



**UNIVERSITY  
MALAYA**

SESSION  
**2018  
2019**



FACULTY OF MEDICINE

# **POSTGRADUATE HANDBOOK**

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Welcome to the Faculty of Medicine.

I am delighted that you have chosen to study at the University of Malaya. The Faculty of Medicine University of Malaya prides itself in being the oldest medical school with the largest post graduate clinical and research based post graduate programs in the country.

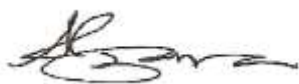
Whether you are pursuing a Clinical Masters in Medicine program or a graduate research program ie an MSc, PhD or DrPH, you are now part of the largest Faculty in the University, joining over 3082 full-time and part-time undergraduate and postgraduate students including more than 500 postgraduate researchers.

The Faculty is fortunate to have a large number of very experienced academic staff who oversee high-quality teaching and research programmes provided at the Faculty. We are also privileged to have a large and busy tertiary care teaching hospital on site with the widest range of clinical specialities and subspecialties provided by any hospital in the country.

To those pursuing the Clinical Masters program, the experience and training that you will receive at the University Malaya Medical Centre and the Faculty of Medicine will certainly prepare you for your years ahead as a specialist.

For those undertaking a research based postgraduate programme you will join in a long tradition of research undertaken at the Faculty of Medicine that has made major contributions to the understanding of a wide range of diseases and conditions that has led to better patient outcomes and to improvement in public health policies. We pride ourselves in providing the highest quality laboratory and study facilities for our students and postgraduate researchers. The Faculty offers a stimulating study and research environment with recent investment in the state-of-the-art equipment and research facilities. The Faculty of Medicine have also developed a vast network of international collaborations which provide further opportunities to enrich your learning and research experience.

I wish you every success and enjoyment in your time here and warmly welcome you to the Faculty.

A handwritten signature in black ink, appearing to read 'Adeeba', written in a cursive style.

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



Welcome to the University of Malaya and the Faculty of Medicine! To those of you from overseas, welcome to Malaysia!

I extend my warmest congratulations to you all on your fresh start. I hope that the next few years will turn out to be a most happy, meaningful and memorable time of your life.

Please always feel free to discuss any problem with your supervisors and academic staff. You are also most welcome to come to see us at the Dean's office.

I would like to share with you an episode from *Hikayat Abdullah* (Abdullah's Story), a Malay literary classic, about a son who was learning languages from his father. The boy did not want to study but instead wanted to have fun with his friends playing outside. At one point, he had enough and burst out saying "I'm sick of studying!"

Observing this, his mother calmly and gently, yet persuasively, said to him, "*Even if we leave you an inheritance, if you are unlucky, it can vanish in an instant. But sound knowledge and learning are not like that. They stay with you until you die.*" The boy's name was Abdullah and he grew up to be a renowned language teacher who played an important role in shaping modern Malay literature.

I sincerely ask you to bear this story in mind as you go on to accumulate knowledge, skills and experience in the coming years. Whether in the hospital ward, in the outpatient clinic, in the community or in the laboratory, your subject of study in medicine is ultimately life itself. I hope you will take great pride in this fact and apply yourselves to your studies earnestly and with great humility.

The famous French novelist Victor Hugo wrote in the novel, *Les Misérables*, "*There is a prospect greater than the sea, and it is the sky; there is a prospect greater than the sky, and it is the human soul.*" Indeed, life is the most precious treasure. I hope that in the course of your studies in the Faculty of Medicine, you will discover even more how fascinating and precious life is and dedicate yourselves to studying, protecting, supporting, healing and nurturing it.

With these words of encouragement, all of us in the Faculty of Medicine warmly welcome you once again, wishing you good health and every success in all your endeavours. Please also convey our gratitude and best wishes to your parents and family members who have continued to support you to this day.

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Associate Professor Dr Nirmala Bhoo Pathy MBBS (Mal), MPH (Hons)(Mal), MSc Clinical Epid (Hons) (Utrecht Univ.), PhD (Utrecht Univ.)

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Associate Professor Dr Khong Tak Loon MBBS (Edin), MSc Surg Sc (Lond), MD (Lond), FRCS (UK)

Dr Ahmad Rafizi Hariz bin Ramli MBBS (Mal), MS (Mal) – *study leave*

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Dr Lau Peng Choong MBBS (Mal), MS (Mal)

Dr Suniza binti Jamaris MBBS (Mal), MS (Mal)

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Dr Tania Islam MBBS (Chittagong), PhD (Jap)

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**Paediatric Surgery:**

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Dr Foong Chan Choong *PhD (Mal), BSc.Ed (Hons) (Mal)*

Dr Hong Wei-Han *PhD (UM), MEd (UM), BScEd (Hons) (UTM)*

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

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.



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 1<sup>st</sup> 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 unrelentingly. 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.

## TERM SYSTEM

(52 weeks including introduction week, revision and exam)

<b>Introduction Week</b>	-	01.06.2018 – 08.06.2018
<b>Courses/Placement</b>	-	11.06.2018 – 31.12.2018
<b>Revision / Exam part I/II/III/Final*</b>	-	October/November 2018
<b>Courses / Placement</b>	-	01.01.2018 – 31.5.2019
<b>Revision / Exam I/II/III/Final*</b>	-	April/May 2019

\* Examination Schedule according to the program of study



2018/2019

POSTGRADUATE  
HANDBOOK

## ACADEMIC CALENDAR

FOR SEMESTER SYSTEM ONLY

SEMESTER I			NOTE
Introduction Week	1 week	03.09.2018 - 09.09.2018	* Agong's Birthday on 09.09.2018  Awal Muharam on 11.09.2018  Malaysia Day on 16.09.2018  Deepavali on 06.11.2018  Maulidur Rasul on 20.11.2018  Christmas on 25.12.2018  New Year on 01.1.2019  Thaipusam on 21.01.2019  Chinese New Year on 05 & 06.02.2019  Labour Day on 01.05.2019  Wesak Day on 19.05.2019  Nuzul Aquran on 22.05.2019
Lectures	8 weeks*	10.09.2018 - 04.11.2018	
Mid Semester I Break	1 week	05.11.2018 - 11.11.2018	
Lectures	6 weeks*	12.11.2018 - 23.12.2018	
Revision Week	1 week*	24.12.2018 - 01.01.2019	
Examinations Semester I	3 weeks*	02.01.2019 - 20.01.2019	
Semester I Break	4 weeks*	21.01.2019 - 17.02.2019	
	----- 24 weeks =====		
SEMESTER II			
Lectures	8 weeks	18.02.2019 - 14.04.2019	
Mid Semester II Break	1 week	14.04.2019 - 21.04.2019	
Lectures	6 weeks*	22.04.2019 - 02.06.2019	
Revision Week	1 week*	03.06.2019 - 09.06.2019	
Examinations Semester II	3 weeks	10.06.2019 - 30.06.2019	
	----- 19 weeks =====		
SESSION BREAK/SPECIAL SEMESTER			
Session Break	11 weeks or	01.07.2019 - 08.09.2019	
Lectures & Examination	8 weeks	01.07.2016 - 25.08.2019	

**Name of Programme :** Master of Anaesthesiology  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Anaesthesiology programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate;

and

- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and

- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.  
(2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

The programme of study comprises three stages as follows:

- (1) Stage I in the first year of study encompassing clinical training in basic skills in anaesthesia and resuscitation for patient management
- (2) Stage II comprising training in the second and third year of study in:
- (a) clinical anaesthesiology and in non-anaesthesiology postings undertaken in rotation such as general medicine, radiology, emergency medicine, or any other posting as may be approved by the Department responsible for the candidate's programme of study; and
- (b) Research methodology, including the conduct of a research project in any field of anaesthesia, intensive care or pain management.
- (3) Stage III comprising clinical training in the fourth year in specialised fields of anaesthesiology or intensive care or of anaesthesiology and intensive care.

- (4) A candidate is required to maintain a log book throughout his period of study to document tasks undertaken.

## **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of the programme of study if he has -
- (a) a minimum of two years experience in clinical anaesthesiology in a hospital recognised by the Faculty and passed any one of the examinations listed below-
- (i) the Primary Examination of the Royal College of Anaesthetists;
- (ii) the Primary Examination of the Australian and New Zealand College of Anaesthetists;
- (iii) the Primary Examination of the Faculty of Anaesthetists of the Royal College of Surgeons of Ireland;
- (iv) the Primary Examination for the degree of Master of Medicine in Anaesthesia of the National University of Singapore;
- (v) the Part II Examination of the Royal College of Anaesthetists;
- (vi) the Part II Examination of the Faculty of Anaesthetists of the Royal College of Surgeons of Ireland; or
- (vii) any other examination as may be approved from time to time by the Senate on the recommendation of the Faculty; or
- (b) a minimum of three years clinical anaesthesiology experience in a hospital recognised by the Faculty, but has not passed any of the above examinations.

## **6. Attendance**

During his programme of study -

- (1) a candidate may be permitted to undertake part of his programme of study in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book and posting reports not later than one month before the Final Examination.
- (2) A candidate is required to submit his research report not later than six months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination
  - (b) the Final Examination
- (2) No candidate shall be permitted to sit for the Final Examination unless he has –
  - (a) passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he passed any one of the examinations listed below:
    - (i) the Primary Examination of the Royal College of Anaesthetists;
    - (ii) the Primary Examination of the Australian and New Zealand College of Anaesthetists;
    - (iii) the Primary Examination of the Faculty of Anaesthetists of the Royal College of Surgeons of Ireland;
    - (iv) the Primary Examination for the degree of Master of Medicine in Anaesthesia of the National University of Singapore;
    - (v) the Part II Examination of the Royal College of Anaesthetists UK;
    - (vi) the Part II Examination of the Faculty of Anaesthetists of the Royal College of Surgeons of Ireland; or
    - (vii) passed any other examination as may be approved from time to time by the Senate on the recommendation of the Faculty;
  - (b) submitted his log book and posting reports not later than one month before the Final Examination; and
  - (c) completed and submitted his research report six months prior to the Final Examination.
- (3)
  - (a) The Part I Examination shall be held at the end of the first year of the programme of study. The Final Examination shall be held at the end of the fourth year of the programme of study.
  - (b) The theory examination will be held within six weeks before the VIVA examination.

- (c) Only candidates who passed the theory examination will be invited for the VIVA examination.

(4) Examination Subjects and Allocation of Marks

(a) Part I Examination

The subjects of the Part I examination and the marks to be allocated to each subject shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
Subject: Pharmacology		
<b>A. Written Section</b>		
MBGE6101 Paper I	Multiple Choice Questions	30
MBGE6102 Paper 2	Essay and Short Answer Questions	30
<b>B. Oral Section</b>		
MBGE6121	Viva Voce	40
Total		<u>100</u>

Subject: Physiology and Clinical Measurements

<b>A. Written Section</b>		
MBGE6104 Paper I	Multiple Choice Questions	30
MBGE6105 Paper 2	Essay and Short Answer Questions	30
<b>B. Oral Section</b>		
MBGE6122	Viva Voce	40
Total		<u>100</u>

(b) Final Examination

The sections of the Final examination and the marks to be allocated to each sections shall be as follows:

Component	Description	Allocation of Marks (Maximum)
<b>A. Written</b>		
MBGE6236 Paper 1	Multiple Choice Questions	20
MBGE6237 Paper 2	Essay Questions	20
<b>B. Clinical</b>		
MBGE6243	- Long Case	20
MBGE6250	- Viva-Voce	40
Total		<u>100</u>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has:

(a) Part I Examination

- (i) On his first attempt, sat for both subjects; and

- (ii) Obtained 50% or more of the marks for each subject of the examination; and
- (iii) Passed both sections (written and oral) for each subject of the examination.

(b) Final Examination

Obtained 50% or more of the marks for each component of the Examination.

The written Examination will be held within six (6) weeks prior to the clinical Examination. Only candidate that passes the written Examination (component A), will be allowed to sit the Clinical Examination (Component B). A candidate who fails the clinical Examination will have to Re-Sit the written Examination before attempting the Clinical Examination again.

(6) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a Re-examination on three separate occasions at six monthly intervals.
- (ii) The Part I Re-Examination shall consist of the same subjects and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (iii) A Candidate who has failed the Part I Examination/Re-Examination but whose marks on one of the two subjects has equaled or exceeded 50% shall be permitted to count the marks of that subject towards the marks for that subject in a subsequent Part I Re-Examination, subject to the approval of Faculty. The candidate is required to sit only for the subject in a subsequent Re-Examination in which he has failed.
- (iv) A candidate who fails the Re-examination on the third occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Final Re-Examination

- (i) A candidate who has failed the Final Examination may be permitted a Re-examination on separate occasions at six monthly intervals until the maximum period of study is reached.
- (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.

Candidates that have passed the written examination but failed the clinical examination are only required to sit/repeat the clinical examination. The results of the written examination are valid only for one year.

- (iii) A candidate who fails the Re-examination on the final occasion ie at maximum period of study shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of

- study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (c) A candidate who has passed the Re-examination for the Examinations above shall be deemed to have passed the prescribed Examinations.

## **11. Award of Degree**

No candidate shall be recommended for the award of the Degree of Master of Anaesthesiology unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### **(1) Award of Pass with Distinction for the Examination**

A candidate may be awarded a Pass with Distinction in the Part I Examination and the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### **(2) Award of the Degree with Distinction**

A candidate may be awarded the degree of Master of Anaesthesiology with Distinction if he –

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Anaesthesiology  
Programme Schedule**

<b>S T A G E  III</b>	Year 4	<ul style="list-style-type: none"> <li>Clinical training in specialized fields of Anaesthesiology and/or intensive Care</li> </ul>	Final Examination
	Year 3 Year 2	<ul style="list-style-type: none"> <li>Clinical Anaesthesiology and Non-Anaesthesiology Posting in rotation</li> </ul>	
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>Basic Anaesthesiology</li> </ul>	Part I Examination
			Registration (Entrance Evaluation)



**Name of Programme :** Master of Clinical Oncology  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Clinical Oncology is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least two years of post-full registration clinical experience approved by the Senate including one year in one or more of the following disciplines:

Internal medicine  
Any Surgical Specialty  
Obstetrics and Gynaecology  
Paediatrics

\*This one year (minimum) must have been undertaken within the last 5 years from the point of entry into the programme.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

The programme of study comprises two stages as follows:

(1) Stage I in the first year of study comprising:

- (a) teaching in basic oncological sciences, cancer pathology, radiotherapy physics and medical statistics;
- (b) clinical training with continuous assessment and log book

(2) Stage II in the second, third and fourth years of study comprising:

- (a) clinical training with continuous assessment to cover all aspects of “non-surgical” cancer treatment for different tumour sites with emphasis on radiation oncology and use of systemic therapy;
- (b) research; and
- (c) documentation in a log book of procedures and clinical skills undertaken.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the session.

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for the candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book not later than two months before the Final Examination.
- (2) A candidate is required to submit his research report not later than two months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;
  - (b) the Part II Examination; and
  - (c) the Final Examination
- (2) No candidate shall be admitted to the Part II Examination unless he has passed the Part I Examination at least six months before the Part II Examination.

- (3) No candidate shall proceed to the Final Examination unless he has
- passed the Part II Examination;
  - submitted his log book not later than two months before the Final Examination; and
  - completed and submitted the research report not later than two months before the Final Examination.
- (4) The Part I Examination shall be held at the end of Stage I of the programme of study. The Part II Examination shall be held at the end of twenty four months of Stage II of the programme of study. The Final Examination shall be held at the end of the thirty six months of Stage II of the programme of study.
- (5) Examination Components and Allocation of Marks
- Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

No	Subject Description	Component/Description/Allocation of Marks (Maximum)			
		Short Answer Questions	Multiple Choice Questions	Viva Voce	Marks Total
1.	MAGT6107 Radiotherapy Physics	100	100	100	300
2.	MAGT6108 Medical Statistics	100	100	100	300
3.	MAGT6109 Molecular Biology	100	100	100	300
4.	MAGT6110 Pathology	100	100	100	300
5.	MAGT6111 Pharmacology	100	100	100	300
6.	MAGT6112 Radiobiology	100	100	100	300
<b>Grand Total</b>					<b>1800</b>

- Part II Examination

The components of the Part II Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Mark (Maximum)
A. Written		
MAGT6236	Paper 1 Multiple Choice Questions	100
MAGT6237	Paper 2 Case Orientated Questions	100
	Total	200
B. MAGT6243	Clinical Cases	100
C. MAGT6250	Viva Voce	100
	<b>Grand Total</b>	<b>400</b>

- Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A.	MAGT6371 Research report	100
B.	MAGT6386 Log Book continuous assessment	<u>100</u>
	Total	<u>200</u>

(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribe below if he has obtained:

(a) Part I Examination

50% or more of the aggregate combined marks for the components in each Subject of the Examination and not less than 45% of the marks for each component in the Subject.

A candidate who does not fulfill the above requirement for a Subject shall be deemed to have failed the Subject concerned but shall be credited with the Subject or Subjects he has passed and be required to repeat only the Subject that he has failed.

(b) Part II Examination

50% or more of the marks for each component of the Examination.

