculoskeletal system.

Course Synopsis

The course includes teaching of:

- Effects of pathophysiology on body structures and functions.
- Clinical manifestations of alterations in cardiac function, pulmonary, muscular skeletal , renal, neurology, and gastro intestinal system.
- Management of hemorrhage, shock, fluid and electrolyte imbalance.

Reference Texts

1. Applegate, E.J., & Thomas, P. (1995). *The Anatomy & Physiology Learning System* Textbook. Philadelphia: W.B.Saunders Co.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Chabner, B. & Longo,D.L.(2011) *Cancer Chemotherapy and Biotherapy : principles and practice* (5th Ed.) Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health.
4. Ganong, W.F. (1995). *Review of Medical Physiology* (17th Ed.). Connecticut: Appleton & Lange.
5. McQuillan, K.A., Von Rueden, K.T., Robbi Lynn Hartsock, R.L. & Flynn, M.B (2002). *Trauma Nursing From Resuscitation Through Rehabilitation* (3rd Ed.). St. Louis: Mosby.
6. Ryan, Kenneth J., Ray C.G., Ahmad, N, Drew, W.L., Plorde, J.J. (2010) *Sherris medical microbiology* (5th Ed.). New York: Mc Graw Hill Medical.
7. Schoen, D. C. (2000) *Adult orthopaedic nursing* Philadelphia: Lippincott.
8. Walsh. M., Crumbie. A. & Watson J.E., J.A. (2007) *Watson's Clinical Nursing And Related Sciences* (7th Ed.). Edinburgh: Baillière Tindall Elsevier.
9. Wilson, K.J.W. (2002). *Ross and Wilson Anatomy & Physiology in Health and Illness* (9th Ed.). Hong Kong: Longman Group.
10. Yarbro, C. H., Wujcik, D. & Gobel, B.H. (2011). *Cancer nursing: principles and practice* (7th Ed.). Sudbury, MA: Jones and Bartlett Publishers.

Course coordinator:
Course Assessment
Course will be assessed by Continuous Assessment 40% and a Final Exam 60%

MTEJ 2113: Primary Health Care & Public Health

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain basic concepts and elements in primary health care.
2. Describe factors that influence primary health care from health promotion and prevention perspective.
3. Explain aspects of nursing roles in collaborative health care in primary health.
4. Discuss issues in primary health care and health care system in Malaysia.
5. Discuss the promotion and prevention health care activities at hospital, clinic and community level.

Course Synopsis

This course includes:

- Concepts and elements of health and primary health.
- Health promotion and nursing roles in health promotion.
- Level of prevention.
- Issues in health care.

Reference Texts

1. Coles, L. & Porter, E. (2008) *Public health skills: a practical guide for nurses and public health practitioners.* Oxford: Blackwell Pub.
2. Francis, K., & McFarlane, J. M. (2008). *Community as partner : theory and practice in nursing, Australian and New Zealand adaptation. 2008*. Broadway, N.S.W: Lippincott Williams and Wilkins.
3. Lundy, K.S. & Janes, S. (2010). *Community Health Nursing: Caring for the Public's Health* (2nd Ed.) Sudbury, Massachusetts: Jones and Bartlett Publishers.
4. McMurray, A & Clendon, J. (2011), *Community Health and Wellness: Primary Health Care in Practice* (4th Ed.).Churchill Livingston Elsevier.
5. S.K Sharma & Monika Tomar (2005). *Principles of Growth and Development*: Gyan Publishing House.
6. Salleh, H. M. (2000). *Keluarga dan Kesihatan*. Kuala Lumpur: Dewan Bahasa dan Pusaka. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.). St Louis: Mosby.
7. Sines, D., Saunders, M. & Forbes-Burford, J. (2009). *Community Health Care Nursing.* (4th Ed.) Singapore: Blackwell Science, London.
8. Smith C.M.,& Maurer F.A. (2009).*Community/Public Health Nursing Practice: Health for Families and Populations*. (4th Ed.) St.Louis Missouri: Saunders Elsevier.
9. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.). St Louis: Mosby.
10. Susan Clemen-Stone, Sandra L. McGuire, & Eigsti, D. G. (2002). *Comprehensive community health nursing: family, aggregate & community practice*. Mosby: St Louis.

Course coordinator:

Course Assessment

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

MTEJ 2115: Medical Nursing I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the health concepts from the perspectives of individual, family and community.
2. Explain the difference between acute and chronic disease.
3. Perform health assessment for the purpose of confirming diagnosis, therapeutic and palliative care.
4. Identify principles of barrier nursing when providing nursing care to patients with communicable disease.
5. Discuss the importance of health education in prevention and spread of disease via vector, touch, air and sexual contact.

Course Synopsis
This course includes aspects of:

- Concepts of health promotion.
- Ways in disease prevention and health rehabilitation.
- health education
- Individual and family care in communicable disease.

Reference Texts

1. Alexander, M. F, Fawcett, J.N & Runciman P.J. (2006) *Nursing Practice Hospital And Home The Adult* (3rd Ed.)Edinburgh: Churchill Livingstone Elsevier.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Daniels, R. & Nicoll, L.H. (2011). *Contemporary Medical Surgical Nursing*. International Edition. (2nd Ed.) Canada Nelson Education Ltd.
4. Devies, B.M. (1995) *Public Health, Preventive Medicine And Social Services* (6th Ed.) California : Arnold Publishers.
5. Eric Lim, Loke, Y.K., & Thompson, A. (2007). *Medicine & Surgery: An integrated textbook.* Churchill Livingstone Elsevier. Philadelphia.
6. Ignativicius, D.D & Workman M.L. (2009**).** *Medical-surgical nursing: critical thinking for collaborative care***.** *(*6th Ed.). St.Louis: Saunders Elsevier.
7. Ingnativicus, D.D & Bayne, M.V. (2001).*Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunder.
8. LeMone, P. & Burke, K. M. (2008) *Medical-surgical nursing care: Critical Thinking in Client Care* (4th Ed.) New Jersey: Pearson Prentice Hall.
9. LeMone, P., Burke, K. & Bauldoff, G. (2011). *Medical Surgical Nursing: Critical Thinking in Patient care.* (5th Ed). Person. Us.
10. Royle, J.A.M. (2002) *Watson's Clinical Nursing and Related Sciences 6th ed.* Philadelphia: Bailliere Tindall Publishing.
11. Walsh, M.& Crumbie, A, (2007) *Watson's Clinical Nursing And Related Sciences 7th ed.* Philadelphia : Bailliere Tindall Publishing.
12. Williams, L. S. & Hopper, P.D. (2008). *Understanding medical surgical nursing* (3rd Ed.). Philadelphia: F.A. Davis Co.

Course coordinator:
Course Assessment
Course will be assessed by Continuous Assessment 40% and a Final Exam 60%.

MTEJ 2117: Surgical Nursing I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the basic pre and post operative care for surgical patients.
2. Describe type of anesthetics drugs which is given to patients.
3. Identify the early signs of post operative complications through assessments, observations of vital signs and impending shock.
4. Describe immediate and continuous post operative care for patient after surgery.
5. Identify alterations in body fluid balance.
6. Discuss nursing care of patients with fluid and electrolyte and acid-base imbalance.

Course Synopsis

The course includes:

- Basic nursing care of pre and post operative.
- Post operative complications and discomfort
- Care of patient with fluid, electrolyte and acid base imbalances.

Reference Texts

1. Berman, A J. & Snyder,S. (2011) Kozier & Erb's *Fundamentals Of Nursing Concepts, Process And Practice* (9th ed.) New York. Prentice-Hall.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Daniels, R. & Nicoll, L.H. (2012). *Contemporary Medical Surgical Nursing*. International Edition. (2nd Ed.) Canada Nelson Education Ltd.
4. Eric Lim, Loke, Y.K., & Thompson, A. (2007). *Medicine & Surgery: An integrated textbook.* Churchill Livingstone Elsevier. Philadelphia
5. Ignativicius, D.D & Workman M.L. (2005).*Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: Saunders.
6. Ingnativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunders.
7. LeMone, P. & Burke, K. M. (2008) *Medical-surgical nursing care: Critical Thinking in Client Care* (4th Ed.) New Jersey: Pearson Prentice Hall.
8. LeMone, P., Burke, K. & Bauldoff, G. (2011). *Medical Surgical Nursing: Critical thinking in Patient care.* (5th Ed.)Pearson. US.
9. Potter, P. A., Perry, G., Hall, A. & Stockert P.A. (2009) *Fundamentals of nursing* (7th. Ed.). St. Louis: Mosby.
10. Walsh, M.& Crumbie, A, (2007) *Watson's Clinical Nursing And Related Sciences* (7th Ed.) Philadelphia : Bailliere Tindall Pub.
11. Watson, J. E. & Royle, J. A. (2002) *Watson's Clinical I Nursing & Related Sciences* (6th Ed.) London: W.B. Saunders.
12. Williams, L. S. & Hopper, P.D. (2008). *Understanding medical surgical nursing* (3rd Ed.) Philadelphia: F.A. Davis Co.