(c) Final Examination

50% or more of the marks for each component of the Final Examination.

(7) Repeating an Examination

(a) Part I Re-Examination

(i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.

(ii) The Part I Re-Examination shall consist of all previously failed subjects and shall be assessed and graded in the same manner as prescribed for the Part I Examination.

(iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

(i) A candidate who has failed the Part II Examination may be permitted a re-examination on two separate occasions at yearly intervals.

(ii) The Part II Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part II Examination.

(iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special

circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(c) **Final Re-Examination**

- (i) A candidate shall be re-examined in only the component that he has failed.
  - (ii) A candidate who has failed in the research report and or log book continuous assessment component may be referred for further work in the component that he has failed, over a period of time to be determined by the Committee of Examiners except that such periods of time as determined shall not exceed six months on any one occasion. At the end of the prescribed period the candidate shall be required to submit the research report and/or relevant document for re-examination. A candidate who fails to submit the research report and/or the relevant document by the end of the prescribed period for re-examination shall be deemed to have failed the Examination.
  - (iii) A candidate shall be permitted to re-submit the research report and/or the relevant document for re-examination on not more than one occasion.
  - (iv) A candidate who fails the component(s) after the re-submission shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with approval of Senate.
- (d) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

**11. Award of Degree**

No candidate shall be recommended for the award of the Degree of Master of Clinical Oncology unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

(1) **Award of Pass with Distinction for the Examination**

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Part II Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examinations at the first attempt;
- (b) has not repeated any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) **Award of the Degree with Distinction**

A candidate may be awarded the degree of Master of Clinical Oncology with Distinction if he has passed with Distinction in both the Part I and Part II Examinations.

**Master of Clinical Oncology  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	<ul style="list-style-type: none"> <li>Clinical training as per year 2 and 3, and in addition, the undertaking of a research project.</li> </ul>	Final Examination
	Year 3	<ul style="list-style-type: none"> <li>Clinical training with continuous assessment to cover all aspects of non-surgical cancer treatment for different tumour sites with emphasis on radiation oncology and use of systemic therapy.</li> </ul>	Part II Examination
	Year 2		
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>Teaching in basic oncological sciences, cancer pathology, radiotherapy physics and medical statistics, and ongoing clinical training with continuous assessment.</li> <li>Documentation in a log book of procedures and clinical skills undertaken will be done throughout the whole duration of the programme.</li> </ul>	Part I Examination   Registration (Entrance Evaluation)

**Name of Programme :** Master of Emergency Medicine  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Emergency Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four (4) years.
- (2) The maximum duration of study shall be seven (7) years.

**4. Structure of Programme**

- (1) The programme of study comprises three stages which are stage I in the first year, stage II in the second year and the third year and stage III in year the fourth year. These three stages are as follows:
  - (a) Stage I is to be carried out at University of Malaya. It comprises:
    - (i) The study of basic sciences relevant to the practice of Emergency Medicine.
    - (ii) Clinical postings under supervision with the emphasis on emergency situations in the specialties of Anaesthesia and Emergency Medicine.
  - (b) Stage II is to be carried out at University of Malaya or other centres recognised by Master of Medicine Conjoint Committee (Specialty). It comprises clinical postings in second year and third year:
    - (i) Clinical postings in second year comprises of postings internal medicine, general surgery, emergency medicine and paediatric.

- (ii) Clinical postings in third year comprise postings in emergency medicine, obstetric and gynaecology, radiology, otorhinolaryngology, ophthalmology, elective, orthopaedic surgery and neurosurgery.
  - (iii) A Research Project must be started during the early phase of Stage II.
  - (iv) Must passed the Advanced Cardiac Life Support Course (ACLS), Advanced Trauma Life Support Course (ATLS), Paediatric Advanced Life Support Course (PALS) and/or equivalent courses recognized by Faculty.
- (c) Stage III comprise of posting in Emergency Medicine in University of Malaya.
- (2) A candidate is required to keep a log book throughout his period of study to document tasks undertaken.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the total period of training does not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for the candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit one case report for each posting not later than one month before the Final Examination.
- (2) A candidate is required to submit his log book and posting reports every six months for assessment by the Department responsible for the candidate's programme of study.



- (3) A candidate is required to submit his research report not later than six months before the Final Examination.

## 10. Examinations for the Degree

- (1) The examinations leading to the Degree shall be as follows:
- (a) the Part I Examination; and
  - (b) the Final Examination.
- (2) No candidate shall be permitted to sit for the Final Examination unless he has:
- (a) passed the Part I Examination.
  - (b) completed and submitted his research report six months prior to the Final Examination.
  - (c) passed the 'Advanced Cardiac Life Support Course (ACLS)', 'Advanced Trauma Life Support Course (ATLS)', 'Paediatric Advanced Life Support Course (PALS)' and/or other courses recognized by the Faculty.
  - (d) submitted two (2) case reports for every postings not later than one month before the Final Examination.
  - (e) submitted his log book not later than one month before the Final Examination.
  - (f) achieved satisfactory report in each continuous assessment.
- (3) The Part I Examination shall be held at the end of Stage I. The Final Examination shall be held at the end of Stage III of the programme of study.
- (4) Examination Components and Allocation of Marks
- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A.	Supervisors' reports	Satisfactory reports
	Continuous Assessment	
	Case write-ups	
	Log book assessment	
	Participation in the Continuous Medical Education (CME)	
B.	Written	
	MEGV6101	Paper 1 Multiple Choice Questions 400
	MEGV6102	Paper 2 Multiple Essay Questions <u>200</u>
		Total <u>600</u>
C.	Clinical	
	MEGV6111	Objective Structured Clinical Examination 200
	MEGV6121	Viva Voce <u>200</u>
		Total <u>400</u>

**Grand Total 1000**

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A.	Continuous Assessment	Satisfactory reports
	Supervisors' reports	
	Case write-up	
	Log book assessment	
	Participation in the Continuous Medical Education (CME)	
B.	Written	
	MEGV6236 Paper 1 Multiple Choice Questions	200
	MEGV6237 Paper 2 Multiple Essay Questions	50
	MEGV6238 Paper 3 Short Answer Type Questions	150
		Total 400
C.	Clinical	
	MEGV6243 Objective Structured Clinical Examination	150
	MEGV6244 Short Cases	300
	MEGV6250 Viva Voce	150
		Total 600
<b>Grand Total</b>		<b><u>1000</u></b>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the examination prescribed below if he has obtained:

(a) Part I Examination

50% or more for each of the components in the examination.

(b) Final Examination

- (i) 50% or more for each of the components in the examination.
- (ii) The candidate must pass the research project.

(6) Repeating an Examination

(a) Part I Re-examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six (6) monthly intervals.
- (ii) A candidate is required to pass the written component before being allowed to sit for the clinical component.
- (iii) A candidate who has failed the Part I Examination written component is required to re-sit the written and clinical components for two separate occasions at six (6) months intervals.
- (iv) A candidate who has failed the Part I Examination Clinical component but has passed the written component is allowed to sit the clinical component only for two separate occasions at six (6) months interval.

- (v) A candidate who has failed the Part I Examination written component for three occasion shall be deemed to have failed the Part I Examination and shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty and with the approval of Senate.
  - (vi) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the re-examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty and with the approval of Senate.
- (b) Final Re-examination
- (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six (6) monthly intervals.
  - (ii) The Final Re-examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
  - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the course except in special circumstances and on the recommendation of the Faculty and with the approval of the Senate.
- (c) A candidate who has passed the re-examination for the examinations shall be deemed to have passed the prescribed Examinations.

## **11. Award of Degree**

No candidate shall be recommended for the award of the Degree of Master of Emergency Medicine unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### **(1) Award of Pass with Distinction for the Examination**

A candidate may be awarded a Pass with Distinction in the Part I Examination and the Final Examination if he has obtained 75% or more of the aggregate marks in each of the prescribed examinations. No candidate shall be eligible for the award of a Pass with Distinction based on the performance at a re-examination.

### **(2) Award of the Degree with Distinction**

A candidate may be awarded the degree with Distinction if he:

- (a) has passed with Distinction in the Part I Examination and the Final Examination;
- (b) has not failed or repeated any portion of the course or Examination.

**Master of Emergency Medicine  
Programme Schedule**

<b>S T A G E  III</b>	Year 4 (at UM)	<ul style="list-style-type: none"> <li>comprise of posting in Emergency Medicine in University of Malaya</li> <li>A research report to be submitted at least 6 months before Final Examination</li> </ul>	Final Examination
<b>S T A G E  IIb</b>	Year 3 (at UM or other centres)	<ul style="list-style-type: none"> <li>Clinical postings in                             <ul style="list-style-type: none"> <li>Emergency Medicine;</li> <li>Obstetrics and Gynaecology;</li> <li>Radiology;</li> <li>Otorhinolaryngology;</li> <li>Ophthalmology;</li> <li>Elective;</li> <li>Orthopaedic surgery;</li> <li>Neurosurgery.</li> </ul> </li> <li>Must passed the Paediatric Advanced Life Support Course (PALS), Advanced Cardiac Life Support Course (ACLS), Advanced Trauma Life Support Course (ATLS) and/or equivalent courses recognized by Faculty</li> </ul>	
<b>S T A G E  IIa</b>	Year 2 (at UM or other centres)	<ul style="list-style-type: none"> <li>clinical postings in:                             <ul style="list-style-type: none"> <li>internal medicine,</li> <li>general surgery</li> <li>emergency medicine</li> <li>paediatrics.</li> </ul> </li> <li>A Research Project must be started during the early phase in this stage</li> </ul>	
<b>S T A G E  I</b>	Year 1 (at UM)	<ul style="list-style-type: none"> <li>The study of basic sciences relevant to the practice of Emergency medicine</li> <li>Clinical postings under supervision with the emphasis on emergency situations in the specialties of Anaesthesia and Emergency Medicine</li> </ul>	Part I Examination   Registration (Entrance Evaluation)

**Name of Programme :** Master of Family Medicine  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Family Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

### 2. Entry Requirements

#### (1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

#### (2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation conducted by the Faculty of Medicine.

### 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

### 4. Structure of Programme

#### (1) The programme of study comprises three stages as follows:

##### (a) Stage I:

Clinical rotation in the first year of study in a hospital formally recognized by the Faculty in the following disciplines:

General Medicine;  
Paediatrics; and  
Obstetrics & Gynaecology

##### (b) Stage II:

- (i) Six months of speciality posting, one month each in the following discipline:

Psychological medicine  
Surgery

Orthopaedic Surgery  
Ophthalmology  
Otorhinolaryngology  
Elective (e.g. dermatology)

- (ii) Eighteen (18) months of clinical training in Family Medicine in the second and third year of study in centres formally recognized by the Faculty.

(c) Stage III:

- (i) One year of advanced training in Family Medicine in the fourth year of study at a primary care setting, either in a health clinic or university-based primary care clinic.
- (ii) family case studies;
- (iii) keeping of a Practice Diary of selected cases from his clinical training; and
- (iv) research

- (2) A candidate is required to maintain a log book throughout his period of study to document tasks undertaken.
- (3) (a) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or been exempted from the Part I Examination.  
(b) No candidate shall be permitted to proceed to Stage III of the programme of study unless he has passed the Part II Examination.

## 5. Registration

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of the programme of study if he possesses a postgraduate qualification in Family Medicine or any other such qualification recognised by the Senate.

## 6. Attendance

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## 7. Supervision

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.

- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book and posting reports for the respective period of study not later than 4 weeks prior to the Part I Examination. A candidate is also required to submit a family case study not later than 4 week prior to the Part I Theory Examination.
- (2) A candidate is required to submit his log book and posting reports for the respective period of study before the Part II Examination.
- (3) A candidate is required to submit his posting reports, family case studies a practice diary and research report for the respective period of study not later than one month before the Final Examination.

## **10 Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;
  - (b) the Part II Examination; and
  - (c) the Part III Examination
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has satisfactorily completed and submitted his log book, family case study and posting reports for the respective period of study not later than 4 weeks before the Part I Examination.
- (3) No candidate shall be permitted to sit for the Part II Examination unless he has -
  - (a) passed or has been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he possesses a postgraduate qualification in Family Medicine or any qualifications of equivalent standard recognised by the Senate; and
  - (b) satisfactorily completed and submitted his posting reports of the respective period of study before the Part II Examination.
- (4) No candidate shall be permitted to sit for the Part III Examination unless he has -
  - (a) passed the Part II Examination; and
  - (b) satisfactorily completed and submitted his prerequisite documents not later than one (1) month before the Part III Examination.
    - (i) A candidate whose prerequisite documents are deemed unsatisfactory may be referred for further work over a period of time to be determined by the Department except that such period of time as determined shall

not exceed one year on any one occasion. At the end of the prescribed period the candidate shall be required to submit the prerequisite documents for re-examination.

- (ii) A candidate who fails to submit satisfactory prerequisite documents by the end of the prescribed period shall be deemed to have failed the prerequisite component.
  - (iii) A candidate is permitted to re-submit the prerequisite documents on not more than two occasions. Practice diary must be submitted not later than one (1) month before the Part III Examination.
  - (iv) After the maximum number of prerequisite submissions is over, the candidate is considered to have failed the final exam and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (5) The Part I Examination shall be held at the end of the first year of the programme of study. The Part II Examination shall be held at the end of the third year of the programme of study. The Part III Examination shall be held at the end of the fourth year of the programme of study.
- (6) The Component A for Part I Examination will be held not later than four (4) weeks before the examination for Component B. Those who fail the Component A will not be allowed to take the Component B.

The Component A for Part II Examination will be held not later than four (4) weeks before the examination for Component B. Those who fail the Component A will not be allowed to take the Component B.

(7) Examination Components and Allocation of Marks

(a) Part I Examination

The components of the Part I Examination and the marks and percentage values to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written MMGK6101	Multiple Choice Questions Paper (MCQ)	60%
	Total	60%
B. Clinical MMGK6126	Objective Structured Clinical Examination (OSCE)	40%
	Total	100%

(b) Part II Examination

The components of the Part II Examination and the marks and percentage values to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		



	MMGK6238	Multiple Choice Questions Paper (MCQ)	16%
	MMGK6239	Patient Management Problems (PMP)	24%
		Total	40%
B.	Clinical		
	MMGK6255	Objective Structured Clinical Examination (OSCE)	60%
		Total	60%
(c)	Part III Examination		

The components of the Part III Examination and the marks and percentage values to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
MMGK6381	Viva Voce/Practice Diary	100%

(8) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

- (a) Part I Examination  
50% or more of the marks for each component of the Examination.
- (b) Part II Examination  
50% or more of the marks for each component of the Examination.
- (c) Part III Examination  
50% or more of the marks for each component of the Examination.

(9) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Component A of the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) A candidate who has passed the Component A of the Part I Examination but failed Component B may be permitted a re-examination of Component B at six monthly intervals.
- (iii) The total number of attempts for all components of Part I Examination shall not exceed three (3) times. A candidate who fails the examination on the third attempt shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

- (i) A candidate who has failed Component A of the Part II Examination may be permitted a re-examination on two separate occasions at six monthly intervals.

- (ii) A candidate who has passed Component A of the Part II Examination but failed Component B may be permitted a re-examination of Component B on two separate occasions at six monthly intervals.
  - (iii) A candidate who fails the re-examination for Component A of the Part II Examination on the third attempt shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
  - (iv) A candidate who passes the re-examination for Component A of the Part II Examination on the third attempt is allowed to sit the Component B for three times. A candidate who fails Component B of the Part II Examination on the third attempt shall be deemed to have failed the Part II Examination and shall not be permitted to repeat programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (c) Part III Re-Examination
- (i) A candidate who has failed the Part III Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
  - (ii) The Part III Re-Examination shall consist of the components that the candidate had failed in and shall be assessed and graded in the same manner as prescribed for the Part III Examination.
  - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part III Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (d) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Family Medicine unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Part III Examination if he -

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examinations;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Family Medicine with Distinction if he -

- (a) has passed with Distinction in the Part II Examination and the Part III Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Family Medicine  
Programme Schedule**

<b>S T A G E  I I I</b>	Year 4	<ul style="list-style-type: none"> <li>▪ Advanced Training in Family Medicine</li> </ul>	Part III Examination
<b>S T A G E  I I</b>	Year 3  Year 2	<ul style="list-style-type: none"> <li>▪ Clinical Training in Family Medicine – 18 months</li> <li>▪ Six months of speciality posting, one month each in the following discipline:  Psychological medicine Surgery Orthopaedic Surgery Ophthalmology Otorhinolaryngology Elective (e.g. dermatology)</li> </ul>	Part II Examination
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>▪ Clinical Training by rotation in:- General Medicine Paediatrics Obstetrics and Gynaecology</li> </ul>	Part I Examination  Registration (Entrance Evaluation)

**Name of Programme :** Master of Internal Medicine  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Internal Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

## 2. Entry Requirements

### (1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

### (2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

## 4. Structure of Programme

### (1) The programme of study comprises three stages as follows:

#### (a) Stage I in the first year comprising:

- (i) the study of basic sciences relevant to the practice of internal medicine; and
- (ii) clinical clerkship under supervision with emphasis on emergency medicine.