Course coordinator:

Course Assessment

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

MTEJ 2119: Nursing Concepts

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concept of "health and wellness" based on specific health model.
2. Explain the relationship of relevant nursing concepts in the care of patient, family and community.
3. Explain the effect of diseases and sensory deprivation towards individual and the role of family in patient's rehabilitation.
4. Discuss appropriate nursing concepts in primary and clinical care.

Course Synopsis

This course covers main topic and the analysis of main concepts related to patient care. The students will be aware of the most recent development and change in rehabilitation, therapeutic relationship, health and pain management, death and dying, sensory deprivation, stress, crisis and crisis management. Through the knowledge of these concepts, the nurse will understand and apply the concepts in the care of patients, family and community.

Reference Texts

1. Argoff, C. E. & McCleane, G. (2009). *Pain management secrets* (3rd Ed.). Philadelphia, PA: Mosby/Elsevier.
2. Berman, A J. (2011) Kozier & Erb's *Fundamentals of Nursing Concepts, Process and Practice* (9th Ed.) New York. Prentice-Hall
3. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outcome* (8th Ed.) St. Louis Saunders Elsevier.
4. Chitty, K. K. & Black, B.P. (2011). *Professional Nursing: concepts & challenges.* (6th Ed.) Maryland: Saunders Elsevier.
5. Leininger, M. (2002) *Transcultural nursing: concepts, theories, research and practice* (3rd rev. Ed.) New York: McGraw-Hill Medical.
6. Thompson, I.E., Melia K.M., Boyd, K.M. & Horsburgh, D. (2006) *Nursing Ethics*. (5th Ed.). London: Churchill Livingstone.
7. Watson, J. (2009). *Assessing and Measuring Caring in Nursing and Health Science*: (2nd Ed.). New York: Springer Publishing Co.

Course coordinator:

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

MTEJ 2171: Nursing Practice III

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply the knowledge, skills and caring attitude in care of patient in medical and surgical wards.
2. Give basic and specific care of patient with communicable disease and acute and chronic medical problem.
3. Give basic and specific nursing care to patient during pre-operative and pos-operative period.
4. Identify the role of nurse in health promotion and prevention of communicable and non-communicable disease.

Course Synopsis

This course covers the aspect of clinical practice, treatment of patient with communicable disease, general and specific care of medical and surgical problem. This course also includes the role of nurse in health promotion in prevention of communicable and non communicable disease using strategies based on the patient's need.

Reference Texts

1. Berman, A J. & Snyder, S. (2011) *Kozier & Erb's Fundamentals Of Nursing Concepts, Process And Practice* (9th Ed.). New York. Prentice-Hall.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Corner, J. & Bailey,C. (2008) *Cancer nursing : care in context* (2nd Ed.). Oxford: Blackwell Pub.
4. Ignativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunders.
5. Lundy, K.S. & Janes, S. (2010). *Community Health Nursing: Caring for the Public's Health* (2nd Ed.). Sudbury, Mass: Jones and Bartlett Publishes.
6. Schoen, D. C., (2000) *Adult orthopedic nursing*. Philadelphia: Lippincott.
7. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.) St Louis: Mosby.
8. Walsh, M.& Crumbie, A, (2007) *Watson's Clinical Nursing And Related Sciences* (7th Ed.) Philadelphia : Bailliere Tindall Publishing.
9. Watson, J.E. & Royle, J.A. (2002) *Watson's Clinical I Nursing & Related Sciences* (6th Ed.) London: W.B. Saunders.

Course coordinator:

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

YEAR 2 SEMESTER 2 (2016/2017)

MTEJ 2112: Basic Medical Sciences IV

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain congenital abnormalities and condition in the nervous, immunity, ophthalmology, otorinolaringology and integumentary system.
2. Explain concept and terminology of neoplasia and the spread and effect of neoplasia.
3. Identify clinical investigations and specific assessment for malignancy.
4. Explain medical and surgical management for cancer patients.
5. Discuss the medical and palliative care for cancer patients.
6. Discuss the management of pediatric emergency cases.

Course Synopsis

This course includes:

- Pathophysiology effects on structure and function of the body.
- Congenital abnormalities, condition, diseases of the nervous system, immunity system, ophthalmology, otorinolaringology and integumentary system.
- Pediatric emergencies.
- Neoplasm and antineoplastic medication.
- Management of patient with cancer.
- Palliative care

Reference Texts

1. Black, J.M. and Hawks J.H, (2008). *Medical Surgical Nursing – Clinical Management for Positive Outcome* (8th Ed.) St. Louis Saunders Elsevier.
2. Chabner, B. & Longo,D.L.(2011).*Cancer chemotherapy and biotherapy : principles and practice* (5th Ed.) Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health.
3. Ignativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing - A Nursing Process Approach* Philadelphia: W.B. Saunders.
4. Le Mone, K & M.Burke. K. (2001). *Medical Surgical Nursing – Critical Thinking in Client Care* London: Addison – Wesley.
5. Marieb, E.N. (2008). *Anatomy & Physiology* (9th Ed.) San Francisco: Pearson Benjamin Cummings.
6. Ryan, Kenneth J., Ray C.G., Ahmad, N, Drew, W.L., Plorde, J.J. (2010) *Sherris medical microbiology* (5th Ed.). New York: Mc Graw Hill Medical.
7. Schoen, D. C. (2000) *Adult orthopaedic nursing* Philadelphia: Lippincott.
8. Walsh. M., Crumbie. A. & Watson J.E., J.A. (2007) *Watson's Clinical Nursing And Related Sciences* (7th Ed.). Edinburgh: Baillière Tindall Elsevier.
9. White,L. & Duncan.G. (2002). *Medical-Surgical Nursing: An Integrated Approach* (2nd Ed.) United States.
10. Yarbro, C. H., Wujcik, D. & Gobel, B.H. (2011). *Cancer nursing: principles and practice* (7th Ed.) Sudbury, MA: Jones and Bartlett Publishers.

Course coordinator:
Course Assessment
Course will be assessed by Continuous Assessment 40% and a Final Exam 60%.

MTEJ 2114: Family Health & Community Health Nursing I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain concepts and objectives of family and community health nursing.
2. Explain family and community health service program in the Ministry of Health Malaysia.
3. Explain the factors that influence the status of family and community health.
4. Discuss the categories and roles of healthcare workers in family and community health services.
5. Give health education to family and community.
6. Explain the epidemiological concepts and roles of nurses in epidemic research.

Course Synopsis

The course prepares students with basic concepts in variation components in family and community healthcare. This course enables students to provide comprehensive service to family and community. This course includes:

- Concepts of family and community health
- Family as a service unit – objectives and aims
- Activity of family health service
- Factors that influence family health and community.
- Health environment program.
- Epidemiology in the context of family health and community care.

Reference Texts

1. Francis, K., & McFarlane, J. M. (2008). *Community as partner : theory and practice in nursing, Australian and New Zealand adaptation.* Broadway, N.S.W: Lippincott Williams and Wilkins.
2. S.K Sharma, & Monika Tomar (2005). *Principles of Growth and Development*: Gyan Publishing House.
3. Salleh, H. M. (2000). *Keluarga dan Kesihatan*. Kuala Lumpur: Dewan Bahasa dan Pusaka.
4. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.). St Louis: Mosby.
5. Simes , D. (1995). *Community Health Care Nursing* Blackwell Science, London
6. Smith, C. M.,& Maurer F. A. (1995). *Community Health Nursing : Theory And Practice* Churchill Livingstone, Longman.
7. Susan Clemen-Stone, Sandra L. McGuire, & Eigsti, D. G. (2002). *Comprehensive community health nursing: family, aggregate & community practice*. Mosby: St Louis.