#### (b) Stage II in the second and third year comprising:

- (i) rotational postings of three months duration each in the following eight disciplines of clinical medicine:

Cardiology  
Nephrology  
Neurology

Respiratory Medicine  
Gastroenterology and Hepatology  
Haematology and Oncology  
Endocrinology  
Rheumatology and Infectious Diseases and Dermatology

and

- (ii) a research project
- (c) Stage III in the fourth year comprising posting in an approved subspeciality or in general medicine in the Faculty or a recognised centre outside the Faculty
- (2) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed the Part I Examination.
- (3) No candidate shall be permitted to proceed to Stage III of the programme of study unless he has passed the Part II Examination.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for the candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit four (4) case report one month before the Part II Examination.
- (2) A candidate is required to submit his research report not later than one month before the Final Examination.

## 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;
  - (b) the Part II Examination; and
  - (c) the Final Examination
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has completed, submitted and performed satisfactorily in the continuous assessment prescribed by the Department.
- (3) No candidate shall be permitted to sit for the Part II Examination unless he has -
  - (a) passed the Part I Examination; and
  - (b) performed satisfactorily in the Stage II of the programme of study consisting of evaluations by the supervisors and obtaining satisfactory grades on four case reports in publishable format. Submission of all 4 case reports before sitting Part II Examination.
- (4) No candidate shall be permitted to proceed to the Final Examination unless he has submitted his Research Report not later than one month before the Final Examination.
- (5) The Part I Examination shall be held at the end of Stage I of the programme of study. The Part II Examination shall be held at the end of the third year of the programme of study. The Final Examination shall be held at the end of the fourth year of the programme of study.
- (6) The theory examination will be held 6 weeks before the clinical examination. The Theory examination is usually held in March/April and September/October. The Clinical examination will be held after the theory paper which is in May/June and November/December.
- (7) Examination Components and Allocation of Marks

(a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A. Written		
MPGF6104	Paper 1 One Best Answer	35%
MPGF6105	Paper 2 Problem Solving Questions	<u>25%</u>
	Total	<u>60%</u>
B. MPGF6111	Objective Structured Clinical Examination	40%
	Total	<u>40%</u>
	<b>Grand Total</b>	<b><u>100%</u></b>

(b) Part II Examination

The components of the Part II Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A. Written		
MPGF6239 Paper 1	One Best Answer	20%
MPGF6240 Paper 2	Multiple Essay Question	10%
MPGF6238 Paper 3	Objective Structured Practical Examination	<u>10%</u>
	Total	40%
B. MPGF6243	Clinical and Viva Voce	
MPGF6244 Clinical 1	Long Case	25%
MPGF6245 Clinical 2	Short Cases	25%
MPGF6250 Viva Voce		10%
	Total	<u>60%</u>
	<b>Grand Total</b>	<b><u>100%</u></b>

(c) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A. MPGF6371	Research Report	100
B. MPGF6381	Viva Voce	<u>100</u>
	Total	<u>200</u>

(8) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations mentioned below if he has obtained:

(a) Part I Examination:

- (i) 50% or more of the marks for each component of the Examination.
- (ii) Must pass at least 2 OSCE cases from Component B (MPGF6111).

The theory examination will be held 6 weeks before the clinical examination. Only candidates that passes the theory examination, Component A, will be allowed to sit the clinical examination, i.e. Component B. A candidate who fails the clinical examination will not have to re-sit the theory examination before attempting the clinical examination again.

(b) Part II Examination:

- (i) 50% or more of the marks for each component of the Examination; and
- (ii) Must pass at least 2 short cases from Component B (MPGF6245); and
- (iii) 2 or more short cases should not have a score of less than 3/10; and

- (iv) obtain at least 45% in the long case (MPGF6244)

The theory examination will be held 6 weeks before the clinical examination. Only candidates that passes the theory examination, Component A, will be allowed to sit the clinical examination, i.e. Component B. A candidate who fails the clinical examination will not have to re-sit the theory examination before attempting the clinical examination again.

- (c) Final Examination:

50% or more of the marks of the Final Examination.

- (9) Repeating an Examination

- (a) Part I Re-Examination

- (i) A candidate who has failed Component A (written) of the Part I Examination may be permitted a re-examination for Component A (written) on two separate occasions at six monthly intervals.
- (ii) A candidate who has pass Component A (written) of the Part I Examination but failed Component B (clinical and viva) of the Part I Examination may be permitted a re-examination on two separate occasions within two years of passing the theory, at six monthly intervals without having to re-sit Component A (written) of the Part I Examination.
- (iii) A candidate who has pass Component A (written) of the Part I Examination but attempts for Component B (clinical and viva) of the Part I Examination after two years of passing component A, he/she will have to re-sit Component A (written) of the part I Examination.
- (iv) A candidate who fails the re-examination for Component A (written) of the Part I Examination on the third trial shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (v) A candidate who pass the re-examination for Component A (written) of the Part I Examination on the third trial is allowed to sit for Component B (clinical and viva) of the Part I Examination for three times. If candidate fails Component B (clinical and viva) of the Part I Examination on the third trial shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (b) Part II Re-Examination

- (i) A candidate who has failed Component A of the Part II Examination (written) may be permitted a re-examination for Component A on two separate occasions at six monthly intervals.



- (ii) A candidate who has pass Component A of the Part II Examination (written) but failed Component B of the part II examination (clinical and viva) may be permitted a reexamination on two separate occasions within two years of passing the theory, at six monthly intervals without having to re-sit Component A (written) of the Part II Examination.
  - (iii) A candidate who has pass Component A (written) of the Part II Examination but attempts for Component B (clinical and viva) of the Part II Examination after two years of passing Component A, he/she will have to re-sit component A (written) of the Part II Examination.
  - (iv) A candidate who fails the re-examination for Component A (written) of the Part II Examination on the third trial shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
  - (v) A candidate who pass the re-examination for Component A (written) of the Part II Examination on the third trial is allowed to sit for Component B (clinical and viva) of the Part II Examination for three times. If candidate fails Component B (clinical and viva) of the Part II Examination on the third trial shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (c) Final Re-Examination
- (i) A candidate whose research report is deemed unsatisfactory by the Committee of Examiners may be referred for further work over a period of time to be determined by the Committee of Examiners except that such periods of time as determined shall not exceed six months on any one occasion. At the end of the prescribed period the candidate shall be required to submit the research report for re-examination. A candidate who fails to submit his research report by the end of the prescribed period for re-examination shall be deemed to have failed the research report.
  - (ii) A candidate shall be permitted to submit the research report for re-examination on not more than two occasions.
  - (iii) A candidate who fails in the research report on the second resubmission shall be deemed to have failed the Final Re-Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (d) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Internal Medicine unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations and the Final Assessment.

- (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) not less than 70% of the marks in the respective clinical examination for the Part I and the Part II Examination;
- (c) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Internal Medicine with Distinction if he –

- (a) has passed with Distinction in the Part I Examination, Part II Examination and the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (d) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Internal Medicine  
Programme Schedule**

S T A G E  III	Year 4	<ul style="list-style-type: none"> <li>Speciality training in one of the small speciality fields with at least 6 months in General Medicine</li> </ul>	Final Examination
	Year 3  Year 2	<ul style="list-style-type: none"> <li>Rotational posting in small specialities</li> </ul>	Part II Examination (theory examination will be held 6 weeks before the clinical examination)
	Year 1	<ul style="list-style-type: none"> <li>Applied Basic Medical Sciences and General Medicine and Emergency Medicine</li> </ul>	Part I Examination (theory examination will be held 6 weeks before the clinical examination)
I			Registration (Entrance Evaluation)

**Name of Programme :** Master of Medical Science in Clinical Pathology  
Master of Medical Science in Clinical Pathology (Haematology) /  
(Histopathology) / (Chemical Pathology) / (Forensic Pathology) /  
(Medical Microbiology)  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

Master of Medical Science in Clinical Pathology; or Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) programme is a clinical coursework program in which the research component is less than thirty (30) percent of the whole programme of study.

## 2. Entry Requirements

### (1) Entry qualifications

- (a) Master of Medical Science in Clinical Pathology
  - (i) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (ii) At least one year of supervised training after full medical registration, in a medical pathology laboratory approved by the Faculty, or at least one year of such alternative experience as recommended by the Faculty and approved by the Senate.
- (b) Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)
  - (i) Possesses a Master's degree in Clinical Pathology or an equivalent qualification approved by Senate; and
  - (ii) Candidate in the preceding academic session, passed Examination for the degree Master of Medical Science in Clinical Pathology; or
  - (iii) Has in the preceeding year, at least six month of practical experience in the chosen specialty.

### (2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.
- (c) International candidates are required to obtain a score of at least 550 in the TOEFL examination or band 6 in IELTS or attended and passed the UM English Language Programme For Postgraduate Students course if the Bachelor's

Degree was obtained from a University that did not use English as the medium of instruction.

### **3. Duration of Study**

- (1) Master of Medical Science in Clinical Pathology
  - (a) The minimum duration of study shall be two years.
  - (b) The maximum duration of study shall be four years.
- (2) Master of Medical Science in Clinical Pathology (Haematology / Histopathology / Chemical Pathology / Forensic Pathology / Medical Microbiology)
  - (a) The minimum duration of study shall be one year.
  - (b) The maximum duration of study shall be three years.

### **4. Structure of Programme**

- (1) Master of Medical Science in Clinical Pathology

The programme of study extends over two years and consists of:

  - (a) Studies and rotational practical work in the following disciplines of Clinical Pathology:
    - (i) Anatomical pathology including Autopsy;
    - (ii) Haematology including Transfusion Medicine;
    - (iii) Chemical Pathology;
    - (iv) Medical Microbiology (including Bacteriology, Mycology, Immunology and Virology) with Parasitology; and
  - (b) tasks as stipulated in the log book including posting reports.
- (2) Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)

The programme of study is over a period of one year and consisting of advanced studies and practical work in any one of the following areas:

Chemical Pathology  
Forensic Pathology  
Haematology  
Histopathology  
Medical Microbiology

### **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate who had passed in the Examination for the degree of Master of Medical Science in Clinical Pathology in the preceding academic session, may be permitted to register directly for the programme of study for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) if he:
  - (a) (i) possesses a Master's degree in Clinical Pathology or an equivalent qualification approved by the Senate; and

- (ii) has, in the preceding year, at least six months of practical experience in the speciality subject he has chosen to pursue in Stage II of the programme of study.

Or

- (b) in the preceding academic session, passed the Examination for the degree of Master of Medical Science in Clinical Pathology.

## **6. Attendance**

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Submission**

A candidate is required to submit his log book and posting reports at the end of training, no later than one month before the Examination for the degree of Master of Medical Science in Clinical Pathology.

## **9. Examinations for the Degree**

- (1) The Examinations leading to the degrees shall be as follows:
  - (a) the Examination for the degree of Master of Medical Science in Clinical Pathology;
  - (b) the Examination for the degree Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)
- (2) No candidate shall be permitted to sit for the Examination for the degree of Master of Medical Science in Clinical Pathology unless he has satisfactorily completed all the postings in Stage I of the programme of study, completed all the required tasks as set out in the log book and has submitted the log book and posting reports to the Department of Pathology not later than one month before the Examination.
- (3) No candidate shall be permitted to sit for the Examination for the degree of Master of Medical Science in Clinical Pathology and Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) unless he has passed or been exempted from the

Examination for the degree of Master of Medical Science in Clinical Pathology. A candidate may be exempted from the Examination for the degree of Master of Medical Science in Clinical Pathology if he possesses the degree of Master of Medical Science in Clinical Pathology of the University or an equivalent qualification approved by the Senate.

- (4) The examination for the degree of Master of Medical Science in Clinical Pathology; or the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) shall be held at the end the programme of study.

(5) Examination Components and Allocation of Marks

- (a) Examination of the degree of Master of Medical Science in Clinical Pathology.

The components of the Examination and the marks to be allocated to each component of the Examination shall be as follows:

Component		Description	Allocation of Marks (Maximum)
A. Written	MKGS6101	Paper 1 Multiple Choice/Essay Questions	100
	MKGS6102	Paper 2 Multiple Choice/Essay Questions	<u>100</u>
	Total		200
B. Practical	MKGS6111	Practical 1 Objective Structured Tests	100
	MKGS6112	Practical 2 Objective Structured Tests	<u>100</u>
	Total		200
C.	MKGS6121	Viva Voce	100
D.	MKGS6131	Coursework Posting Assessment	<u>100</u>
<b>Grand Total</b>			<b><u>600</u></b>

- (b) Examination for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)

The components of the Examination and the marks to be allocated to each component shall be as follows:

- \*MMA Master of Medical Science in Clinical Pathology (Haematology)
- \*MMB Master of Medical Science in Clinical Pathology (Medical Microbiology)
- \*MMC Master of Medical Science in Clinical Pathology (Forensic Pathology)
- \*MMD Master of Medical Science in Clinical Pathology (Chemical Pathology)
- \*MME Master of Medical Science in Clinical Pathology (Histopathology)

Component		Description	Allocation of Marks (Maximum)
A. Written	*MKGS6236	Paper 1 Essays and /or Short Answers Questions	200
	*MKGS6237	Paper 2 Essays and /or Short Answers Questions	<u>200</u>

			Total	400
B.	*MKGS6243	Practical		400
C.	*MKGS6250	Viva		100
		Voce		
D.	*MKGS6266	Coursework	Posting Assessment	<u>100</u>
			<b>Grand Total</b>	<b><u>1000</u></b>

(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

- (a) Examination for the degree of Master of Medical Science in Clinical Pathology
  - (i) 50% or more of the aggregate combined marks for all the components of the Examination; and
  - (ii) not less than 50% of the marks for the practical component of the Examination.
- (b) Examination for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)
  - (i) 50% or more of the aggregate combined marks for all the components of the Examination; and
  - (ii) not less than 50% of the marks for the practical component of the Examination.

(7) Repeating an Examination

- (a) Re-Examination for the degree of Master of Medical Science in Clinical Pathology
  - (i) A candidate who has failed the Examination for the degree of Master of Medical Science in Clinical Pathology may be permitted a re-examination after a period of one (1) year.
  - (ii) The Re-Examination for the degree of Master of Medical Science in Clinical Pathology shall consist of the components as mentioned below and shall be graded in the same manner as prescribed for the Examination for the degree of Master of Medical Science in Clinical Pathology.

Component		Description		Allocation of Marks (Maximum)
A.	Written			
	MKGS6101	Paper 1	Multiple Choice/Essay Questions	100
	MKGS6102	Paper 2	Multiple Choice/Essay Questions	<u>100</u>
			Total	200
B.	Practical			
	MKGS6111	Practical 1	Objective Structured Tests	100
	MKGS6112	Practical 2	Objective Structured Tests	<u>100</u>
			Total	200



C.	MKGS6121	Viva Voce	<b>Grand Total</b>	<b><u>100</u></b> <b><u>500</u></b>
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- (iii) Notwithstanding paragraph 9(7)(a) above, a candidate who has only failed in the practical component of the Examination may be permitted a re-examination on two separate occasions at six monthly intervals. Under the circumstances, the re-examination shall comprise the practical component and the viva-voce only.
- (iv) A candidate who fails the re-examination for the degree of Master of Medical Science in Clinical Pathology on the second occasion shall not be permitted to repeat the program of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (v) A candidate who passed the Re-Examination shall be deemed to have passed the Examination for the degree of Master of Medical Science in Clinical Pathology.
- (b) Re-Examination for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology)
- (i) A candidate who has failed the Examination for the degree of of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) may be permitted a re-examination after a period of one (1) year.
- (ii) The Re-Examination for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) shall consist of the components and allocation of marks as mentioned below and shall be assessed and graded in the same manner as prescribed for the Examination for the degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology).
- \*MMA Master of Medical Science in Clinical Pathology (Haematology)  
 \*MMB Master of Medical Science in Clinical Pathology (Medical Microbiology)  
 \*MMC Master of Medical Science in Clinical Pathology (Forensic Pathology)  
 \*MMD Master of Medical Science in Clinical Pathology (Chemical Pathology)  
 \*MME Master of Medical Science in Clinical Pathology (Histopathology)

Component		Description	Allocation of Marks (Maximum)
A.	Written		
	*MKGS6236	Paper 1 Essays and /or Short Answers	200
	*MKGS6237	Paper 2 Questions	
		Essays and /or Short Answers	<u>200</u>
		Questions	
		Total	400
B.	*MKGS6243	Practical	400
C.	*MKGS6250	Viva	<u>100</u>
		Voce	
<b>Grand Total</b>			<b><u>900</u></b>

- (iii) A candidate who fails the re-examination for the degree of of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) on the second occasion shall not be permitted to repeat the program of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (iv) A candidate who passed the re-examination shall be deemed to have passed the Examination for the degree of of of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology).

## 10. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Medical Science in Clinical Pathology; or of the Degree of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) unless he has successfully completed all parts of the course, complete the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Examination for the degree of Master of Medical Science in Clinical Pathology; or the Examination for the degree of of of Master of Medical Science in Clinical Pathology (Haematology / Histopathology / Chemical Pathology / Forensic Pathology / Medical Microbiology) if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examinations;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

- (a) A candidate may be awarded the degree of Master of Medical Science in Clinical Pathology with Distinction if he -
  - (i) has passed with Distinction in the Examination for the degree of Master of Medical Science in Clinical Pathology;
  - (ii) has not failed in any component of the prescribed Examination; and
  - (iii) has not repeated the prescribed examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.
- (b) A candidate may be awarded the degree of Master of Medical Science in Clinical Pathology or the Examination for the degree of of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology) with Distinction if he -

- (i) has passed with Distinction in the Examination for the degree of Master of Medical Science in Clinical Pathology or the Examination for the degree of of Master of Medical Science in Clinical Pathology (Haematology) / (Histopathology) / (Chemical Pathology) / (Forensic Pathology) / (Medical Microbiology);
- (ii) has not failed in any component of the prescribed Examination; and
- (iii) has not repeated the prescribed examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Medical Science in Clinical Pathology  
Programme Schedule**

<b>Y E A R</b>	Year 2	Posting for 14 weeks in each of these disciplines.	<ul style="list-style-type: none"> <li>Histopathology</li> <li>Haematology</li> </ul>	Final Examination (At the end the programme of study)
		Posting for 7 weeks in each of these disciplines.	<ul style="list-style-type: none"> <li>Chemical Pathology</li> <li>Medical Microbiology</li> </ul>	
	Year 1	Posting for 10 weeks in each of these disciplines.	<ul style="list-style-type: none"> <li>Histopathology</li> <li>Haematology</li> <li>Chemical Pathology</li> <li>Medical Microbiology/Parasitology</li> </ul>	Registration (Entrance Evaluation)

**Master of Medical Science in Clinical Pathology (Haematology/Histopathology/  
Chemical Pathology/Forensic Pathology/Medical Microbiology)  
Programme Schedule**

Y E A R  1	<ul style="list-style-type: none"> <li>▪ Extending over a period of one year and consisting of advanced studies and practical work in any one of the following specialised areas in the field of clinical pathology:               <ul style="list-style-type: none"> <li>• Chemical Pathology</li> <li>• Forensic Pathology</li> <li>• Haematology</li> <li>• Histopathology</li> <li>• Medical Microbiology</li> </ul> </li> </ul>	Final Examination (At the end the programme of study)
		Registration (Entrance Evaluation)

**Name of Programme :** Master of Obstetrics and Gynaecology  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Obstetrics and Gynaecology Programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry Qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or equivalent medical qualifications approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

(1) The programme of study comprises of two stages as follows:

(a) Stage I comprising:

- (i) twelve (12) months of training in basic Clinical Obstetrics and Gynaecology.
- (ii) plan and commence research project(s).

(b) Stage II comprising advanced clinical training in Obstetrics and Gynaecology for a period of thirty six (36) months during which the candidate shall:

- (i) achieve satisfactory progress in the continuous assessment process from the department and supervisor;
- (ii) keep a log book of cases managed under supervision and practical procedures performed and certified satisfactory by the supervisor; and

- (iii) submit research report(s) or published article duly certified as satisfactory by the assessor(s) not later than six (6) months before the Final Examination.
- (2) A candidate is required to pass Part I Master of Obstetrics and Gynaecology Degree prior to Advancement to Stage II of the programme.
- (3) Candidate may undertake a maximum of six (6) months of elective training in a relevant discipline within/ outside department as approved by the Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Malaya.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project(s) must be approved by the Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Malaya and the ethics committee (where project is undertaken) prior to its commencement.

## **9. Submission**

- (1) A candidate is required to submit his research report(s) or published article duly certified as satisfactory by the assessor(s) not later than six (6) months before the Final Examination.
- (2) A candidate is required to submit a log book of cases managed under supervision and practical procedures performed and certified satisfactory by the supervisor at least three (3) months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;

- (b) the Final Examination
- (2) No candidate shall be permitted to sit for the Final Examination unless he has -
- (a) pass the Part I Examination;
  - (b) achieve satisfactory progress in the continuous assessment process from the department and supervisor;
  - (c) submit a log book of cases managed under supervision and practical procedures performed and certified satisfactory by the supervisor at least three (3) months before the Final Examination; and
  - (d) submit research report(s) or published article duly certified as satisfactory by the assessor(s) not later than six (6) months before the Final Examination.
- (3) The Part I Examination shall be held at about of twelve (12) months into Stage I of the programme of study. The Final Examination shall be held at the end of the final year of the Stage II programme of study.
- (4) Examination Components and Allocation of Marks

(a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Subject	Description	Allocation of Marks (Maximum)
A. Written		60%
MGGG6103	Multiple Choice Questions	
MGGG6104	Essay	
B. Clinical		40%
MGGG6105	Objective Structured Clinical Evaluation	
MGGG6106	Viva	
	Total	100%

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows (using the close marking system):

Subject	Description	Allocation of Marks (Maximum)
A. Written		
MGGG6236 (Obstetrics)	Paper 1	
	Multiple Choice Questions	40%
	Modified Essay Questions	
	Short Answer Questions	
MGGG6237 (Gynaecology)	Paper 2	
	Multiple Choice Questions	
	Modified Essay Questions	
	Short Answer Questions	
B. MGGG6243 (Obstetrics)	Clinicals I	
	Long Case	40%

	MGGG6244 (Gynaecology)	Short Cases  Long Case Short Cases	
C.	MGGG6255 Clinicals II	Objective Structured Clinical Evaluation	20%
	MGGG6281 Viva Voce	Obstetrics	
	MGGG6282	Gynaecology	
			Total 100%

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained -

(a) Part I Examination

- (i) 50% or more of the aggregate marks of the written components (Component A); and
- (ii) 50% or more of the aggregate marks of the clinical components (Component B).

(b) Final Examination

- (i) 50% or more of the aggregate marks of the written components (Component A); and
- (ii) 50% or more of the aggregate marks of the clinical components (Component B); and
- (iii) 50% or more of the aggregate marks of the clinical components (Component C).

Candidate must pass the written components (Component A) before being allowed to sit the clinical components.

Candidate must pass both the Long Case and Short Case sections separately (Component B).

Candidates also fail the Component B if they fail three or more cases in any of the six clinical cases regardless of the aggregate marks obtained.

The candidate shall be informed of the results of written components (Component A) at least two weeks before commencement of the clinical components.

(6) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a reexamination on two separate occasions after a period of six months.
- (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the manner as prescribed for in the Part I Examination.



- (iii) A candidate who fails the Part I Re-Examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (b) Final Re-Examination
  - (i) Candidate who has passed the written components (Component A) but failed the clinical components (Component B and/ or Component C), is allowed to have TWO (2) more attempt in the subsequent clinical components, without having to repeat the written components (Component A).  
  
Failing this third attempt of clinical components (Component B and/ or Component C) or failed to appear for the examination for any reason, the candidate will have to resit the whole Final Examination Master of Obstetrics and Gynaecology (Component A, B and C).
  - (ii) There is no limit on the total attempts in Final Examination, as long as the candidate is still within the maximum duration of study which shall be seven years from the first date of registration.
  - (iii) After the maximum duration study is over the candidate is considered to have failed the Final Examination and shall not be permitted to repeat the programme of study.
- (c) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the respective prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Obstetrics and Gynaecology unless he has successfully completed all parts of the course, fulfilled the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Obstetrics and Gynaecology with Distinction if he -

- (a) has passed with Distinction in the Final Examination;

- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Obstetrics and Gynaecology  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	<ul style="list-style-type: none"> <li>Advanced Clinical training in Obstetrics and Gynaecology for a period of thirty six (36) months</li> </ul>	Final Examination
	Year 3		
	Year 2		
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>Twelve (12) months of training in basic Clinical Obstetrics and Gynaecology which may include a maximum six (6) months of elective training in a relevant discipline.</li> </ul>	Part I Examination   Registration (Entrance Evaluation)

**Name of Programme :** Master of Ophthalmology  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Ophthalmology programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

(1) The programme comprises three stages as follows:

- (a) Stage I, in the first year of study, comprising training in the basic medical sciences, basic ocular sciences, basic ophthalmology and related medical and surgical disciplines;
- (b) Stage II, in the second and third year of study, comprising clinical ophthalmology training, medical postings and preparation of a case studies report for the number of cases which shall be as determined by the Department from time to time; and
- (c) Stage III, in the fourth year of study comprising advanced clinical training in Ophthalmology and a research project.

(2) A candidate shall keep a log book throughout his period of study to document tasks undertaken.

(3) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or been exempted from the Part I Examination.

- (4) No candidate shall be permitted to proceed to Stage III of the programme of study unless he has passed the Part II Examination.

**5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) All candidates must complete the minimum 4 years of training for the programme of the study

**6. Attendance**

During his programme of study –

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

**7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

**8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

**9. Submission**

A candidate is required to submit his -

- (1) case studies report not later than two months before the Final Examination and research report not later than six months before the Final Examination; and
- (2) log book one month before the Final Examination.

**10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
- (a) the Part I Examination;
  - (b) the Part II Examination; and
  - (c) the Final Examination.
- (2) No candidate shall be permitted to sit for the Part II Examination unless –
- (a) he has passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he –

- (i) has passed Part III Examination for the membership of the Royal College of Ophthalmologists (London); or
    - (ii) has passed Part III Examination of Royal College of Surgeons of Edinburgh; or
    - (iii) holds a degree or diploma of equivalent standard acceptable to the Senate.
  - (b) his protocol for the research report presented and accepted by the department 6 months before the Part II Examination.
  - (c) he has submitted the first draft of the case report 3 months before the Part II Examination.
- (3) No candidate shall be permitted to appear for the Final Examination unless he has-
- (a) passed the Part II Examination;
  - (b) submitted the research report not later than six months and the case studies report not later than two months before the Final Examination; and
  - (c) submitted the log book that has been certified as satisfactory by the Department one month before the Final Examination.
- (4) The Part I Examination shall be held at the end of Stage I of the programme of study. The Part II Examination shall be held at the end of the second year of Stage II of the programme of study. The Final Examination shall be held at the end of the fourth year of the programme of study.
- (5) Examination Components and Allocation of Marks
- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Component	Description		% contribution to total marks	
A. Written				
MHGM6101	Paper 1	Multiple Choice Questions	}	30
MHGM6102	Paper 2	Multiple Choice Questions		
MHGM6103	Paper 3	Essay Questions		
Total				<u>50</u>
B. Practical				
MHGM6122	Viva Voce			15
MHGM6126	OSPE	Objective Structured Practical Examination		<u>15</u>
Total				<u>30</u>
C. Refraction				
MHGM6111	Clinical Refraction			10
MHGM6127	OSPE	Objective Structured Practical Examination (Optics and Refraction)		<u>10</u>
				<u>20</u>
Grand Total				<b>100</b>

- (b) Part II Examination

The components of the Part II Examination and the marks to be allocated to each component shall be as follows:

Component	Description	% contribution to total marks
A. Written		
MHGM6236	Paper 1	Multiple Choice Questions
MHGM6237	Paper 2	Essay Questions
MHGM6238	Paper 3	Essay Questions
		Total
		40
B. Clinical		
MHGM6243	Long Case	Ophthalmology
MHGM6244	Short Cases1	Ophthalmology
MHGM6245	Short Cases2	General Medicine in relation to Ophthalmology
		Total
		40
C. Viva Voce		
MHGM6251	Viva 1	Ophthalmology
MRGM6252	Viva 2	General Medicine in relation to Ophthalmology
		Total
		20
		<b>Grand Total</b>
		<b>100</b>

(c) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. MHGM6371	Case Studies	Based on Case Studies, Report the number to be determined by the Department
		100
B. MHGM6372	Research Report	
		100
		Total
		200

(6). Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribe below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the marks for each component of the Examination.

b) Part II Examination

- (i) 50% or more of the marks for each component of the Examination;
- (ii) The theory examination (Component A) will be held 1 month before the clinical and viva examination (Component B & C). Only candidates

who pass the Component A will be allowed to sit for Component B & C.

- (iii) A candidate who fails the Component B and / or C will not have to re-sit the Component A. Both components B and C have to be repeated.

(c) Final Examination

50% or more of the marks for each component for the Examination.

(7) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

- (i) A candidate who has failed the Component A (theory) of the Part II Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) A candidate who passes the Component A but failed Component B (Clinical) and/or C (Viva) may be permitted for re-examination on two separate occasions within two years of passing Component A, at six months intervals without having to re-sit Component A of the Part II Examination.
- (iii) A candidate who fails Component B only or Component C only, will have to re-sit both components of the re-examination.
- (iv) A candidate who passes Component A but attempts for Component B & C after two years of passing Component A, will have to re-sit Component A of the re-examination.
- (v) A candidate who fails the re-examination for Component A on the third trial shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Senate.
- (vi) A candidate who passes the re-examination for Component A on the 3rd trial is allowed to sit for Component B & C for three times. A candidate who fails Component B & C for the third trial shall be deemed to have failed the Part II examination and shall not be permitted to

repeat the programme of study except in special circumstances on the recommendation of the Senate.

- (vii) A candidate must pass the Part II examination before/on the sixth year of the the study to enable one year of study before the Final Assessment.
- (c) Final Re-Examination
  - (i) A candidate whose research report or case studies report is deemed unsatisfactory by the Committee of Examiners may be referred for further work in his research report or case studies report over a period of time to be determined by the Committee of Examiners except that such period of time as determined shall not exceed six months on any occasion. At the end of the prescribed period the candidate shall be required to submit his research report or case studies report for re-examination. A candidate who fails to submit his research report or case studies report by the end of the prescribed period for re-examination shall be deemed to have failed the research report or case studies report.
  - (ii) A candidate shall be permitted to submit research report or case studies report either separately or combined for re-examination on not more than two occasions.
  - (iii) A candidate who fails the research report or case studies report taken separately or combined after the second re-examination shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (d) A candidate who has passed the re-examination for the examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Ophthalmology unless he has successfully completed all parts of the course and has passed the prescribed Examinations, and the Final Assessment.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Final Examination if he -

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examinations;
- (b) has not failed in any component of the prescribed examination; and
- (c) has not repeated the prescribed examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Ophthalmology with Distinction if he -



- (a) has passed with Distinction in the Part II Examination and the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Ophthalmology  
Programme Schedule**

<b>S T A G E  III</b>	Year 4	<ul style="list-style-type: none"> <li>▪ Advanced clinical Ophthalmology</li> </ul>	Final Examination
<b>S T A G E  II</b>	Year 3  Year 2	<ul style="list-style-type: none"> <li>▪ Clinical Ophthalmology</li> <li>▪ Clinical Ophthalmology</li> </ul>	Part II Examination
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>▪ Basic Sciences</li> <li>▪ Basic Ocular Sciences</li> <li>▪ Basic Ophthalmology</li> </ul>	Part I Examination  Registration (Entrance Evaluation)

**Name of Programme :** Master of Orthopaedic Surgery  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Orthopaedic Surgery programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

### 2. Entry Requirements

- (1) Entry qualifications
  - (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (b) At least one year of post-full registration clinical experience approved by the Senate.
- (2) Other requirements
  - (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
  - (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

### 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

### 4. Structure of Programme

- (1) The programme of study comprises two stages as follows:
  - (a) Stage I comprising twenty four (24) months in Orthopaedic Surgery providing teaching/training in basic and applied medical sciences, principles of surgery, basic orthopaedic surgery and orthopaedic traumatology.
  - (b) Stage II comprising twenty four (24) months in Orthopaedic Surgery including rotation through the following sub-specialities:
    - Spinal Surgery
    - Orthopaedic Oncology
    - Paediatric Orthopaedics
    - Upperlimb and reconstructive and micro surgery
    - Arthroscopy sports and joint reconstructive surgery
    - Arthroplasty
    - Orthopaedic Traumatology

## Limb Lengthening and reconstructive surgery

- (2) A candidate is required to keep a log book throughout his period of study to document tasks undertaken.
- (3) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed the Part I Examination.

### 5. Registration

Registration for the programme of study shall commence the week prior to the start of the academic session.

### 6. Attendance

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

### 7. Supervision

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

### 8. Title of Research

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

### 9. Submission

- (1) A candidate is required to submit his log book not later than two months prior to the Final Examination.
- (2) A candidate is required to submit his research report not later than six months before the Final Examination.