Course coordinator:

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

MTEJ 2116: Medical Nursing II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Discuss nursing care and health education to patients with alterations in body system.
2. Demonstrate basic diagnostic procedure involving alteration in body system.
3. Discuss medical-legal aspects and implications in nursing aspects of disease management.

Course Synopsis:

The course includes:

- nursing care of patients with alterations of system in human body
- basic and diagnostic medical procedures
- oncology nursing and autoimmune disease

Reference Texts

1. Black,J.M. & Jacobs, E.M. (1999). *Luckman & Sorenson's Medical Surgical Nursing – A Psychophysiologic Approach* (4 Ed.) Philadelphia:W.B. Saunders.
2. Ingnativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunders.
3. Kozier, B., Erb, G & Wilkinson,J.M. (1998). *Fundamental of Nursing Concepts, Process & Practice* (5th Ed.) Singapore: Addison–Wesley
4. Le Mone, K & M.Burke. K. (2001). *Medical Surgical Nursing – Critical Thinking in Client Care* London: Addison – Wesley.
5. Potter & Perry (1995). *Basic Nursing Theory & Practice* (3rd Ed.) Philadelphia: Mosby.
6. Taylor, C., Lillis, C & Le Mone, P. (1989). *Fundamentals of Nursing. The Art & Science of Nursing Care* (4th Ed.) Philadelphia: J.B. Lippincott Co.
7. Watson, J.E. & Royle, J.A. (2002) *Watson's Clinical Nursing & Related Sciences* (6th Ed.) London: W.B. Saunders.
8. White,L. & Duncan.G. (2002). *Medical-Surgical Nursing: An Integrated Approach* (2nd Ed.) United States: Delmar.

Course coordinator:

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

MTEJ 2118: Surgical Nursing II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Discuss surgical nursing care for patient with alteration of respiratory, cardiovascular, gastrointestinal, genitourinary, endocrine, musculoskeletal and integumentary system
2. Explain the basic/diagnostic surgical procedure of the alteration of body system
3. Discuss the surgical nursing care for patient with cancer.
4. Give health education for surgical patients with alteration of body system and patient with cancer
5. Identify the needs and principles of aseptic practices, communication and safety in surgical care**.**

Course Synopsis:

This course comprises teaching regarding:

- nursing care of surgical patient with alteration of body system
- basic/diagnostic surgical procedure
- oncology surgical nursing
- health education

Reference Texts

1. Black,J.M. & Jacobs, E .M. (1999). *Luckman & Sorenson's Medical Surgical Nursing – A Psychophysiologic Approach* (4th Ed.) Philadelphia : W.B. Saunders.
2. Ingnativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing - A Nursing Process Approach.* Philadelphia: W.B. Saunders.
3. Le Mone, K & M.Burke. K. (2001). *Medical Surgical Nursing – Critical Thinking in Client Care* London: Addison – Wesley.
4. Kozier, B., Erb, G & Wilkinson,J.M. (1998). *Fundamental of Nursing Concepts, Process & Practice* (5th Ed.) Singapore:Addison – Wesley.
5. Potter & Perry (1995). *Basic Nursing Theory & Practice* (3rd Ed.) Philadelphia: Mosby.
6. Royle, J.A. & Walsh,M. (1992). *Watson's Medical-Surgical Nursing & Related Physiology* (4th Ed.) London: Bailliere Tindall.
7. Taylor, C., Lillis, C & Le Mone, P. (1989). *Fundamentals of Nursing. The Art & Science of Nursing Care* (4th Ed.) Philadelphia: J.B.Lipincott Co
8. White,L. & Duncan.G. (2002). *Medical-Surgical Nursing: An Integrated Approach* (2nd Ed.) United States: Delmar

Course coordinator:

Course Assessment

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

MTEJ 2172: Nursing Practice IV

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply basic practical knowledge in nursing and health education to patients with the following condition/disorders: respiratory, cardiovascular, GIT, renal, endocrine, CNS, ENT, hemopoietic and oncology.
2. Performs nursing procedures and assists in preparing patients for diagnostics / special procedures.
3. Discuss the medico legal implications in nursing.

Course Synopsis:

This course covers aspects of clinical practice in relation to:

- Nursing patients with conditions / disorders of body system and oncology.
- Diagnostic / special medical surgical procedures.
- Nurses' role in handling medico legal cases in nursing.

Reference Texts

1. Black,J.M. & Jacobs, E .M. (1999). *Luckman & Sorenson's Medical Surgical Nursing – A Psychophysiologic Approach* (4th Ed.) Philadelphia:W.B. Saunders.
2. Ingnativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing - A Nursing Process Approach* Philadelphia: W.B. Saunders.
3. Kozier, B., Erb, G & Wilkinson,J.M. (1998). *Fundamental of Nursing Concepts, Process & Practice* (5th Ed.) Singapore:Addison – Wesley.
4. Le Mone, K & M.Burke. K. (2001). *Medical Surgical Nursing – Critical Thinking in Client Care* London: Addison – Wesley.
5. Potter & Perry (1995). *Basic Nursing Theory & Practice* (3rd Ed.) Philadelphia: Mosby.
6. Royle, J.A. & Walsh,M. (1992). *Watson's Medical-Surgical Nursing & Related Physiology* (4th Ed.) London: Bailliere Tindall.
7. Taylor, C., Lillis, C & Le Mone, P. (1989). *Fundamentals of Nursing. The Art & Science of Nursing Care* (4th Ed.) Philadelphia: J.B.Lipincott Co.
8. White,L. & Duncan.G. (2002). *Medical-Surgical Nursing: An Integrated Approach* (2nd Ed.)United States: Delmar.

Course coordinator:

Course Assessment
Course will be assessed by Continuous Assessment 100% (Clinical).

MTEJ 2301: Moral & Ethics in Nursing Profession

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Identify ethical and moral principles in nursing.
2. Describe the meaning of moral and ethical behavior accurately in activities involving patient care.
3. Practice ethical code that control nursing practice when giving patient care.
4. Discuss ethical issues in clinical nursing practice.
5. Apply ethical principles in nursing practice.

Course Synopsis:

The course includes:

- Define moral and ethics.
- Meaning roles in community.
- Ethical codes that control nursing practice.
- Ethical issues that is faced by nurses in clinical practice, management, education and research.

Reference Texts

1. Bandman, E.L. & Bandman, B. (2004) *Nursing Ethics Through The Life Span*.(4rd Ed.). Upper Saddle River, New Jersey : Prentice Hall .
2. Burkhardt, M.A. & Nathaniel A.K. (2009). *Ethics & issues in contemporary nursing* (3rd Ed.). Australia; Albany: Delmar.
3. Burnard, P. & Chapman, C.M. (2004) *Professional And Ethics Issues In Nursing* (3rd Ed.). London: Bailliere Tindall.
4. Butts J.B. & Rich, K.L. (2008) *Nursing ethics: across the curriculum and into practice* (2nd Ed.). Sudbury, MA: Jones and Bartlett Publishers.
5. Chitty, K. K. & Black, B.P. (2011). *Professional Nursing: concepts & challenges.* (6th Ed.) Maryland: Saunders Elsevier.
6. Fry, S.T., Veatch, R.M. & Taylor, C. (2011). *Case Studies In Nursing Ethics*.(4th Ed.). Sudbury, MA: Jones & Bartlett Learning.
7. Thompson, I.E., Melia K.M., Boyd, K.M. & Horsburgh, D. (2006) *Nursing Ethics.* (5th Ed.). London: Churchill Livingston.

Course coordinator:

Course Assessment

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

YEAR 3 SEMESTER 1 (2017/2018)

MTEJ 3111: Family Health & Community Health Nursing II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the aim and activities of family health care and child health care in Malaysia.
2. Explain the growth and development aspect of baby and child from 0-6 years old.
3. Explain the development aspect of normal and abnormal baby and child from 0-6 years old.
4. Explain the purposes and goals in comprehensive health assessment of baby and child from 0-6 years old.
5. Demonstrate comprehensive assessment on baby and child from 0-6 years old.
6. Discuss the health education according to client needs.
7. Discuss concepts of high risk approach and management of high risk baby and child.