### 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination; and
  - (b) the Final Examination

A candidate may be exempted from the Part I examination if he or she has passed:

- (i) Part I Fellowship Examination of The Royal Australasian College of Surgeons;

or

- (ii) Basic Sciences Examination Orthopaedic Surgery (BSE Orth). From Exam November 2014.
- (2) No candidate shall be permitted to sit for the Final Examination unless he has submitted-
- (a) his log book consisting of surgery observed, assisted and performed for the duration of the course and ten reports on cases managed under supervision in various subspecialties, to be certified by his supervisor and deemed satisfactory by a panel of assessors to be appointed by Head of Department responsible for the candidate's programme of study, not later than two months before the Final Examination; and
  - (b) his research report not later than six months before the Final Examination. The research report must be certified as satisfactory by a panel of assessors to be appointed by Head of Department responsible for the candidate's programme of study before the candidate is permitted to sit the Final Examination.
  - (c) no candidate should be permitted to sit for the Final Examination unless candidate has :
    - (i) Attended and complete the "Orthopaedic Clinical Master Research Program" from session 2015/2016 onward
    - (ii) Completed log book
    - (iii) Submitted acceptable case report for each subspecialty
    - (iv) Passed 4 end of posting subspecialty test
    - (v) Passed operative skill assessment
- (3) The Part I Examination shall be held at the end of the first six (6) months of Stage I of the programme of study. The Final Examination shall be held at the end of Stage II of the programme of study.
- (4) Examination Components and Allocation of Marks
- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Section	Description	Allocation of Marks (Maximum)
A. Written		
MRGJ6104	Multiple Choice Questions	<u>100</u>
	Total	<u>100</u>
B. MGRJ6124	OSCE	100
MRGJ6125	Viva Voce 1 - Anatomy	100
MRGJ6126	Viva Voce 2 - Physiology	100
MRGJ6127	Viva Voce 3 - Pathology	100
	Principles of Surgery, Biomaterials and Biomechanics	
	Total	<u>400</u>
	<b>Grand Total</b>	<b><u>500</u></b>

A candidate who obtains less than 50% or 50 marks in the Section A (written) of the Part 1 Examination will not be permitted to sit for the Section B (OSCE and Viva Voce).

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MRGJ6236	Paper 1 Essay	50
MRGJ6237	Paper 2 Essay	50
MRGJ6238	Paper 3 Best Answer Question (BAQ)	100
	Total	200
B. Clinical		
MRGJ6243	Long Cases	100
MRGJ6244	Short Cases	100
	Total	200
C. Viva Voce and OSCE		
MRGJ6251	OSCE Pathology, Biomechanics and implants, Orthotics and prosthetics, Imaging	100
MRGJ6252	Viva Voce 1 Principles of Orthopaedic Surgery	100
MRGJ6253	Viva Voce 2 Operative Orthopaedics	100
	Total	300
	<b>Grand Total</b>	<b>700</b>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:-

(a) Part I Examination

(1) Section A

- (i) The total marks for this Component A examination is 100 marks. The passing mark for this Component is 50 marks or 50%
- (ii) Only those candidates who passed Component A will be allowed to proceed to Component B

(2) Section B

- (i) The total marks for this OSCE examination is 100 marks. The passing mark for this OSCE examination will be 70 marks or 70%.
- (ii) The total marks for all the three viva voces is 300 marks (100 marks each).
- (iii) The passing mark for each viva voce will be 50 marks or 50%
- (iv) The overall passing marks for the three viva voces will be 150 marks or 50%

Special Rules:

- (i) 40 or less in any section is an unredeemable fail
- (ii) 41 – 49 in 2 sections is an unredeemable fail

(b) Final Examination

50% or more of the marks for each component of the Examination

A minimum mark of 40% for both long cases and short cases in the clinical component

(6) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Final Re-Examination

- (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
- (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (c) A candidate who has passed the re-examinations for the shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Orthopaedic Surgery unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

(1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Orthopaedic Surgery with Distinction if he -

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Orthopaedic Surgery  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	<ul style="list-style-type: none"> <li>▪ Training in Orthopaedic Surgery including rotation through the following subspecialties and a research report: <ul style="list-style-type: none"> <li>Spinal Surgery</li> <li>Orthopaedic Oncology</li> <li>Paediatric Orthopaedics</li> <li>Upperlimb and reconstructive and micro surgery</li> <li>Arthroscopy sports and joint reconstructive surgery</li> <li>Arthroplasty</li> <li>Orthopaedic Traumatology</li> <li>Limb Lengthening and reconstructive surgery</li> </ul> </li> </ul>	Final Examination
	Year 3		
<b>S T A G E  I</b>	Year 2	<ul style="list-style-type: none"> <li>▪ Orthopaedic Surgery (Basic and Applied Medical Sciences, Principles of Surgery, Basic Orthopaedic Surgery and traumatology)</li> </ul>	Part I Examination (At the end of the first six months of Stage I)
	Year 1		Registration (Entrance Evaluation)

**Name of Programme :** Master of Otorhinolaryngology – Head & Neck Surgery  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Otorhinolaryngology – Head & Neck Surgery programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

## 2. Entry Requirements

### (1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.  
(Priority to candidate's who has completed six (6) months in General Surgery as a Medical Officer after the internship training in any government hospitals).

### (2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

## 4. Structure of Programme

### (1) The programme of study comprises two stages as follows –

#### (a) Stage I comprising –

- (i) eighteen months of study (for foreign candidates and Malaysians who have not done six (6) months of surgical posting prior to the entry of this programme); or
- (ii) twelve (12) months of study (for Malaysian candidates who have completed the six (6) months of surgical posting prior to the entry of this programme) in Basic Otorhinolaryngology including:
  - (A) six (6) months in Basic and Applied Medical Sciences and Principles of Surgery; and



(B) six (6) months in General Surgery (for foreign candidates and Malaysians who have not done six months (6) of surgical posting prior to the entry of this programme); and

(C) the keeping of a log book of the candidate's surgical procedures.

(b) Stage II comprising –

(i) thirty (30) months of study (for foreign candidates and Malaysians who have not done six (6) months of surgical posting prior to the entry of this programme); or

(ii) thirty six (36) months of study (for Malaysian candidates who have completed the six (6) months of surgical posting prior to the entry of this programme) in Advanced Otorhinolaryngology including rotational postings in Oral and Maxillo-facial Surgery, Neuro-surgery and Plastic and Reconstructive Surgery and a research project in the field of Otorhinolaryngology.

(2) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or been exempted from the Part I Examination.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study -

(1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.

(2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

(1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.

(2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## 9. Submission

A candidate is required to submit his research report and log book not later than three months before the Final Examination.

## 10. Examinations for the Degree

(1) The Examinations leading to the degree shall be as follows:

- (a) the Part I Examination; and
- (b) the Final Examination

(2) No candidate shall be permitted to sit for the Final Examination unless he has -

- (a) submitted his research report and log book not later than three months before the Final Examination; and
- (b) passed the Part I examination. In the event of the candidate taking the third attempt for the Part I examination, a minimum of 3 years is required, to sit for the final examination after this attempt; or
- (c) been exempted from the Part I Examination.

A candidate may be exempted from the Part I Examination if he has passed –

- (A) Final Examination for the Membership of any one of the following Royal Colleges:

The Royal College of Surgeons of Edinburgh  
The Royal College of Surgeons of England  
The Royal College of Physicians and Surgeons of Glasgow  
The Royal College of Surgeons in Ireland  
or

- (B) Sections B and C or Part II Examinations for Fellowship of any one of the following Royal Colleges:

The Royal College of Surgeons of Edinburgh  
The Royal College of Surgeons of England  
The Royal College of Physicians and Surgeons of Glasgow  
The Royal College of Surgeons in Ireland  
or

- (C) Part I Examination of the Royal Australasian College of Surgeons.

(3) The Part I Examination shall be held at the end of the first six months of Stage I of the programme of study. The Final Examination shall be held at the end of Stage II of the programme of study.

(4) Examination Components and Allocation of Marks

- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks
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				(Maximum)
A. Written				
MIGL6101	Paper 1	Essay		300
MIGL6102	Paper 2	Multiple Choice Questions		200
MIGL6103	Paper 3	Multiple Choice Questions		<u>200</u>
<b>Total</b>				<b>700</b>
B. MIGL6121 Viva Voce				
MIGL6122	Anatomy			100
MIGL6123	Physiology and Principles of Surgery			100
MIGL6124 Pathology (including Medical Microbiology)				<u>100</u>
<b>Total</b>				<b><u>300</u></b>
<b>Grand Total</b>				<b><u>1000</u></b>

A candidate who obtains less than 50% in the theory component of the Part I Examination will not be permitted to sit for the viva voce.

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MIGL6236	Paper 1 Essay and Short Answer Type Questions	100
MIGL6237	Paper 2 Multiple Choice Questions	<u>100</u>
<b>Total</b>		<b>200</b>
B. MIGL6243 Clinical		
MIGL6244	Long Case	100
C. MIGL6245 Short Cases		
MIGL6246	Otology	100
MIGL6247	Rhinology	100
MIGL6248	Laryngology	100
MIGL6249	Head & Neck Surgery	<u>100</u>
<b>Total</b>		<b>400</b>
D. MIGL6250 Viva Voce		
MIGL6251	Otology including Audiology and Otoneurology	100
MIGL6252	Rhinolaryngology and Head & Neck Surgery	<u>100</u>
<b>Total</b>		<b><u>200</u></b>
<b>Grand Total</b>		<b><u>900</u></b>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the aggregate combined marks of all the components for the examination; and

- (ii) 50% or more of the marks for each component of the Examination; and
    - (iii) A minimum mark of 45% in each viva; and
    - (iv) At least two vivas with a mark of 50% or more
  - (b) Final Examination
    - (i) 50% or more of the marks for each component of the Examination; and
    - (ii) Not less than 50% marks in three short cases; and
    - (iii) Not less than 40% marks in any short cases; and
    - (iv) 40.00% and above marks in Multiple Choice Questions (MIGL6237); and
    - (v) Not less than 40% marks in each viva component.
- (6) Repeating an Examination
- (a) Part I Re-Examination
    - (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
    - (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination. However, a candidate who has passed the written components previously will not be required to resit these components at the subsequent Part I Re-Examination.
    - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances and on the recommendation of the Faculty of Medicine and with the approval of Senate.
  - (b) Final Re-Examination
    - (i) A candidate who has failed the Final Examination may be permitted a re-examination within seven (7) academic years at six monthly intervals.
    - (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination. However, a candidate who passed Component A in the previous Final Examination, is allowed not to resit Component A, **only twice** in the next semester (six monthly) exam.
    - (iii) A candidate who fails the re-examination beyond seven (7) academic years shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (c) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## **11. Award of Degree**

No candidate shall be recommended for the award of the Degree of Master of Otorhinolaryngology – Head & Neck Surgery unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### **(1) Award of Pass with Distinction for the Examination**

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### **(2) Award of the Degree with Distinction**

A candidate may be awarded the degree of Master of Otorhinolaryngology - Head & Neck Surgery with Distinction if he -

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Otorhinolaryngology – Head & Neck Surgery  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	<ul style="list-style-type: none"> <li>Training comprising thirty (30) months of study in Advance Otorhinolaryngology including rotational posting in Oral and Maxillo-facial Surgery, Neuro-surgery and Plastic and Reconstructive Surgery and a research project in the field of Otorhinolaryngology.</li> </ul>	Final Examination
	Year 3		
	Year 2		
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>Basic Otorhinolaryngology (18 months) including:                             <ul style="list-style-type: none"> <li>(i) Basic and Applied Medical Sciences and Principles of Surgery (6 months)</li> <li>(ii) General Surgery (6 months)</li> </ul> </li> </ul>	Part I Examination (At the end of the first six months of Stage I)  Registration (Entrance Evaluation)

**Name of Programme :** Master of Paediatrics  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Paediatrics programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in Entrance Evaluation recognised by the Faculty.
- (c) A pass in the Entrance Evaluation is valid for two years to enrol into the program.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years except in special circumstances.

**4. Structure of Programme**

(1) The programme of study comprises three stages as follows:

- (a) Stage I comprising basic clinical training in Basic Medical Sciences and General and Emergency Paediatrics;
- (b) Stage II in the second and third year comprising of
  - (i) advanced training in the field of Paediatrics; and
  - (ii) a research project;and
- (c) Stage III comprising further advanced training in the field of Paediatrics and completion of the research project.

- (2) A candidate is required to keep a log book throughout his period of study to document tasks undertaken.
- (3) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or has been exempted from the Part I Examination.
- (4) No candidate shall be permitted to proceed to Stage III of the programme of study unless he has passed the Part II Examination.

## **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for the second year of Stage II of the programme of study if he has passed the Part II (theory-a&b) Examination for the Membership of –
  - (a) the Royal College of Paediatrics and Child Health;
  - (b) the Royal College of Physicians of the United Kingdom;
  - (c) the Royal College of Physicians of Ireland; or
  - (d) the equivalent of qualifications listed in (a), (b) or (c) above as approved by the Senate.

## **6. Attendance**

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book for the respective period of study not later than one month before the Part I and Part II Examinations and the Final Examination.



- (2) A candidate is required to submit his research report not later than two months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) Part I Examination;
  - (b) Part II Examination; and
  - (c) Final Examination.
- (2) No candidate shall be permitted to take the Part I Examination unless he has –
  - (a) satisfactorily completed Stage 1 of the programme of study;
  - (b) obtained written certification from the Head of Department responsible for his programme of study to confirm that he has satisfactorily completed the prescribed training under supervision; and
  - (c) submitted his log book not later than one month before the Part I Examination.
  - (d) completed one year of enrolment into the program (first attempt), but not later than two years after enrolment into the program.
- (3) Part II Examination
  - (a) Candidate shall be permitted to take the Part II Examination after: –
    - (i) satisfactorily completed Stage II of the programme of study;
    - (ii) obtaining written certification from the Head of Department responsible for his programme of study to confirm that he has satisfactorily completed the prescribed training under supervision; and
    - (iii) submitting his log book not later than one month before the Part II Examination; and
  - (b) The first attempt of the Part II Examination can be taken six weeks after passing the Part I Examination but not later than three years after the enrolment into the program.
- (4) No candidate shall be permitted to proceed to the Final Examination unless he has -
  - (a) satisfactorily completed Stage III of the programme of study;
  - (b) obtained written certification from the Head of Department responsible for his programme of study to confirm that he has satisfactorily completed the prescribed training under supervision;
  - (c) submitted his research report not later than two months before the Final Examination;
  - (d) submitted his log book not later than one month before the Final Examination; and
  - (e) passed the Part II Examination.
- (5) Examination Components and Allocation of Marks

(a) Part I Examination

The components of the Part I Examination and the marks to be allocated for each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MLGH6101 Paper 1	Multiple Choice Questions	300
MLGH6102 Paper 2	Modified Essay Questions/ (Long MEQ & Short MEQ)	250
	Slides	<u>50</u>
	Total	<u>600</u>

(b) Part II Examination

Part II Examination consists of the following components:

1	Long Case
1	Observed Long Case
5	Short Cases
1	Communication station
1	Emergency station

(c) Final Examination

The component of the Final Examination and the marks to be allocated for the component shall be as follows:

MLGH6371	Research report	100
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(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

50% or more of the aggregate combined marks for all the components of the Part I Examination.

(b) Part II Examination

- (i) total marks  $\geq 90$  and
- (ii) Passes in either long case or observe long case

Allocation of Marks

Clear pass	12
Pass	10
Bare fail	8
Fail	4

(c) Final Examination

50% or more of the marks in the research report.

(7) Repeating an Examination

(a) Part I Re-Examination

- (i) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (ii) There is no restriction to the total number of attempts, but the candidate must pass Part I Examination within three years upon enrolment into the programme.
- (iii) A candidate who fail the Part I examination within three years upon enrolment into the program shall be deemed to have failed the Part I examination and shall not be permitted to continue the program except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

- (i) A candidate who has failed the Part II examination may be permitted to sit for the examination at six monthly interval.
- (ii) The candidate has to resit the whole examination (1 Long Case, 1 Long observed case, 5 Short Cases, 1 Communication Station and 1 Emergency Station).
- (iii) There is no limit to the number of attempts for Part II examination, but the total duration of the course must not exceed seven years inclusive of the final year for the research project.
- (iv) Part II Examination should be completed within two years after passing Part I. If the trainee failed to pass Part II more than two years after passing Part I, they have to re-sit the Part I, provided they do not exceed the overall training duration of seven years.

(c) Final Re-Examination

- (i) A candidate whose research report is deemed unsatisfactory by the Committee of Examiners may be referred for further work in his research report over a period of time to be determined by the Committee of Examiners except that such period of time as determined shall not exceed six months on any one occasion. At the end of the prescribed period the candidate shall be required to submit his research report for re-examination. A candidate who fails to submit his research report by the end of the prescribed period for reexamination shall be deemed to have failed the research report.
- (ii) A candidate shall be permitted to submit his research report for re-examination on not more than two occasions.
- (iii) A candidate who fails the research report after the second re-examination shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (d) A candidate who has passed the Re-Examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Paediatrics unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations and the Final Assessment.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Final Examination if he -

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (d) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Paediatrics with Distinction if he -

- (a) has passed with Distinction in the Part II Examination and the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty

**Master of Paediatrics  
Programme Schedule**

S T A G E  III	Year 4	<ul style="list-style-type: none"> <li>Advanced Training in Paediatrics and completion of research project</li> </ul>	Final Examination
	Year 3  Year 2	<ul style="list-style-type: none"> <li>Advance training in Paediatrics and preparation of research project</li> </ul>	Part II Examination
	Year 1	<ul style="list-style-type: none"> <li>Clinical Training in Basic Medical Science, General and emergency Paediatrics</li> </ul>	Part I Examination
S T A G E  I			Registration (Entrance Evaluation)

**Name of Programme :** Master of Paediatric Surgery  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Paediatric Surgery programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

## 2. Entry Requirements

### (1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least two years of post-full registration clinical experience in surgery (inclusive of subspecialties) approved by the Senate.