Course Synopsis:

This course teaches basic skills in:

- Family health care.
- assessment of the baby and child from 0-6 years old
- identification of high risk baby and child
- family health program in Malaysia and family assessment
- child health program and high risk approach in child health

Reference Texts

1. Francis, K., & McFarlane, J. M. (2008). *Community as partner: theory and practice in nursing, Australian and New Zealand adaptation*. Broadway, N.S.W: Lippincott Williams and Wilkins.
2. Hyde, V. (2001). *Community Nursing and Health Care, Insights and Innovations*. London:
3. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.). St Louis: Mosby.
4. Sharma, S.K & Tomar M. (2005). *Principles of Growth and Development*: Gyan Publishing House.
5. Salleh, H. M. (2000). *Keluarga dan Kesihatan*. Kuala Lumpur: Dewan Bahasa dan Pusaka
6. Stanhope, M., & Lancaster, J. (2004). *Community and Public Health Nursing* (4th Ed.)St Louis: Mosby.
7. Stone, C., McGuire, S. & Eigstri, D. G. (2002) *Comprehensive Community Health Nursing*. (6th Ed.) Mosby.
8. Stone, C., Sandra, L. McGuire, & Eigstri, D. G. (2002). Comprehensive community health nursing: family, aggregate & community practice. Mosby: St Louis.
9. Watson, J.E. & Royle, J.A.(2002) *Watson's Clinical I Nursing & Related Sciences* (6th Ed.) London: W.B. Saunders.

Course coordinator:

Course Assessment:

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

MTEJ 3113: Obstetric & Gynecologic Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the fetal development from conceptions to full term.
2. Explain the physiology of pregnancy, labour and puerperium.
3. Explain the management of the women during pregnancy, labour and puerperium.
4. Demonstrate the comprehensive examination of pregnant woman, during labour and puerperium by conforming to privacy and socio-cultural & spiritual needs.
5. Discuss the use of nursing process in the care of pregnant women, labour and puerperium.
6. Explain the pathophysiology, treatment and nursing care given to patients with alteration /conditions of female reproductive system.

Course Synopsis:

This course teaches basic knowledge and skills of:

- Obstetrics and gynecology nursing
- Roles of midwives
- Nursing care during antenatal care
- Physiology of labour and management of mothers during stages of labour
- Physiology and management of puerperium and postnatal care.
- Nursing care of new born baby.
- Main gynaecologic alteration and problems

Reference Texts

1. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
2. Hashim, A., Sood, M., & Padubidri, V. (2008). *Obstetric Nursing*. Shah Alam: Oxford
3. Ingnativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunders.
4. Kozier, B., Erb, G & Wilkinson,J.M. (1998). *Fundamental of Nursing Concepts, Process & Practice* (5th Ed.) Singapore:Addison – Wesley.
5. Le Mone, K & M Burke. K. (2001). Medical Surgical Nursing – Critical Thinking in Client Care London : Addison – Wesley.
6. Potter & Perry (1995). *Basic Nursing Theory & Practice* (3rd Ed.) Philadelphia: Mosby.
7. Watson, J.E. & Royle, J.A.(2002) *Watson's Clinical I Nursing & Related Sciences* (6th Ed.)London: W.B. Saunders.

Course coordinator:

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

MTEJ 3114: Paediatrics Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the medical surgical conditions related to cardiovascular, respiratory, hemopoietic, gastrointestinal system among babies and children.
2. Explain the pathophysiology of medical surgical conditions among paediatric patients.
3. Discuss the medical and surgical treatment and management of babies and children admitted to hospital.
4. Demonstrate comprehensive assessment for babies and children.
5. Discuss the nursing care of babies and children with alteration of cardiovascular, respiratory, hemopoietic and gastrointestinal systems.
6. Explain the health education according to the needs of the babies and children.

Course Synopsis:

This course prepares students with the knowledge of conditions and nursing care of children from the medical and surgical aspect:

- general nursing care for children and their family
- conditions related to cardiovascular, respiratory, hemopoietic, gastrointestinal system from the medical and surgical aspects
- special problems among children

Reference Texts

1. Assuma, B. T. M (2009). *Textbook of paediatric nursing*. New Delhi: Elsevier
2. Mayers, M. And Jocobson, A. (1995) *Clinical Care Plans-Pediatric Nursing* New York: McGraw-Hill, Inc.
3. Parul, D. (2009). *Pediatric nursing*. New Delhi: Jaypee Brothers Medical Publishers.
4. Rasnah A. R. & Salizar M.L., (2005). *Prosedur Kejururawatan menggunakan Proses Kejururawatan,* Petaling Jaya, Pearson Prentice Hall.
5. 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.
6. Whaley & Wong, D.L. (2000). *Nursing Care of Infants and Children* Philadelphia : Mosby Year Book.

Course coordinator:

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

MTEJ 3115: Critical Thinking in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concepts of thinking, critical, creative thinking and their usage in nursing.
2. Explain the importance thinking critically in decision making and problem solving.
3. Discuss the pattern of 'knowing' in nursing.
4. Describe critical thinking in clinical assessment and decision making.
5. Explain the critical thinking strategies in nursing.
6. Describe interpersonal skills in critical thinking and critical analysis in nursing.

Course Synopsis:

This course prepares students with knowledge and understanding of critical thinking that will influence quality nursing. This course also discusses the role of critical thinking, the process of critical thinking and the required skills to mould nurses who are knowledgeable, proactive, innovative and critical thinkers.

Reference Texts

1. Alfaro-LeFevre, R. (2001) *Critical Thinking in Nursing: A Practical Approach.* (2nd Ed.) W.B. Saunders, Philadelphia.
2. Foteyn, M.E. (2000) *Thinking Strategies For Nursing Practice*. Lippincott. Philadelphia.
3. Ignatavicius, D.D. (2002). *Medical-surgical Nursing: Critical Thinking for Collaborative cares* (4th Ed.). Philadelphia: Saunders.
4. Potter & Perry (2010) *Basic Nursing Theory And Prac*tice (7th ed.) New York : Mosby
5. Rubenfield, M.G. (2000) *Critical Thinking in Nursing – An Interactive Approach*. (2nd Ed.). Lippincott. Philadelphia.

Course coordinator:

Course Assessment

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

MTEJ 3116: Nursing Research

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain research process and its application in nursing.
2. Conduct literature review.
3. Discuss research design, data collecting method and the use of appropriate statistics in reference to the research questions.
4. Produce a research proposal

Course Synopsis:

In this course student will learn the definition of terminologies in literatures, type of research, research design, data collection, data analysis and research report writing. This course will provide introduction to quantitative and qualitative research methodology. Other topics covered are testing hypothesis, making inferences, disseminate research findings, ethical issues and method of interviewing and respondent survey. This course also provides training to students to critically analyze research published in established journal and present their analysis findings.

Reference Texts

1. Burns, N and Grove, S.K. (2010) *Understanding Nursing Research* (5th Ed.) Elsevier Saunders: USA.
2. Gerrish, K (2010). *The research process in nursing.* Wiley-Blackwell: Philadelphia.
3. Houser, J (2007). *Nursing research: reading, using, and creating evidence.* Jones and Bartlett: USA.
4. Wood, M.J. (2011). *Basic steps in planning nursing research: from question to proposal.* Jones and Bartlett: USA.

Course coordinator:

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

MTEJ 3171: Nursing Practice V

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply knowledge and skills in nursing pregnant women in various stages of labour and puerperium in the hospital and at home.
2. Provide nursing care to women / patients with changes and disorders of reproductive system using the nursing process.
3. Provide nursing care to newborn and children with various medical, surgical and congenital problems using nursing process.
4. Perform growth health assessment to newborn and pre-school children in community health clinic.
5. Perform health education activities according to the needs of patient, women, /newborn and children.
6. Identify the important aspects of effective communication, asepsis, and principles of safety when nursing newborns, children and women.