### (2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation.

## 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

## 4. Structure of the Programme

The programme of study comprises of two stages as follows:

- (1) Stage I in the first year of study comprising Applied Basic Sciences and General Principles of Surgery and/or subspecialties in Surgery.
- (2) Stage II in the second, third and fourth years of study comprising:
  - (a) Six (6) months in Paediatric Medicine, with rotation postings in Neonatology, Paediatric Intensive Care and Paediatric Oncology. This part of the programme should be completed in the second year of the programme.
  - (b) Subsequent 2½ years (30 months): Training in Applied Basic Sciences relevant to Paediatric Surgery, including Embryology, Principles and Practice of Paediatric Surgery, and clinical problems in Paediatric Surgery with rotation postings in the University or other accredited Paediatric Surgery Unit. The last six months should be spent in the University.

- (c) Research project report or case book:  
At the beginning of Stage II, a candidate should either
  - (i) undertake a research project and submit a research report not later than three months before the Final Examination; or
  - (ii) submit a case book of 12 interesting cases in detail with review of the literature not later than three months before the Final Examination.

## **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of this programme provided he has:
  - (a) a Master's degree in Surgery or a Fellowship of one of the Royal Colleges of Surgeons or an equivalent qualification approved by Senate; or
  - (b) three (3) years of supervised training as a Medical Officer in Surgery, a log book certified by the consultant and passed the Part I Examination of Master of Surgery or FRCS or MRCS Part II.

## **6. Attendance**

During his programme of study –

- (1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided that the total extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two (2) months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two (2) months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book and posting reports every six months for assessment by the Department responsible for the candidate's programme of study.

- (2) A candidate is required to submit his research report not later than six (6) months before the Final Examination.

## 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
- (a) the Part I Examination; and
  - (b) the Final Examination.
- (2) No candidate shall be permitted to sit for the Final Examination unless he has passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he has passed:
- (a) Section A or the Primary Fellowship of the following Royal Colleges:
    - (i) The Royal College of Surgeons of Edinburgh
    - (ii) The Royal College of Surgeons of England
    - (iii) The Royal College of Physicians and Surgeons of Glasgow
    - (iv) The Royal College of Surgeons in Ireland
    - (v) The Royal Australasian College of Surgeons
 or
  - (b) Final Examination for the Membership of any one of the following Royal Colleges:
    - (i) The Royal College of Surgeons of Edinburgh
    - (ii) The Royal College of Surgeons of England
    - (iii) The Royal College of Physicians and Surgeons of Glasgow
    - (iv) The Royal College of Surgeons in Ireland
    - (v) The Royal Australasian College of Surgeons
    - (vi) Master of Surgery (University of Malaya) or its equivalent approved by the Senate
 or
  - (c) Section B and C of the Primary Fellowship of any one of the following Royal Colleges:
    - (i) The Royal College of Surgeons of Edinburgh
    - (ii) The Royal College of Surgeons of England
    - (iii) The Royal College of Physicians and Surgeons of Glasgow
    - (iv) The Royal College of Surgeons in Ireland
- (3) The Part I Examination shall be held at the end of stage I of the programme of study. The Final Examination shall be held at the end of Stage II of the programme of study.
- (4) Examination Components and Allocation of Marks
- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated for each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		



MSGU6101	Paper 1	Multiple Choice Questions	150
MSGU6102	Paper 2	Short Answer Type Questions	<u>150</u>
		Total	300
B. MSGU6121 Viva Voce			
		Applied Anatomy	100
		Applied Physiology & Principles of Surgery	100
		Applied Pathology (including Microbiology)	<u>100</u>
		Total	<u>300</u>
C. Continuous Assessment			<u>400</u>
<b>Grand Total</b>			<b><u>1000</u></b>

(b) Final Examination

The components of the Final Examination and the marks to be allocated to the various components of the Final Examination shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MSGU6236 Paper 1	Short Answer Type Questions & Essays (Applied Basic Sciences in Paediatric Surgery)	100
MSGU6237 Paper 2	Short Answer Type Questions & Essays (Principles and Practice of Paediatric Surgery)	100
MSGU6238 Paper 3	Short Answer Type Questions & Essays (Problems in Paediatric Surgery)	<u>100</u>
	Total	<u>300</u>
B. MSGU6243		
MSGU6244	Clinical Long Case	150
MSGU6245	Short Cases	150
	Ward Rounds	<u>250</u>
	Total	550
C. MSGU6250 Viva Voce		
		150
D. Continuous Assessment		
		<u>500</u>
<b>Grand Total</b>		
		<b><u>1500</u></b>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the aggregate combined marks of all the components for the examination; and
- (ii) 50% or more of the marks for each component for the examination.

(b) Final Examination

- (i) 50% or more of the aggregate combined marks of all the components for the examination; and
  - (ii) 50% or more of the marks for each component for the examination.
  - (iii) Sufficient standard in his research report or case book.
- (6) Repeating an Examination
  - (a) Part I Re-examination
    - (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six months intervals.
    - (ii) The Part I Re-examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
    - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty and with the approval of Senate.
  - (b) Final Re-examination
    - (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six months intervals.
    - (ii) The Final Re-examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
    - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty and with the approval of Senate.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Paediatric Surgery unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he-

- (a) has obtained 75% or more of the aggregate combined marks in each of the prescribed Examinations;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Paediatric Surgery with Distinction if he -

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Paediatric Surgery  
Programme Schedule**

<b>S T A G E  II</b>	Year 3 & 4 (24 months)	<ul style="list-style-type: none"> <li>Applied Basic Sciences in Paediatric Surgery including Embryology, Principles &amp; Practice of Paediatric Surgery, and clinical problems in Paediatric Surgery with rotation in the University or other accredited Paediatrics Surgery Unit. The last six months should be spent in the University.</li> </ul>	Final Examination
	Year 2 (6 months)	<ul style="list-style-type: none"> <li>To conduct a research project / keep a case book. To submit a report six months before the Final Examination.</li> </ul>	
	Year 2 (6 months)	<ul style="list-style-type: none"> <li>6 months in Paediatric Medicine with rotation posting in Neonatology; Paediatric Intensive Care and Pediatric Oncology. This part of the programme should be completed in the second year of the programme.</li> <li>To start a research project or keep a case book.</li> </ul>	
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>12 months of Applied Basic Sciences &amp; General Principles of Surgery and/or subspecialties in Surgery.</li> </ul>	Part I Examination (12 months after registration)  Registration (Entrance Evaluation)

**Name of Programme :** Master of Pathology (Anatomical Pathology)/ (Haematology) / (Chemical Pathology) / (Medical Microbiology) / (Forensic Pathology)  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Pathology (Anatomical Pathology) / (Haematology) / (Chemical Pathology) / (Medical Microbiology) / (Forensic Pathology) programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study. After completion of the relevant programme of study specified in this schedule, a candidate shall be eligible for the award of the Master of Pathology in a speciality of the candidate's choice, as the case may be.

## 2. Entry Requirements

- (1) Entry qualifications
  - (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (b) At least one year of post-full registration clinical experience approved by the Senate.
- (2) Other requirements
  - (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
  - (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

## 4. Structure of Programme

- (1) The programme of study comprises two stages as follows:
  - (a) Stage I encompassing:
    - (i) clinical training in the first year of study by rotational posting in each of the following four disciplines of Pathology:
      - (A) Anatomical Pathology including Autopsy
      - (B) Haematology including Transfusion Medicine;
      - (C) Chemical Pathology including Immunology; and
      - (D) Medical Microbiology (Bacteriology, Mycology, Immunology, Virology) with Parasitology.

and

(ii) tasks as stipulated in the log book including posting reports.

(b) Stage II encompassing three years of study comprising:

(i) advanced training in one of the following disciplines of Pathology:

- (A) Anatomical Pathology,
- (B) Haematology;
- (C) Chemical Pathology,
- (D) Medical Microbiology;
- (E) Forensic Pathology;

and

(ii) a research project

(2) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or has been exempted from the Part I Examination.

## **5. Registration**

(1) Registration for the programme of study shall commence the week prior to the start of the academic session.

(2) A candidate may be permitted to register directly for Stage II of the programme of study if he has

- (a) the Master of Medical Science in Clinical Pathology Degree of the University or an equivalent qualification approved by the Senate.
- (b) passed the Part I Examination for the Membership of the Royal College of Pathologists, United Kingdom; or
- (c) passed the Part I Examination for the Fellowship of the Royal College of Pathologists of Australasia.

## **6. Attendance**

During his programme of study:

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty.
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

(1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.

(2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department in the Faculty responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book and posting reports not later than one month before the Part I Examination.
- (2) A candidate is required to submit his research report not later than three months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination; and
  - (b) the Final Examination.
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has satisfactorily completed all the postings prescribed for the first year of the programme of study, completed all the required tasks as set out in the log book and has submitted the log book and posting reports to the Department of Pathology not later than one month before the Part I Examination.
- (3) No candidate shall be permitted to sit for the Final Examination unless he has –
  - (a) passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he possesses one of the following qualifications:
    - (i) The degree of Master of Medical Science in Clinical Pathology of the University or an equivalent qualification approved by Senate;
    - (ii) The Part I Examination for the Membership of the Royal College of Pathologists, United Kingdom; or
    - (iii) The Part I Examination for the Fellowship of the Royal College of Pathologists of Australasia.
  - (b) submitted his Research Report not later than three months before the Final Examination.
- (4) The Part I Examination shall be held at the end of the Stage I of the programme of study. The Final Examination shall be held at the end of the final year of the Stage II programme of study.
- (5) Examination Components and Allocation of Marks
  - (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

\*MMH Master of Pathology (Haematology)  
\*MMK Master of Pathology (Medical Microbiology)

- \*MMJ Master of Pathology (Anatomical Pathology)
- \*MMG Master of Pathology (Forensic Pathology)
- \*MMI Master of Pathology (Chemical Pathology)

Component	Description	Allocation of Marks (Maximum)
A. Written		
*MKGA6104 Paper 1	Multiple Choice & Essay Questions	150
*MKGA6105 Paper 2	Multiple Choice & Essay Questions	<u>150</u>
	Total	300
B. *MKGA6111 Practical		
*MKGA6112 Paper 1	Objective Structured Examination	150
*MKGA6113 Paper 2	Objective Structured Examination	<u>150</u>
	Total	<u>300</u>
	<b>Grand Total</b>	<b><u>600</u></b>

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
*MKGA6238 Paper 1	Essay or Short Answer Questions	225
*MKGA6237 Paper 2	Essay or Short Answer Questions	<u>225</u>
	Total	<u>450</u>
B. *MKGA6243 Practical	Objective Structured Questions, Speciality Practicals and Others	450
C. *MKGA6250 Viva Voce		<u>100</u>
	<b>Grand Total</b>	<b><u>1000</u></b>

(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the aggregate combined marks of the written and practical components of the Examination;
- (ii) at least 50% of the marks for the written component and not less than 40% of the marks in the written component for each discipline of Pathology; and
- (iii) at least 50% of the marks for the practical component and not less than 40% of the marks in the practical component for each discipline of Pathology.

(b) Final Examination



50% or more of the aggregate combined marks for all the components of the Examination and not less than 50% of the marks for the written and practical components of the Examination.

(7) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted only one re-examination after a period of one year.
- (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (iii) A candidate who fails the re-examination shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Final Re-Examination

- (i) A candidate who has failed the Final Examination may be permitted a re-examination after a period of one year.
  - (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
  - (iii) A candidate who fails the Final Re-Examination on the second occasion shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
  - (iv) Notwithstanding regulations 10(7)(b) above, a candidate who has failed because of either the written or practical component of the Final Examination may be permitted a re-examination on four separate occasions at six monthly intervals. Under the circumstances, the re-examination shall comprise the written or practical component that the candidate has failed in the main Examination or the first re-examination and the viva voce. The examination shall be in the discipline of Pathology initially chosen by the candidate for the main Examination.
- (c) A candidate who has passed the re-examination for the Examinations above shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Pathology (Anatomical Pathology/ Haematology/ Chemical Pathology/ Medical Microbiology/ Forensic Pathology) unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

(1) Award of Pass with Distinction for the Examination

A candidate may be awarded a pass with Distinction in the Part I Examination and the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Pathology (Anatomical Pathology/ Haematology/ Chemical Pathology/ Medical Microbiology/ Forensic Pathology) with Distinction if he –

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Pathology (Anatomical Pathology) / (Haematology) /  
(Chemical Pathology) / (Medical Microbiology) / (Forensic Pathology)  
Programme Schedule**

S T A G E  II	Year 4	<ul style="list-style-type: none"><li>▪ Specialisation in any one Pathology discipline, including Anatomic Pathology, Haematology, Chemical Pathology, Medical Microbiology, Forensic Pathology, Immunology, and</li><li>▪ Research Project in the chosen discipline</li></ul>	Final Examination	
	Year 3			
	Year 2			
S T A G E  I	Year 1	Intensive Course (3 weeks)		Part I Examination
		Posting for 10 weeks in each of these disciplines	<ul style="list-style-type: none"><li>• Anatomic Pathology</li><li>• Haematology</li><li>• Chemical Pathology</li><li>• Medical Microbiology/Parasitology</li></ul>	
				Registration (Entrance Evaluation)

**Name of Programme :** Master of Psychological Medicine  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Psychological Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

(1) The programme of study comprises three stages as follows:

(a) Stage I, in the first year of study comprising:

- (i) clinical training in basic attitudes;
- (ii) training in clinical skills and management in psychiatry;
- (iii) training in basic sciences relevant to psychiatry and training in psychiatric management and
- (iv) preparation of two case protocols in general psychiatry.

(b) Stage II, in the second and third year of study comprising:

- (i) training in clinical psychiatry and rotational postings in psychiatric subspecialties;
- (ii) preparation of case protocols for the number of cases which shall be determined by the department from time to time.

- (c) Stage III, in the forth year of study comprising advanced training in psychiatry and completion of research project
- (2) No candidate shall be permitted to proceed to Stage II of the programme study unless he has passed the Part I Examination.
- (3) No candidate shall be permitted to proceed to Stage III of the programme study unless he has passed the Part II Examination.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study –

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study. The research proposal shall be submitted to the ethics committee not later than four months before the Part II Examination.

## **9. Submission**

- (1) A candidate is required to submit two case protocols for Stage I of the programme of study not later than three months before the Part I Examination.
- (2) A candidate is required to submit case protocols for Stage II of the programme study not later than three months before the Part II Examination.
- (3) A candidate is required to submit a research report not later than three months before the Final Examination.

## **10. Examinations for the Degree**

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination
  - (b) the Part II Examination

- (c) the Final Examination
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has satisfactorily completed and submitted case protocols for Stage I of the programme not later than three months before the Part I Examination.
- (3) No candidate shall be permitted to sit for the Part II Examination unless he has:
- passed the Part I Examination; and
  - satisfactorily completed and submitted case protocols for Stage II not later than three months before the Part II Examination and obtained 50% or more of the average marks of these case protocols.
- (4) No candidate shall be permitted to sit for the Final Examination unless he has:
- passed the Part II Examination; and
  - satisfactorily completed and submitted research report not later than three months before the Final Examination.
- (5) The Part I examination shall be held at the end of the first year of the programme study. The Part II examination shall be held at the end of the third year of the programme study and the Final examination shall be held at the end of the fourth year of the programme study.
- (6) The written component For Part I & II examination will be held before the clinical examination. Those who fail the written component will not be allowed to take the clinical examination. They shall be considered to have failed the examination.
- (7) Examination Components and Allocation of Marks:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MNGC6101 Paper 1	Multiple Choice Questions	40
MNGC6102 Paper 2	Multiple Choice Questions	60
MNGC6103 Paper 3	Short Essay Questions	100
B. Clinical		
MNGC6111 Short Case	Psychiatry	100
<b>Grand Total</b>		<b><u>300</u></b>

(b) Part II Examination

The components of the Part II Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MNGC6236 Paper 1	Essay Questions and Critical Review Paper	100
MNGC6237 Paper 2	Short Notes Questions	100
Total		200
B. Clinical		
MNGC6244 Long Case	Psychiatry	100
MNGC6245 Short Case	Psychiatry	50
MNGC6246 Short Case	Medicine/Neurology	50

Total 200  
**Grand Total 400**

(c) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

(i) MNGC6261 Research report	70
MNGC6250 Dissertation Viva	<u>30</u>
Total	100

OR If the candidate's research work has been accepted for publication in an indexed scientific journal (at least SCOPUS) he/she shall be exempted from submission of research report and dissertation viva 100.

(ii) MNGC6247 Consultation Viva	<u>100</u>
<b>Grand Total</b>	<b><u>200</u></b>

(8) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the written component
- (ii) 50% or more of the average marks from the clinical component; and
- (iii) not less than 45% of the marks in any of the clinical case of the clinical component.

(b) Part II Examination

- (i) 50% or more of the written component
- (ii) 50% or more of the clinical long case Psychiatry
- (iii) 50% or more of the average marks from the clinical short cases: and
- (iv) not less than 45% of the marks in any of the clinical shortcases

(c) Final Examination

50% or more of the marks in all component of the examination.