Course Synopsis:

This course comprises of clinical practice aspect in relation to:

- Maternal nursing and patients with changes/alteration of reproductive system.
- Nursing newborn and children with various medical and surgical problems.
- health care services to children in the community
- health promotion and health education in the community

Reference Texts

1. Berman, A J. (2010). Kozier & Erb's *Fundamentals Of Nursing Concepts, Process And Practice* (9th Ed.) New York. Prentice-Hall
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Ignativicus, D.D. and Workman M.L. (2009) *Medical Surgical Nursing* **–** patient centered collaborative care (6th Ed.)**.** Philadelphia : W.B. Saunders.
4. Potter & Perry (2010) *Basic Nursing Theory And Prac*tice (7th Ed.) New York : Mosby.
5. 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:

Course Assessment
Course will be assessed by Continuous Assessment 100% (Clinical).

YEAR 3 SEMESTER 2 (2017/2018)

MTEJ 3112: Family Health and Community Health Nursing III

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the purpose of the activities and roles of healthcare program and personal involved in school services.
2. Explain types, sources and rehabilitation concepts in handicapped and children with special needs in the Malaysian community.
3. Explains the concepts, aim and health educational activities in family and community health care.
4. Discuss the application of knowledge and skills in the media preparation for health education.
5. Explain the importance of educational program according to individual, family and community needs in healthcare service.

Course Synopsis:
This course will prepare students with knowledge about the health services provided to the community. It also enables students to participate in the services provided to children, school children, handling of children with special needs at community level.
Student also will provide health education and health promotion at community to enhance health through various approaches.

Reference Texts

1. Francis, K., & McFarlane, J. M. (2008). *Community as partner: theory and practice in nursing, Australian and New Zealand adaptation*. Broadway, N.S.W: Lippincott Williams and Wilkins.
2. Hyde, V. (2001). *Community Nursing and Health Care, Insights and Innovations*. London: Arnold.
3. S.K Sharma, & Monika Tomar (2005). *Principles of Growth and Development*: Gyan Publishing House.
4. Salleh, H. M. (2000). *Keluarga dan Kesihatan*. Kuala Lumpur: Dewan Bahasa dan Pusaka
5. Stanhope, M., & Lancaster, J. (2004). Community and Public Health Nursing (4th Ed.). Mosby: St Louis.
6. Stone C McGuire S, Eigstri D. (2002) *Comprehensive Community Health Nursing* (6th Ed.), Mosby: St Louis.
7. Susan Clemen-Stone, Sandra L. McGuire, & Eigstri, D. G. (2002). *Comprehensive community health nursing: family, aggregate & community practice*. Mosby: St Louis.

Course coordinator:

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

MTEJ 3117: Statistics in Nursing Research

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the application of statistical knowledge in data analysis.
2. Identify the correct statistical methods in data analysis.
3. Develop data set for data entry.
4. Interpret data output.
5. Apply statistical knowledge in data analysis.

Course Synopsis:

Students will be introduced to the usage of statistics in health situation such as basic concept of descriptive and inferential statistics. Student will also learn the process of data collection, analysis, data interpretation and presentation, normal distribution – measurement of variability, central tendency – mean, mode and median, introduction to standard of error, statistical method for quantitative and qualitative data, regression and correlation

Reference Texts

1. Ananda, K. P. (2009). *Penyelidikan dan SPSS (PASW).* Petaling Jaya: Pearson Malaysia Sdn Bhd.
2. Field, A.P. (2010) *Discovering statistics using SPSS.* Sage: Los Angeles.
3. George, D (2010). *SPSS for Windows step by step: a simple guide and reference, 17.0 update*. Allyn & Bacon: Boston.
   Plichta, S.B. (2009) *Statistics for nursing and allied health.* Lippincott Williams & Wilkins: Philadelphia.
4. Polit, D (2010) *Statistics and data analysis for nursing research.* Pearson: New Jersey.

Course coordinator:

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

MTEJ 3118: Mental Health Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the relationship between concept of mental and psychiatric nursing.
2. Explain the classification, etiology, pathophysiology and treatment of client with main mental health disorders.
3. Describe the nursing process and critical thinking skills based on the principles of mental health care while nursing patients with mental disorders.
4. Explain the health education of clients and family on the importance of compliance to treatment.
5. Explain the importance of positive values in nursing psychiatric patients and their families in accordance with the Malaysia Mental Health Act.

Course Synopsis:

This course provides students with knowledge and understanding about mental health and the various treatment modalities. Student will also acquire knowledge in rehabilitation in the treatment of mental health. The course also includes teaching on psychiatric law, affective, organic and personality disorders, abnormal sexual behavior, psychoneurosis, drug addiction, alcoholism, rehabilitation and psycho-pharmacology.

Reference Texts

1. Berman, A J. (2010) Kozier & Erb's *Fundamentals of Nursing Concepts, Process and Practice* (9th Ed.) New York. Prentice-Hall.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Hassan, R. (1990). *Penghantar Psikiatrik* Dewan Bahasa dan Pustaka : Kuala Lumpur.
4. Kandiah, P. (1991). *Buku Panduan Kejururawatan* (2nd Ed). Dewan Bahasa dan Pustaka : Kuala Lumpur.
5. Sulaigah, B. (2008). *Mental health nursing*. Shah Alam: Oxford Fajar.

Course coordinator:

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

MTEJ 3119: Counseling Skills for Nurses

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concepts, aim and principles of counseling.
2. Explain the theory of counseling and its usage.
3. Apply main counseling skills.
4. Discuss the counseling process.
5. Explain the importance of ethics in counseling during counseling session.

Course Synopsis:

Students will acquire knowledge and basic skills in counseling technique to establish counseling session with clients in the clinical, education or during the management of the patient. Topics covered are:

- definition / concept of counseling
- counseling theory
- process of counseling
- technique of counseling
- issues and ethics in counseling

Reference Texts

1. Burnard, P (1999) *Counsellling Skills For Health Professionals* (3rd Ed.) Stanley Thornes Publisher Limited.
2. Egan, G. (1992) *The Skilled Helper Model Skills And Methods For Effective Helping* (2nd Ed.) Brooks / Cole Publishing Company, California.
3. Gibson, R.L. (2007) *Introduction to counseling and guidance.* (7th Ed.) Pearson: New York
4. Suradi Salim (1996). *Bimbingan Dan Kaunseling* (Edisi Pertama) Utusan Publications & Distribution Sdn. Bhd.

Course coordinator:

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

MTEJ 3120: Management and Leadership in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concept and basic management theories in nursing practice
2. Explain the planning and organizing in nursing service.
3. Discuss the concept of leading and controlling in nursing service.
4. Identify leadership styles in nursing management

Course Synopsis:

This course comprises of

- Introduction to management
- Concept of planning
- Concept of organizing (organization)
- Concept of leading (leadership)
- Concept controlling

Reference Texts

1. Marriner-Tomey, A. (2008). *Guide to nursing management and leadership*. Mosby: New York.
2. Roussel, L (2009). *Management and leadership for nurse administrators*. Jones and Bartlett: USA.
3. Samson, R. (2009). *Leadership and management in nursing practice and education*. Jaypee Brothers Medical: New Delhi.

Course coordinator:

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

MTEJ 3172: Nursing Practice IV

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply knowledge and skills in the nursing care of patient with mental disturbances in hospital and community.
2. Perform health service activities to school children.
3. Provide nursing care to while participating in the activities for children with special needs at home and in the community.
4. Provide health education and counseling to patients and their family in the ward, clinic and in the community.

Course Synopsis:

This course comprises of practical aspects related to the care of patient with mental health disturbances, health promotion, mental health prevention and rehabilitation in community and hospital. The student will perform school health services and provide occupational health care and involve in rehabilitation program for children with special needs in the community.

Reference Texts

1. Berman, A J. (2010) Kozier & Erb's *Fundamentals of Nursing Concepts, Process and Practice* (9th Ed.) Prentice-Hall. New York.
2. Black, J.M. and Hawks J.H, (2008) *Medical Surgical Nursing – Clinical Management for Positive Outciome* (8th Ed.) St. Louis Saunders Elsevier.
3. Ignativicus, D.D & Bayne, M.V. (2001). *Medical Surgical Nursing – A Nursing Process Approach* Philadelphia: W.B. Saunders.
4. Ignativicus, D.D. and Workman M.L. (2009) *Medical Surgical Nursing* **–** patient centered collaborative care (6th Ed.). Philadelphia : W.B. Saunders.
5. Le Mone, K & M.Burke. K. (2001). *Medical Surgical Nursing – Critical Thinking in Client Care* London: Addison – Wesley.
6. Potter & Perry (2010) *Basic Nursing Theory And Prac*tice (7th Ed.) New York : Mosby
7. 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.
8. Watson, J.E. & Royle, J.A. (2002) *Watson's Clinical Nursing & Related Sciences* (6th Ed.) London: W.B. Saunders.
9. White,L. & Duncan.G. (2002). *Medical-Surgical Nursing: An Integrated Approach* (2nd Ed.) United States. Delmar.