(9) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination. However if a candidate had achieved at least 50% (100/200) of the total marks of the "Written" component during the

prior examination, he/she shall be exempted from sitting for the written component during the Re-examination.

- (iii) A candidate who has passed written component but fail clinical component may be permitted a re-examination of clinical component only.
- (iv) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

- (i) A candidate who has failed the Part II Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part II Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part II Examination.
- (iii) A candidate who has passed written components but fail clinical component may be permitted a re-examination of clinical component only.

(c) Final Re-Examination

- (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Final Re-Examination shall consist of only the failed component(s) and shall be assessed and graded in the same manner as prescribed for the Final Examination.
- (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (d) A candidate who has passed the re-examination for the Examinations above shall be deemed to have passed the prescribed Examinations.

(10) Supervisory Report

In the event that a candidate get an unsatisfactory report, the Department concerned may set up a special committee to deliberate and recommend the candidate to be terminated from the course, to repeat the year, to defer for 6 months or to be permitted for sitting in the examination.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Psychological Medicine unless he has successfully completed all parts of the course, fulfilled the minimum duration of study and has passed the prescribed Examinations.

- (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Final Examination if he –

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree with Distinction if he –

- (a) has passed with Distinction in the Part I Examination, Part II Examination and Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Psychological Medicine  
Programme Schedule**

<b>S T A G E  III</b>	Year 4	<ul style="list-style-type: none"> <li>▪ Advanced training in psychiatry and completion of research project</li> </ul>	Final Examination
<b>S T A G E  II</b>	Year 3  Year 2	<ul style="list-style-type: none"> <li>▪ Training in clinical psychiatry and rotational postings in psychiatric sub-specialities</li> <li>▪ Preparation of case protocols for the number of cases which shall be determined by the department from time to time</li> </ul>	Part II Examination
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>▪ Clinical training in basic attitudes</li> <li>▪ Training in clinical skills and management in psychiatry</li> <li>▪ Training in basic sciences relevant to psychiatry and training in psychiatric management</li> <li>▪ Preparation of two cases protocols in general psychiatry</li> </ul>	Part I Examination  Registration (Entrance Evaluation)



**Name of Programme :** Master of Radiology  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Radiology programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

- (1) Entry qualifications
  - (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (b) At least one year of post-full registration clinical experience approved by the Senate.
- (2) Other requirements
  - (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
  - (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

The programme of study comprises three stages as follows:

- (1) Stage I in the first year of study comprising:
  - (a) basic training in Radiological Medical Physics, Radiological Anatomy and Radiography, Radiological Technique, Contrast Media and Drugs, Basic Trauma Radiology and any other disciplines of Radiology that may be determined by the Department from time to time;
  - (b) training in cognate subjects of radiology that may be determined by the department from time to time; and
  - (c) the keeping of a log book by the candidate to document radiological procedures performed by him.
- (2) Stage II in the second and third year of study comprising:
  - (a) training in all aspects of diagnostic radiology, imaging techniques and interventional radiology;

- (b) training in cognate subjects as may be determined by the Department from time to time;
  - (c) the keeping of a log book by the candidate to document radiological procedures performed by him; and
  - (d) the commencement of a research project.
- (3) Stage III in the fourth year of study comprising:
- (a) advanced training in all aspects of diagnostic radiology, imaging techniques and interventional radiology;
  - (b) advanced training in cognate subjects as may be determined by the Department from time to time;
  - (c) case studies; and
  - (d) a research project.

## **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of the programme of study if he possesses qualification an equivalent to Part I Master of Radiology recommended by Faculty and acceptable to the Senate.

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part or all of his training in other hospitals or centres recognised by the Faculty;
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part or all of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## 9. Submission

- (1) A candidate is required to submit a log book of radiological procedures performed, certified by his supervisor for the respective period of study one month before the Part I Examination.
- (2) A candidate is required to submit a log book consisting of special radiological procedures observed and performed, certified by his supervisor for the respective period of study two months before the Part II Examination.
- (3) A candidate is required to submit a research report and a case studies report for the respective period of study three months before the Final Examination.

## 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;
  - (b) the Part II Examination; and
  - (c) the Final Examination
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has submitted a log book of radiological procedures performed, certified by his supervisor for the respective period of study one month before the Part I examination.
- (3) No candidate shall be permitted to sit for the Part II Examination unless he has -
  - (a) submitted a log book of special radiological procedures, observed and performed, certified by his supervisor for the respective period of study one month before the Part II Examination; and
  - (b) passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he possesses qualification an equivalent to Part I Master of Radiology recommended by Faculty and acceptable to the Senate.
- (4) No candidate shall be permitted to sit for the Final Examination, unless he has -
  - (a) passed the Part II Examination; and
  - (b) submitted the case studies report and the research report three months before the Final Examination;
- (5) The Part I Examination shall be held at the end of Stage I of the programme of study. The Part II Examination shall be held at the end of stage II of the programme of study. The Final Examination shall be held at the end of stage III of the programme of study.
- (6) Examination Components and Allocation of Marks
  - (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Components	Description	Allocation of Marks (Maximum)
A. MQGN6102	MCQ Multiple Choice Questions	

		Paper	100
B.	MQGN6121	Viva Voce	100
C.	MQGN6126	OSCE Objective Structured Clinical Examination	100
D.	MQGN6127	OSPE Objective Structured Practical Examination	<u>100</u>
		Total	<u>400</u>

(b) Part II Examination

The components of the Part II Examination and the marks to be allocated to each component shall be as follows:

Components	Description	Allocation of Marks (Maximum)
A.	Written	
	MQGN6236 Paper 1 SBA	100
	MQGN6237 Paper 2 SBA	100
B.	MQGN6266 Film Reporting	100
C.	MQGN6250 Viva Voce	<u>100</u>
	Total	<u>400</u>

(c) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Components	Description	Allocation of Marks (Maximum)
A.	MQGN6371 Case Studies Report	100
B.	MQGN6372 Research report	100
C.	MQGN6374 Viva Voce	100
D.	MQGN6373 Rapid Film reporting	<u>100</u>
	Total	<u>400</u>

(7) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

50 % or more of the marks for each component of the Examination.

A candidate who does not fulfill the above requirement for a component shall be deemed to have failed the component concerned but shall be credited with the component or components he has passed and be required to repeat only the component that he has failed.

(b) Part II Examination

60% or more of the marks of component A.

50% or more of the marks for components B, C of the Examination

A candidate who does not fulfill the above requirement for a component shall be deemed to have failed the component concerned but shall be credited with

the component or components he has passed and be required to repeat only the component that he has failed.

(c) Final Examination

50 % or more of the marks for each component of the Examination.

A candidate who does not fulfill the above requirement for a component shall be deemed to have failed the component concerned but shall be credited with the component or components he has passed and be required to repeat only the component that he has failed.

(8) Repeating an Examination

(a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part I Re-Examination shall consist of the same component and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
- (iii) A candidate who has passed one or more of the component of the Part I Examination shall be deemed to have passed those component and shall not be required to repeat those component.
- (iv) A candidate shall be required to repeat those component that he has failed in the Part I Examination.
- (v) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances and on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Part II Re-Examination

- (i) A candidate who has failed the Part II Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
- (ii) The Part II Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part II Examination.
- (iii) A candidate who has passed one or more of the components of the Part II Examination shall be deemed to have passed those components and shall not be required to repeat those components.
- (iv) A candidate shall be required to repeat those components that he has failed in the Part II Examination.
- (v) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part II Examination and shall not be permitted to repeat the programme of study except in special circumstances and on the recommendation of the Faculty of Medicine and with the approval of Senate.

- (c) Final Re-Examination
- (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six monthly intervals.
  - (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
  - (iii) A candidate who has passed one or more of the components of the Final Examination shall be deemed to have passed those components and shall not be required to repeat those components.
  - (iv) A candidate shall be required to repeat those components that he has failed in the Final Examination.
  - (v) A candidate whose research report and/or case studies report is deemed unsatisfactory by the Committee of Examiners may be referred for further work over a period of time to be determined by the Committee of Examiners except that such periods of time as determined shall not exceed six months on any one occasion. At the end of the prescribed period the candidate shall be required to submit the research report and/or case studies report for re-examination. A candidate who fails to submit his research report and/or case studies report by the end of the prescribed period for re-examination shall be deemed to have failed the research report and/or the case studies report.
  - (vi) A candidate shall be permitted to resubmit the research report and/or case studies report for re-examination either singly or jointly on not more than two occasions.
  - (vii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Radiology unless he has successfully completed all parts of the course, fulfilled the minimum duration of study and has passed the prescribed Examinations and the Final Assessment.

- (1) Award of Pass with Distinction for the Examination  
A candidate may be awarded a Pass with Distinction in the Part I Examination, the Part II Examination or the Final Examination if he -
  - (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examinations;
  - (b) has not failed in any module of the Part I Examination, or component of the Part II Examination or the Final Examination; and
  - (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.
- (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Radiology with Distinction if he-

- (a) has passed with Distinction in the Part II Examination and the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Radiology  
Programme Schedule**

<b>S T A G E  III</b>	Year 4	<ul style="list-style-type: none"> <li>Advanced training in all aspects of Diagnostic Radiology, Imaging Technique and Interventional Radiology</li> </ul>	Final Examination
<b>S T A G E  II</b>	Year 3 Year 2	<ul style="list-style-type: none"> <li>Training in all aspect of Diagnostic Radiology, Imaging Technique and Interventional Radiology</li> </ul>	Part II Examination
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>Basic training in Radiological Medical Physics, Radiological Anatomy and Radiography, Radiological Technique, Contrast Media and Drugs, Basic Trauma Radiology and any other disciplines of Radiology.</li> </ul>	Part I Examination  Registration (Entrance Evaluation)

**Name of Programme :** Master of Rehabilitation Medicine  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Rehabilitation Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

## 2. Entry Requirements

- (1) Entry qualifications
  - (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (b) At least two years of post-full registration clinical experience approved by the Senate of which at least one year is spent in in-patient care.
- (2) Other requirements
  - (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
  - (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

## 4. Structure of Programme

The programme of study comprises two stages as follows:

- (1) Stage I in the first year of study covering:
  - (a) Basic and Applied Sciences of Rehabilitation Medicine;
  - (b) Principles, Concepts and Practice of Rehabilitation Medicine;
  - (c) Rotational postings in disciplines related to Rehabilitation Medicine;
  - (d) The keeping of a log book by the candidate to document tasks undertaken
  - (e) Continuous assessments as prescribed by the Department
- (2) Stage II of study covering:
  - (a) Rotational postings in specialised Rehabilitation Medicine disciplines and disciplines related to Rehabilitation Medicine;
  - (b) research report;
  - (c) assignments;



- (d) the keeping of a log book by the candidate to document tasks undertaken;  
and
  - (e) continuous assessments as prescribed by the Department.
- (3) No candidate shall be permitted to proceed to Stage II of the programme of study unless he has passed or been exempted from the Part I Examination.

## **5. Registration**

- (1) Registration for the programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of the programme of study if he has passed the Part I Examination for any one of the following degrees of the University or has obtained an equivalent qualification recognised by the Senate:

Master of Internal Medicine  
Master of Family Medicine  
Master of Orthopaedic Surgery  
Master of Paediatrics  
Master of Surgery

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate
- (2) A consultant shall be appointed a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.

## **9. Submission**

- (1) A candidate is required to submit his log book and assignments for the respective period of study not later than one month before the Part I Examination
- (2) A candidate is required to submit his log book and assignments for the respective period of study not later than one month before the Final Examination

- (3) A candidate is required to submit his research report not later than three months before the Final Examination.

## 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
- the Part I Examination;
  - the Final Examination.
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has –
- satisfactorily completed the continuous assessments prescribed by the Department; and
  - submitted his log book and assignments deemed satisfactory by the Department not later than one month before the Part I Examination.
- (3) No candidate shall be permitted to sit for the Final Examination unless he has –
- passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he has passed the Part I Examination for any one of the following degrees of the University or has obtained an equivalent qualification recognised by the Senate:

Master of Internal Medicine  
Master of Family Medicine  
Master of Orthopaedic Surgery  
Master of Paediatrics  
Master of Surgery

- Satisfactorily completed the components of the continuous assessments as specified by the Department;
- Submitted his log book and assignments deemed satisfactory by the Department not later than one month before the Final Examination; and
- Submitted a research report on an aspect of Rehabilitation Medicine not later than three months before the Final Examination. A candidate must obtain a pass grade in the research report before he is permitted to sit for the Final Examination.

### (4) Examination Components and Allocation of Marks

- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Component		Description	Allocation of Marks (Maximum)
A. Written			
MTGP6101	Paper 1	Multiple Choice Questions	150
MTGP6102	Paper 2	Short Answer Type Questions	150

				Total	<u>300</u>
B. Practical					
MTGP6126	Paper 3	Objective Structural Practical Examination		200	
C. Clinical					
MTGP6121		Clinical		500	
<b>Grand Total</b>				<b><u>1000</u></b>	

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component		Description	Allocation of Marks (Maximum)
A. Written			
MTGP6236	Paper 1	Essay	100
MTGP6237	Paper 2	Short Answer Type Questions	100
MTGP6238	Paper 3	Multiple Choice Questions	<u>100</u>
Total			300
B. Practical			
MTGP6286	Paper 4	Objective Structured Practical Examination	200
C. Clinical			
MTGP6243		Clinical	350
D. Viva Voce			
MTGP6250		Viva Voce	<u>150</u>
<b>Grand Total</b>			<b><u>1000</u></b>

(5) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

50% or more of the marks for each component.

The theory examination (Written and Practical) will be held before the Clinical Examination. Only candidates that passes the Theory Examination will be allowed to sit the Clinical Examination.

Theory Examination consist of two component which are:

- (i) Component A (Written) : Paper MCQ and SAT
  - (A) 50% or more of the total marks
  - (B) Compulsory to pass
- (ii) Component B (Practical) : Paper OSPE
  - (A) 50% or more of the marks

- (B) Compulsory to pass

Clinical Examination is:

- (i) Component C (Clinical): Short Case & Long Case
  - (A) 50% or more of the total marks
  - (B) Compulsory to pass all the clinical cases

A candidate who fails the clinical exam will not have to re-sit the theory examination before attempting the clinical examination again.

(b) Final Examination

50% or more of the marks for each component of the Final Examination.

The theory examination (Written and Practical) will be held before the Clinical Examination (Clinical and Viva Voce). Only candidates that passes the Theory Examination will be allowed to sit the Clinical Examination.

Theory Examination consist of two component which are:

- (i) Component A (Written): Paper Essay, MCQ & SAT
  - (A) 50% or more of the total marks
  - (B) Pass 2 out of 3 of the papers
- (ii) Component B (Practical): Paper OSPE
  - (A) 50% or more of the marks
  - (B) Compulsory to pass

Clinical Examination consist of two component which are:

- (i) Component C (Clinical): Short Case & Long Case
  - Short Case
    - (A) 50% or more of the total marks
    - (B) Pass 2 out of 3 of the cases
  - Long Case
    - (A) 50% or more of the total marks
    - (B) Compulsory to pass
- (ii) Component D (Viva Voce):
  - (A) 50% or more of the total marks
  - (B) Compulsory to pass

A candidate who fails the clinical exam will not have to re-sit the theory examination before attempting the clinical examination again.

(6) Repeating an Examination

- (a) Part I Re-Examination

- (i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six months intervals.
  - (ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination.
  - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (b) Final Re-Examination
- (i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six months intervals.
  - (ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination.
  - (iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.
- (c) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Rehabilitation Medicine unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he -

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Rehabilitation Medicine with Distinction if he –

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and

- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Rehabilitation Medicine  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	(a) Rotational postings in specialised Rehabilitation Medicine disciplines and disciplines related to Rehabilitation Medicine.	Final Examination
	Year 3	(b) Research report.	
	Year 2	(c) Assignments.	
	(36 months)	(d) The keeping of log book by the candidate to document tasks undertaken.	
		(e) Continuous assessments as prescribed by the Department.	
<b>S T A G E  I</b>	Year 1 (12 months)	(a) Basic and Applied Sciences of Rehabilitation Medicine.	Part I Examination
		(b) Principles, Concepts and Practice of Rehabilitation Medicine.	
		(c) Rotational postings in disciplines related to Rehabilitation Medicine.	
		(d) The keeping of a log book by the candidate to document tasks undertaken.	
		(e) Continuous assessments as prescribed by the Department	
			Registration (Entrance Evaluation)

**Name of Programme :** Master of Sports Medicine  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Sports Medicine programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

(1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
- (b) At least one year of post-full registration clinical experience approved by the Senate.

(2) Other requirements

- (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
- (b) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

**3. Duration of Study**

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

**4. Structure of Programme**

The programme of study comprises two stages as follows:

(1) Stage I in the first year of study comprising:

- (a) Basic Sciences related to Sports Medicine and any other clinical discipline in relation to Sports Medicine;
- (b) assignments;
- (c) The keeping of a log book by the candidate to document tasks undertaken; and
- (d) Continuous assessments as prescribed by the Department.