Course coordinator:

Course Assessment
Course will be assessed by continuous assessment 100% (Clinical).

MTEJ 3301: Information Technology in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the development and importance of information technology in nursing.
2. Explain the type and usage of information technology in nursing.
3. Apply appropriate information technology in nursing and health care services.
4. Explain the importance of usage of information technology in nursing services.

Course Synopsis:

The course will prepare students with current and relevant knowledge and skills of information technology in nursing. The course will enable the nurses to apply appropriate information technology in nursing and health services.

Reference Texts

1. Ball. M.J. et al (2011) *Nursing Informatics: where technology and caring meet.* Springers.
2. Burke, L. & Weill (2004) *Information Technology for the Health Professions* (2nd Ed). Prentice Hall.
3. Saba, V & McCormick, K. (2005) *Essentials of Nursing Informatics* (4th Ed.) McGraw Hill.

Course coordinator:

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

YEAR 4 SEMESTER 1 (2018/2019)

MTEJ 4111: Emergency, Intensive and Preoperative Nursing

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain emergency nursing, assessment during emergency triage system and the role of the nurse during emergencies.
2. Discuss handling of medical, surgical, obstetric and other emergencies.
3. Explain intensive care nursing and management of patients who are critically ill and who require long term care.
4. Explain the management and care of patients with assisted ventilation in intensive care unit.
5. Explain perioperative care and the role of the perioperative nurse.
6. Discuss the management of patient's pre-operatively, intra-operatively and postoperatively.
7. Demonstrate the specific nursing procedures in emergency, intensive and perioperative nursing.

Course Synopsis:

This course consists of teaching emergency, intensive and perioperative nursing. Emergency nursing covers management of patients during primary and secondary survey, trauma, resuscitation and poisoning. Intensive care nursing covers nursing patients requiring assisted ventilation and monitoring, cardiac dysarrythmias, cardiac surgery and renal nursing. Perioperative nursing covers sterilization methods in operation theatre, asepsis procedures, infection control practices and nurse's responsibilities as well as type of medication for patients undergoing surgery.

Reference Texts

1. Ashworth, P.M & Clarke, C. (1992). *Cardiovascular Intensive Care* Nursing. London: Churchill Livingstone.
2. Catalana, J.T. (1993) *Guide to ECG Analysis*, Philadelphia, J.B. Lippincott Co.
3. Clochesy, J, M. (1993) *Critical Care Nursing*. Philadelphia: W.B. Saunders Co.
4. Curtis, K., Ramsden, C., & Friendship, J. (2007). *Emergency and Trauma Nursing*. Marrickville, N.S.W.:Mosby & Elsevier Australia.
5. Dracup, K. (1995). *Meltzer's Intensive Coronary Care: a Manual for Nurses*, (5th Ed.) Connecticut: Prentice-Hall International, Inc.
6. Fairchild, S., (1994). *Perioperative Nursing: Principles and Practice*, (3rd Ed.) W.B. Saunders Co., Philadelphia.
7. Fortunato, N.H., (2007). *Berry & Kohn's Operating Room Technique*, (11th Ed)., Mosby, St.Louise.
8. Gruendemann, B.J., Fersebner B., (1995). *Comprehensive Perioperative Nursing*, Jones and Bartlett Publishers Int., Boston.
9. Howard,P.K., Steinmann,R.A., & Sheehy,S.B. (2010). Sheehy *Emergency Nursing:Principles & Practice.* 6th Edition. USA: Emergency Nurses Association. St. Louis: Elsevier Mosby.
10. Phippen, M.L. ,Ulmer, B.C. & Well, W.P., (2009). *Competency for Safe Patient Care During Operative & Invasive Procedures.* Denver: Competency & Credentialing Institute.

11. Rosen, P., et.al. (1988) *Emergency Medicine: Concepts and clinical practice* (2nd Ed), C. V. Mosby Company. St. Louis.
12. Rothrock, J.C. & McEwen D.R.(2011). *Alexander's Care of Patient in Surgery*, Mosby Inc, St. Louis.
13. Schumacher, L. (2010). Emergency nursing ; Intensive care nursing. In C. C. Chernecky (Ed.), *Saunders nursing survival guide : critical care & emergency nursing*., Mosby St. Louis.
14. Sole, M.L., Klein, D.G. & Moseley, M.J. (2008). *Introduction to Critical Care Nursing.* Saunders Elsevier. Philadelphia.

Course coordinator:

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

MTEJ 4112: Gerontology Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain concept and theory of aging.
2. Discuss the alteration in human body system in aging.
3. Explain structural and psychosocial changes among elderly population.
4. Perform physical and psychosocial assessment on elderly.
5. Explain the treatment facilities available to improve quality of life and care of the elderly in the community.
6. Identify appropriate health education to meet individual needs in the elderly population.

Course Synopsis:

This course prepares students with the knowledge on elderly from physiological aspects of ageing and care of elderly. This course includes:

- elderly process
- health promotion for the elderly
- nursing care of elderly patient
- rehabilitative program
- nursing roles

Reference Texts

1. Cress,C.(2001).*Handbook of Geriatic Care Management.*Gaithersburg: Aspen.
2. Eliopoulos, C. (2010). *Gerontolgical Nursing.* (7th Ed). Philadelphia. Wolter's Kluwer Lippincott. Williams & Wilkins.
3. Golla,J., Bogner, H.R., Fulmer, T., Pavesa, G.J. (2006). *Handbook of Geriatic Assessment.* (4th Ed.). Sudbury Ma:Jones & Barlett Publisher Inc.
4. Pathy, M.S. J.(2006). *Principles and Practices of Geriatic Medicine* (4th Ed). London: John Willey & Sons.
5. Roach, S.S. (2000). *Introductory Gerontological Nursing.* Lippincott Williams & Wilkins. Philadelphia.
6. *Wold, G.H. (2007) Basic Geriatic Nursing.*(3rd Ed.) Mosby St Louis. Philadelphia.

Course coordinator:

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

MTEJ 4180: Nursing Research Project

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Conduct a research in nursing education, management and clinical experience.
2. Prepare a write up on the research project and results accordingly to the project guidelines.
3. present the results of the research project orally / poster
4. Discuss the importance of nursing research in enhancing the quality of nursing service, education and administration.

Course Synopsis:

This course requires the students to conduct a nursing research study after the research proposal is approved. Students have a choice in conducting the research in nursing education, management or clinical practice as long as it benefits delivery of nursing services. Students are also required to produce a research report, present and defend their study findings during discussion

Reference Texts

1. Burns, N. & Grove, S.K.(1993).*The Practice of Nursing Research, Conduct, Critique & Utilization* (4th Ed.) Philadelphia: W.B. Saunders.
2. LoBiondo- Wood,G.& Habaer, J.(1994).*Nursing Research Methods, Critical Appraisal & Utilization* (3rd Ed.) St. Louis: Mosby Book Inc.

3. Polit, D.F. (2010). *Statistics & Data Analysis for Nursing Research*. Boston: Pearson.
4. Richardson-Tench, N., & Tailor, B.J. (2011). *Research in Nursing: Evidence For Best Practice (*4th Edition). South Melbourne, Vic:Cengage Learning.
5. Whittaker, A. & Williamson, G. R. (2011). *Succeeding in Research Project Plan and Literature Reviews for Nursing Students*. Exeter. U.K. Learning Methods Ltd.
6. Wilson, H. S. (1993).*Introducing Research in nursing* (2nd Ed.). California: Benjamin/Cummings Publishing Company.

Course coordinator:

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

MTEJ 4171: Nursing Practice VII

3 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply knowledge in providing nursing care to critical patients that requires ventilator in intensive care.
2. Handling emergency cases using triage system and provide immediate care to patients based on problems faced.
3. Provide pre-operative and perioperative care.
4. Assist in surgery under supervision.
5. Conduct health promotion activities, counseling, health education to clients.

Course Synopsis:

This course includes the basic knowledge and skills on:

- Providing care and practice nursing skills which is acquired in intensive care, trauma unit and operation theatre.
- Provide health education.
- Apply positive value and ethics in nursing.

Reference Texts

1. Ashworth, P.M & Clarke, C. (1992). *Cardiovascular Intensive Care* Nursing. London: Churchill Livingstone.
2. Catalana, J.T. (1993) *Guide to ECG Analysis*, Philadelphia, J.B. Lippincott Co.
3. Clochesy, J, M. (1993) *Critical Care Nursing*. Philadelphia: W.B. Saunders Co.
4. Curtis, K., Ramsden, C., & Friendship, J. (2007). *Emergency and Trauma Nursing*. Marrickville, N.S.W.:Mosby & Elsevier Australia.
5. Dracup, K. (1995). *Meltzer's Intensive Coronary Care: A Manual For Nurses*, (5th Ed.) Connecticut: Prentice-Hall International, Inc.
6. Fairchild, S., (1994). *Perioperative Nursing : Principles and Practice*, (3rd Ed.), W.B. Saunders Co., Philadelphia.
7. Fortunato, N.H., (2007). *Berry & Kohn's Operating Room Technique*, (11th Ed.) Mosby St.Louise.
8. Gruendemann, B.J., Fersebner B., (1995). *Comprehensive Perioperative Nursing*, Jones and Bartlett Publishers Int., Boston.
9. Howard,P.K., Steinmann,R.A., & Sheehy,S.B. (2010). Sheehy *Emergency Nursing:Principles & Practice.* (6th Ed.). USA: Emergency Nurses Association. St. Louis: Elsevier Mosby.
10. Phippen, M.L., Ulmer, B.C. & Well, W.P., (2009). *Competency for Safe Patient Care During Operative & Invasive Procedures.* Denver: Competency & Credentialing Institute.
11. Rosen, P., et.al. (1988) *Emergency Medicine : Concepts and clinical practice* (2nd Ed), St. Louis , The C. V. Mosby Company.
12. Rothrock, J.C. & McEwen D.R. (2011). *Alexander's Care of Patient in Surgery*, Mosby Inc, St. Louis.
13. Sole, M.L., Klein, D.G. & Moseley, M.J. (2008). *Introduction to Critical Care Nursing.* Philadelphia: Saunders Elsevier.
14. Worsing, R.A., (1990). *Basic Rescue and Emergency Care*, American Academic of Orthopedic Surgeon

Course coordinator:

Course Assessment
Course will be assessed by continuous assessment 100% (Clinical).

MTEJ 4173: Internship I

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Perform nursing care of patient with surgical and medical condition safely with caring attitude.
2. Apply knowledge and management principles when functioning as a team leader in nursing.
3. Apply good and positive and ethical and values in nursing.

Course Synopsis:

The course enables students to practice the knowledge and skills that have been taught with a caring attitude and prepare oneself to function as a competent and safe nurse in medical and surgical nursing.

Reference Texts

1. Burnside, I. (1988). *Nursing and the aged: A self-care approach* (3rd Ed**.).** New York: McGraw-Hill Book Co.
2. Maurer, F.A. & Smith, C.M. (2009). *Community/Public Health Nursing Practice*. (4th Ed). St. Louis : Saunders Elsevier.
3. Schmiat S.K. (1996) *Community Health Nursing* Delmar Publishing
4. Simes, D., Saunder, M. & Forbes- Burford, J. (2009) *Community Health Care Nursing* . (4th Ed). Singapore Wiley- Blackwell. Mc Millan Publishing.
5. Smith C.M., Maurer F.A. (1995) *Community Health Nursing – Theory & Practice.* Livingstone : Longman

Course coordinator:

Course Assessment
Course will be assessed by Continuous Assessment 100%.

MTEJ 4113: Management Strategies

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concept and process of change.
2. Explain the role of a nurse as a change agent.
3. Plan a program for change related to nursing education, management and clinical practice.
4. Explain and highlight the significance of change in nursing.

Course Synopsis:

Content in the course cover the change process and how to manage change in the field of nursing. Students will also learn about the change theory, management of change and action plans. The course will also encompass the changes in the Malaysian Healthcare System – implications for practice based on research and the role of a nurse manager, educator and clinical nurse practitioner.

Reference Texts

1. Broome, A. (1997*). Managing Change,* London, MacMillan Educ. Ltd.
2. Clark,C.C. (2009). *Creative nursing leadership & management.*Sudbury, Mass:Jones & Bartlett Publisher.
3. Gilles, D.A (1994). *Nursing Management: A System Approach*, Philadelphia, W.B. Saunders.
4. Huber, D. (2006**).** *Leadership & Nursing Care Management,* Philadelphia, W.B. Saunders.
5. Marquis, B.L.., C.J. (2005). *Leadership Roles and Management Functions in Nursing* (5th. Ed.), California, J.B. Lippincott.
6. Mauksch, I. (1981**).** *Implementing Change In Nursing*, St. Louis, C.V. Mosby
7. Sullivan, E.J. & Decker, P.J. (2005). *Effective Leadership and Management in Nursing* (4th Ed.). Menlo Park, Addison-Wesley.
8. Wright, S.G. (1998). *Changing Nursing Practice* (2nd Ed), Great Britain, Arnold Publishers.

Course coordinator:

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

YEAR 4 SEMESTER 2 (2018/2019)

MTEJ 4114: Transcultural Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain the concepts culture, trans-cultural and multi-culturism in community.
2. Explain the importance and implications of trans-cultural nursing for multi ethnic clients / patients.
3. Explain the elements in trans-cultural in health care delivery and nursing.
4. Discuss the concept of trans-cultural in health care services.

Course Synopsis:

This course prepares students with knowledge of transcultural nursing. It also comprises important topics and various current issues in transcultural nursing to help students understand the various ethnic groups and their culture.

Reference Texts

1. Andrews, M.M. & Boyle, J.S. (2008). *Transcultural Concepts in Nursing Care.* (5 th Ed.) Philadelphia: Lippincott Williams & Wilkins.
2. Giger, J.N. & Davidhizar, R.E., (2003) *Trans-cultural Nursing: Assessment and Intervention* (4nd Ed.). St. Louis: Mosby.
3. Leininger, M & Mc Farland, M. (2002). *Trans-cultural Nursing: Concepts, Theories, Research and Practice* (3rd Ed.). New York: Mc Graw-Hill.
4. Purnell, L.D. & Paulanka, B.J. (2008). *Transcultural Health Care: A Culturally Competence Approach.* (3rd Ed.) F.A. Davies Co.

Course coordinator:

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

MTEJ 4115: Teaching Functions for Nurses

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain factors that influence curriculum development.
2. Explain the usage and importance of learning objectives in teaching.
3. Develop teaching and learning activities for a teaching session (*Lesson Plan*).
4. Identify the appropriate audio-visual aids for teaching and learning session.
5. Explain the principles that compromise teaching and learning process.
6. Identify evaluation method in teaching and learning.

Course Synopsis:

This course exposes the nurses with the knowledge on teaching and learning process to become an effective educator. Students will be exposed to knowledge on factors influencing the curriculum, learning objectives, task analysis, preparation for teaching session, teaching method and performing effective evaluation.

Reference Texts

1. Cruickshank, D.R., Bainer, D.L. & Metcalf, K.K. (2006). *The act of teaching (2nd Ed.).* Boston: McGraw-Hill Co.
2. Gaberson, K.B. & Oermann, M.H. (2007). *Clinical Teaching Strategies in Nursing*. (2nd Ed). New York: Springer Publishing.Sudbury, Mass.: Joanes Bartlett Publisher.
3. Kern, D.E., Thomas, P.A. & Hughes, M.T. (2009). *Curriculum Development for Medical Education: A Six Step Approach* (2nd Ed.). Baltimore: John Hopkins University Press.
4. Ornstein, A.C. & Lasley II, T.J. (2000). *Strategies for effective teaching* (3rd Ed.). Boston: McGraw-Hill Co.
5. Wiles, J. & Bondi, J. (2002). *Curriculum development: A guide to practice* (6th Ed.). Ohio: Merril Prentice Hall.

Course coordinator:

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

MTEJ 4116: Professionalism & Legal Aspects in Nursing

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Explain professional characteristics and professionalism.
2. Discuss the nursing profession as a profession.
3. Explain the factors that influence the status of nursing.
4. Explain the types of law influencing nursing practice and health services.
5. Explain the implications of professionalism towards the nursing career.
6. Discuss medico-legal issues that are of concern to nursing practice.
7. Apply knowledge of medico-legal aspects in nursing practice.
8. Explain the importance of medico-legal aspects in nursing practice.

Course Synopsis:

This course aims to build students' understanding about legal and ethical issues involving nursing practice. This course also stresses on common law in the delivery of health care. In addition, it will enhance students' knowledge and understanding on the legal and ethical aspects involving nursing practice. This course involves teaching topics on:

- Concepts on profession, professional and professionalism.
- Characteristics of a profession and factors influencing a profession.
- Introduction to legal and ethical procedures.
- Legal implications and professional code of ethics in nursing services.
- Relevant acts influencing nursing practices.
- Relevant ethical issues in nursing practices.

Reference Texts

1. Bandman, E.L. & Bandman, B (1995) *Nursing Ethics Through The Life Span* (3rd Ed.) Appleton and Lange. Connecticut.
2. Carson, D. and Montgomery, J (1989) *Nursing And The Law* Macmillan, London.
3. Creightion, H (1986) *Law Every Nurse Should Know* W.B. Saunders, Philadelphia.
4. Thompson, I.E., et al (1994) *Nursing Ethics* (3rd Ed.) Churchill Livingstone, Edinburgh.

Course coordinator:

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

MTEJ 4172: Nursing Practice VIII

4 credits

Learning Outcomes:

At the end of the course students are able to :

1. Provide holistic nursing care to medical and surgical patient.
2. Provide health education, counseling and discharge planning to patients.
3. Functions as a team leader in health care team.
4. Practice nursing skills with the application of positives and good values and ethics in nursing.

Course Synopsis:
This course enables students to practice the knowledge and skills with caring attitudes and ability to make decisions towards patients care. Students are also required to function as a competent and safe nurse with critical thinking in medical and surgical ward. The course will encompassess clinical aspects that enable students to provide comprehensive health education, counseling, discharge plan and function as a team leader in medical and surgical nursing.

Reference Texts

1. Ashworth, P.M & Clarke, C. (1992). *Cardiovascular Intensive Care* Nursing. London: Churchill Livingstone.
2. Burke, K.M. (2007). *Medical Surgical Nursing Care*. (2nd Ed.). New Jersey: Pearson Prentice Hall.
3. Buschiazzo, L. (1987). *The Handbook of Emergency Nursing Management*. Rochville : Aspen Publisher.
4. Catalana, J.T. (1993) *Guide to ECG Analysis*, Philadelphia, J.B. Lippincott Co.
5. Clochesy, J,M. (1993) *Critical Care Nursing*. Philadelphia: W.B. Saunders Co.
6. Dracup, K. (1995). *Meltzer's Intensive Coronary Care: A Manual for Nurses*, (5th Ed.) Connecticut: Prentice-Hall International, Inc.
7. Fairchild, S., (1994). *Perioperative Nursing: Principles and Practice*, (3rd Ed.), W.B. Saunders Co., Philadelphia.
8. Fortunato, N.H., (2007). *Berry & Kohn's Operating Room Technique*, (11th Ed.), Mosby, St.Louis.
9. Gruendemann, B.J., Fersebner B., (1995). *Comprehensive Perioperative Nursing*, Jones and Bartlett Publishers Int., Boston.
10. Harris, J.L. & Roussel, L. (2010). *Initiating and Subtaining the Clinical Nurse Leader Role: A Practical Guide.* Sudbury Mass. Joannes & Bartlett Publisher.
11. Hartshorn, J., Lamborn, M. & Noll, M.L. (1993) *Introduction to Critical Care Nursing,* Philadelphia : W.B. Saunders Co
12. Kitt, S., Selfridge-Thomas, J., A., Proehl, J.A. & Kaiser, J. (1995) *Emergency Nursing : A Physiologic and Clinical Perspective*, (2nd Ed.) Philadelphia, W.B. Saunders Company.
13. Lowenstein, A.J. , Ford- May, L., & Romano, J.C. (2009). *Teaching Strategies For Health Education and Health Promotion:* Working with Patients , Families, Communities. Sudbury. Joannes & Bartlett Publisher.
14. Marquis, B.L. (2009). *Leadership Roles and Management Functions In Nursing: Theory and Application.* (6th Edi). China Wolters Kluwer Lippincott, Williams & Wilkins.

15. Phippen, M.L. and Well, W.P., (1994). *Perioperative Nursing Practice*, W.B. Saunders Co., Philadelphia.
16. Rosen, P., et.al. (1988) *Emergency Medicine: Concepts and clinical practice* (2nd Ed), St. Louis: The C. V. Mosby Company.
17. Rothrock, J.C. & McEwen D.R. (2006). *Alexander's Care of Patient in Surgery*, St. Louis: Mosby Inc,.
18. Worsing, R.A., (1990) *Basic Rescue and Emergency Care*, American Academic of Orthopedic Surgeon.

Course coordinator:

Course Assessment
Course will be assessed by Continuous Assessment 100% (Clinical).

MTEJ 4174: Internship II

2 credits

Learning Outcomes:

At the end of the course students are able to :

1. Practice knowledge and skills in specific area.
2. Apply knowledge and principles of management when functioning as team leader in nursing team.
3. Apply positive and good ethical values in nursing.

Course Synopsis:
This course will provide the opportunity to students to perform clinical practices in the specific ward that has been identified by the course coordinator.

Reference Texts

1. Burke, K.M. (2007). *Medical Surgical Nursing Care*. (2nd Ed.) New Jersey: Pearson Prentice Hall.
2. Harris, J.L. & Roussel, L. (2010). *Initiating and Sustaining the Clinical Nurse Leader Role: A Practical Guide.* Sudbury Mass. Joannes & Bartlett Publisher.
3. Lowenstein, A.J. , Ford- May, L., & Romano, J.C. (2009). *Teaching Strategies For Health Education and Health Promotion:* Working with Patients , Families, Communities. Sudbury Mass. Joannes & Bartlett Publisher.
4. Marquis, B.L. (2009). *Leadership Roles and Management Functions In Nursing: Theory and Application.* (6th Ed.). China Wolters Kluwer Lippincott, Williams & Wilkins.

Course coordinator:

Course Assessment
Course will be assessed by Continuous Assessment 100% (Clinical).

YEAR 4 SEMESTER 3 (2018/2019)

MTEJ 4175: Internship III

5 credits

Learning Outcomes:

At the end of the course students are able to :

1. Apply the nursing knowledge and skills that have been taught.
2. Functions as a team leader.
3. Practice skills as a nurse.
4. Provide health education to patients and family.
5. Apply positive value and ethics in nursing.

Course Synopsis:

This course enables students to provide care and practice of nursing skills that has been taught. Students are required to provide health education and function as a team leader by applying teaching and management principles.

Reference Texts

1. Burke, K.M. (2007). *Medical Surgical Nursing Care*. (2nd Ed.) New Jersey: Pearson Prentice Hall.
2. Harris, J.L. & Roussel, L. (2010). *Initiating and Sustaining the Clinical Nurse Leader Role: A Practical Guide.* Sudbury Mass. Jones & Bartlett Publisher.
3. Lowenstein, A.J. , Ford- May, L., & Romano, J.C. (2009). *Teaching Strategies For Health Education and Health Promotion:* Working with Patients , Families, Communities. Sudbury Mass. Jones & Bartlett Publisher.
4. Marquis, B.L. (2009). *Leadership Roles and Management Functions In Nursing: Theory and Application.* (6th Ed.) China Wolters Kluwer Lippincott, Williams & Wilkins.

Course coordinator:

Course Assessment
Course will be assessed by Continuous Assessment 100% (Clinical).

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UNIVERSITY OF MALAYA

Thank you

PREPARED BY;

UNDERGRADUATE SECTION, DEAN'S OFFICE
IT DIVISION, DEAN'S OFFICE.
MEDICAL EDUCATION RESEARCH DEVELOPMENT UNIT (MERDU)

FACULTY OF MEDICINE
UNIVERSITI MALAYA