(2) Stage II in the second, third and fourth years of study comprising:

- (a) advanced training and clinical postings in areas related to Sports Medicine including an elective posting or postings of the candidate's choice subject to

the approval of the Department responsible for the candidate's programme of study;

- (b) advanced training in areas of Sports Medicine Management, Ethics and Special Population;
- (c) assignments;
- (d) the keeping of a log book by the candidate to document tasks undertaken;
- (e) research report; and
- (f) continuous assessments as prescribed by the Department.

## **5. Registration**

- (1) Registration for this programme of study shall commence the week prior to the start of the academic session.
- (2) A candidate may be permitted to register directly for Stage II of the programme of study if he has passed the Part I Examination for any one of the following degrees of the University or has obtained an equivalent qualification recognised by the Senate -

Master of Internal Medicine  
Master of Orthopaedic Surgery  
Master of Family Medicine  
Master of Rehabilitation Medicine  
Master of Paediatrics  
Master of Psychological Medicine  
Master of Surgery  
Master of Radiology

## **6. Attendance**

During his programme of study -

- (1) a candidate may be permitted to undertake part of his training in other hospitals or centres recognised by the Faculty;
- (2) a candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The supervisor for a candidate shall be appointed not later than two months after the registration of the candidate.
- (2) A consultant shall be appointed for a candidate who undertakes part of his training outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The research project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than one month prior to the commencement of the research.



## 9. Submission

- (1) A candidate is required to submit his log book and assignments one month before the Part I Examination.
- (2) A candidate is required to submit a published research paper or research report six months before the Final Examination. The candidate also needs to submit the supervisor appraisal reports from the rotational and elective posting, assignments and log book not later than two months before the Final Examination.

## 10. Examinations for the Degree

- (1) The Examinations leading to the degree shall be as follows:
  - (a) the Part I Examination;
  - (b) the Final Examination.
- (2) No candidate shall be permitted to sit for the Part I Examination unless he has –
  - (a) satisfactorily completed the continuous assessments prescribed by the Department; and
  - (b) submitted his log book and assignments deemed satisfactory by the Department one month before the Part I Examination.
- (3) No candidate shall be permitted to sit for the Final Examination unless he has –
  - (a) passed or been exempted from the Part I Examination. A candidate may be exempted from the Part I Examination if he has passed the Part I Examination for any one of the following degrees of the University or has obtained an equivalent qualification recognised by the Senate:

Master of Family Medicine  
Master of Internal Medicine  
Master of Orthopaedic Surgery  
Master of Paediatrics  
Master of Psychological Medicine  
Master of Rehabilitation Medicine  
Master of Surgery  
Master of Radiology
  - (b) Satisfactorily completed the components of the continuous assessments as specified by the Department
  - (c) Submitted his supervisor appraisal reports from the rotational and elective posting, log book and assignments deemed satisfactory by the Department not later than two months before the Final Examination; and
  - (d) Submitted a satisfactory published research paper or research report six months before the Final Examination.
- (4) The Part I Examination shall be held at the end of the first year of the programme of study. The Final Examination shall be held at the end of the fourth year of the programme of study.

(5) Examination Components and Allocation of Marks

(a) Part I Examination

The components of the Part I Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
<b>A. Written</b>		
MTGO6104	One Best Answer	<u>200</u>
	Total	200
<b>B. Written</b>		
MTGO6105	Short answer Type Questions 1	100
MTGO6106	Short Answer Type Questions 2	100
<b>Clinical</b>		
MTGO6107	Objective Structured Clinical Examination	200
MTGO6125	Short Cases	200
<b>Viva Voce</b>		
MTGO6121	Anatomy	50
MTGO6122	Physiology	50
MTGO6123	Pathology, Microbiology and Pharmacology	50
MTGO6124	Principles of Surgery and General Medicine	<u>50</u>
	Total	800
	<b>Grand Total</b>	<b><u>1000</u></b>

(b) Final Examination

The components of the Final Examination and the marks to be allocated to each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
<b>A. Written</b>		
MTGO6236	Essay Questions	100
MTGO6237	Short Answer Type Questions	<u>200</u>
	Total	300
<b>B. Clinical</b>		
MTGO6243	Long Case	100
MTGO6244	Short Cases	200
MTGO6245	Objective Structured Clinical Examination	200
<b>Viva Voce</b>		
MTGO6254	Clinical Sports Medicine	50
MTGO6255	Sports Rehabilitation	50
MTGO6256	Exercise Testing and Exercise Prescription	50
MTGO6257	Sports Emergency	<u>50</u>
	Total	700
	<b>Grand Total</b>	<b><u>1000</u></b>

(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

50% or more of the marks for each sub component of the Part I Examination.

Only candidates that passed the Component A examination, will be allowed to sit for the Component B examination.

(b) Final Examination

50 % or more of the marks for each sub component of the Final Examination.

Only candidates that passed the Component A examination, will be allowed to sit for the Component B examination.

For the clinical long case and short case examination, the passing criteria for this part is determined by the majority of the examiner's votes and not by the marks. But in case of even votes encountered, then the average marks will be considered as the passing criteria.

(7) Repeating an Examination

(a) Part I Re-Examination

(i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six months intervals.

(ii) The Part I Re-Examination shall consist of the components that has failed and shall be assessed and graded in the same manner as prescribed for the Part I Examination.

(iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Final Re-Examination

(i) A candidate who has failed the Final Examination may be permitted a re-examination on two separate occasions at six months intervals.

(ii) The Final Re-Examination shall consist of the components that has failed and shall be assessed and graded in the same manner as prescribed for the Final Examination.

(iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Final Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(c) A candidate who has passed the re-examination for the Examinations shall be deemed to have passed the prescribed Examinations.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Sport Medicine unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### (1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he -

- (a) has obtained 75% or more of the aggregate marks in each of the prescribed Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

### (2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Sports Medicine with Distinction if he -

- (a) has passed with Distinction in both the Part I and the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Sports Medicine  
Programme Schedule**

<b>S T A G E  II</b>	Year 4	(a) advanced training and clinical postings in areas related to Sports Medicine including an elective posting or postings of the candidate's choice subject to the approval of the Department responsible for the candidate's programme of study;	Final Examination
	Year 3	(b) advanced training in areas of Sports Management, Ethics and Special Population;	
	Year 2 (36 months)	(c) assignments;	
		(d) the keeping of a log book by the candidate to document tasks undertaken;	
<b>S T A G E  I</b>		and	Part I Examination
		(e) research	
	Year 1 (12 months)	Basic Sciences related to Sports Medicine and any other clinical discipline in relation to Sports Medicine	Registration (Entrance Evaluation)

**Name of Programme :** Master of Surgery  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Surgery programme is a clinical coursework programme in which the research component comprises less than thirty (30) percent of the whole programme of study.

### 2. Entry Requirements

- (1) Entry qualifications
  - (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate; and
  - (b) At least one year of post-full registration clinical experience approved by the Senate.
- (2) Other requirements
  - (a) Qualifies for registration as a medical practitioner under the Medical Act 1971 (Act 50) of Malaysia; and
  - (b) Satisfies the Department in the Faculty responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

### 3. Duration of Study

- (1) The minimum duration of study shall be four years.
- (2) The maximum duration of study shall be seven years.

### 4. Structure of Programme

The programme of study comprises three stages as follows:

- (1) Stage I, comprising:
  - (a) six (6) months of General Surgery posting including courses in Applied Basic Sciences and Principles of Surgery;
  - (b) the option of a further six (6) months of General Surgery OR two posting of three (3) months each in Accident and Emergency, Orthopaedic Surgery, Intensive Care, Anaesthesiology, Obstetrics and Gynaecology, Radiology or any other surgical specialty not covered in Stage II, subject to approval by the Department of Surgery and Faculty of Medicine.
  - (c) initiation of a research project
- (2) Stage II, comprising:

- (a) twelve (12) months of rotation in surgical specialties comprising four (4) postings of three (3) months each: two compulsory postings in Urology and Neurosurgery, and a further two postings in any of the following: Cardiothoracic Surgery or Critical Care Medicine, Plastic and Reconstructive Surgery, Paediatric Surgery.
  - (b) continuation of a research project
- (3) Stage III, comprising:
  - (a) Twenty four (24) months in General Surgery including rotating through which may include Colorectal, Upper Gastrointestinal, Hepatobiliary, Breast, Endocrine, Vascular and Trauma Surgery general surgical sub-specialities;
  - (b) submission of a research report.
- (4) A candidate is required to keep a log book throughout his period of study to document tasks undertaken.

## **5. Registration**

Registration for the programme of study shall commence the week prior to the start of the academic session.

## **6. Attendance**

During his programme of study -

- (1) A candidate may be permitted to undertake part of his programme of study in other hospitals or centres recognised by the Faculty;
- (2) A candidate who has been absent for a period exceeding forty-two (42) days in any academic year shall be required to undertake an extended period of training to be determined by the Faculty; provided always that the extended period of training shall not exceed the maximum period of candidature.

## **7. Supervision**

- (1) The clinical supervisor for a candidate shall be appointed not later than two months after the registration of the candidate. The research supervisor shall be appointed subsequent to the candidate passing the Part I examination.
- (2) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Research Report**

The research project for a candidate shall be proposed by the candidate in discussion with their supervisor not later than six months after passing the Part I Examination. Research proposals must be vetted by the Department in the Faculty responsible for the candidate's programme of study.

## **9. Submission**

- (1) A candidate is required to submit his log book and end-of-posting reports every six months for assessment by the Department in the Faculty responsible for the candidate's programme of study.

- (2) A candidate is required to submit his research report not later than three months before the Final Examination.

## 10. Examination for the Degree

- (1) The Examinations leading to the degree shall be as follows:
- (a) the Part I Examination; and
  - (b) the Final Examination.
- (2) No candidate shall only be permitted to sit for the Final Examination if he has:
- (a) Passed or been exempted from the Part I Examination
  - (b) Passed the annual clinical evaluation
  - (c) Submitted three satisfactory case write-ups, and
  - (d) Submitted a research report that has been assessed as of sufficient standard not later than three months before the Final Examination.
- (3) A candidate may be exempted from the Part I Examination if he has passed:
- UK Intercollegiate MRCS Examination (Part A and B)
- (4) The Part I Examination shall be held at the end of the first six months of the Phase I of the programme of study. The Final Examination shall be held at the end of the Phase III of the programme of study.
- (5) Examination Components and Allocation of Marks
- (a) Part I Examination

The components of the Part I Examination and the marks to be allocated for each component shall be as follows:

Component	Description	Allocation of Marks (Maximum)
A. Written		
MSGD6104 Paper 1	Applied Basic Sciences (Single Best Answer)	135
MSGD6105 Paper 2	Principle of Surgery (Single Best Answer and Extended Matching Question)	135
	Total	<u>270</u>
B. Clinical		
MSGD6124	OSCE	<u>360</u>
	<b>Grand Total</b>	<b><u>630</u></b>

A candidate who does not pass the written component of the Part I Examination will not be permitted to sit for the clinical examination.

- (b) Final Examination

The components of the Final Examination and the marks to be allocated to the various components of the Final Examination shall be as follows:



Component A is marked using an open system on a continuous scale, where the maximum combined mark of Paper 1 and Paper 2 is 360.

Component	Description	Allocation of Marks (Maximum)
A.Written		
MSGD6236	Paper 1	180
MSGD6237	Paper 2	180
	Total	<u>360</u>

Components B and C are marked using a closed system, in which the category of marks is as follows:

12	: Distinction
11	: Good Pass
10	: Pass
9	: Borderline
8	: Fail

Number of marks awarded for the Viva voce	: 16
Maximum mark for Viva voce	: 16 x 12 = 192
Pass mark for Viva voce	: 16 x 10 = 160
Number of marks awarded for Clinical Long Cases	: 6
Maximum mark for Clinical Long Cases	: 6 x 12 = 72
Pass mark for Clinical Long Cases	: 6 x 10 = 60
Number marks awarded for Clinical Short Cases	: 9
Maximum mark for Clinical Short Cases	: 9 x 12 = 108
Pass mark for Clinical Short Cases	: 9 x 10 = 90

B. Viva Voce		
MSGD6250	Principles of Surgery (including critical care) 1	40
	Principles of Surgery (including critical care) 2	40
MSGD6251	Surgical Pathology	40
MSGD6252	Operative Surgery	<u>40</u>
	Total required to pass component	<u>160</u>
C. Clinical		
MSGD6243	Long case 1	30
	Long case 2	<u>30</u>
	Total required passing component:	<u>60</u>
MSGD6244	Short cases	<u>90</u>
	Total required to pass component:	<u>90</u>

(6) Requirements for Passing an Examination

A candidate shall be deemed to have passed the Examinations prescribed below if he has obtained:

(a) Part I Examination

- (i) 50% or more of the aggregate combined marks of all the components; and

(ii) 50% or more of the marks for each component for the Examination.

(b) Final Examination

(i) 50% or more of the aggregate combined marks for Component A; and

(ii) The pass mark for Component B; and

(iii) The pass marks for component C.

Note: A candidate who obtains less than 50% of the aggregate marks in component A is not eligible to sit for component B and C.

(7) Repeating an Examination

(a) Part I Re-Examination

(i) A candidate who has failed the Part I Examination may be permitted a re-examination on two separate occasions at six (6) monthly intervals.

(ii) The Part I Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Part I Examination. However, a candidate who has passed the written components previously will not be required to re-sit these components at the subsequent Part I Re-Examination.

(iii) A candidate who fails the re-examination on the second occasion shall be deemed to have failed the Part I Examination and shall not be permitted to repeat the programme of study except in special circumstances on the recommendation of the Faculty of Medicine and with the approval of Senate.

(b) Final Re-Examination

(i) There is not limit on the total attempts in the Final Examination, as long as the candidate is still within the maximum duration of study which shall be seven years from the first date of registration.

(ii) The Final Re-Examination shall consist of the same components and shall be assessed and graded in the same manner as prescribed for the Final Examination. However, a candidate who has passed Component A previously will not be required to re-sit this component for two subsequent Final Re-Examination. Should the candidate fail the two subsequent Final Re-Examinations, he will be required to re-sit Component A at the third subsequent Final Re-Examination.

(iii) After the maximum duration of study is over the candidate is considered to have failed the Final Examination and shall not be permitted to repeat the programmes of study.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Surgery unless he has successfully completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

(1) Award of Pass with Distinction for the Examination

A candidate may be awarded a Pass with Distinction in the Part I Examination or the Final Examination if he

- (a) has obtained 75% or more of the aggregate combined marks in each of the prescribed Examinations;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

(2) Award of the Degree with Distinction

A candidate may be awarded the degree of Master of Surgery with Distinction if he -

- (a) has passed with Distinction in the Final Examination;
- (b) has not failed in any component of the prescribed Examination; and
- (c) has not repeated the prescribed Examination or any part of the programme of study except on medical or compassionate grounds acceptable to the Faculty.

**Master of Surgery  
Programme Schedule**

<b>S T A G E  III</b>	Year 4	<ul style="list-style-type: none"> <li>▪ (24) months in General Surgery including rotating through general surgical sub-specialties, namely Colorectal, Upper GI, Hepatobiliary, Breast, Endocrine and Vascular;</li> </ul>	Final Examination
	Year 3		
<b>S T A G E  II</b>	Year 2	<ul style="list-style-type: none"> <li>▪ (12) months of rotation in surgical specialties;</li> <li>▪ four (4) postings of three (3) months each: two compulsory postings in Urology and Neurosurgery, and a further two postings in any of the following: Cardiothoracic Surgery or Critical Care Medicine, Plastic and Reconstructive Surgery, Paediatric Surgery.</li> </ul>	
<b>S T A G E  I</b>	Year 1	<ul style="list-style-type: none"> <li>▪ General Surgery (6 months)</li> <li>▪ Accident and Emergency (3 months)</li> <li>▪ Orthopaedic Surgery or any surgery – related elective posting (3 months)</li> </ul>	Part I Examination (At the end of the first six months of Stage I)  Registration (Entrance Evaluation)

**Name of Programme :** Master of Medical Education  
**Mod :** By Coursework  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Medical Education is a programme by coursework in which the credits for the research component comprises less than thirty (30) percent of the total credits for the whole programme of study. After completion of the relevant courses of study specified in this Schedule, a candidate shall be eligible for the award of the Master of Medical Education degree.

## 2. Entry Requirements

### (1) Entry qualifications

- (a) The degree of Bachelor of Medicine and Bachelor of Surgery or an equivalent medical qualification approved by the Senate; or
- (b) Bachelor degree in Allied Health or an equivalent medical qualification approved by the Senate; or
- (c) Bachelor degree with a CGPA not less than 3.00 and presents evidence of working experience in related field for a minimum period of 1 year; or
- (d) An equivalent qualification approved by the Senate from time to time.
- (e) A non-Malaysian applicant whose degree is from a university or institution of higher learning where the medium of instruction for that degree is not the English language and where the applicant wishes to follow a programme shall be required:
  - (i) To obtain a score of 600 for a paper-based total (PBT); a score of 250 for a computer-based total (CBT) or a score of 100 for an internet-based total (IBT) for the Test of English as a Foreign Language (TOEFL); or
  - (ii) To obtain a band of 6 for the International English Language Testing System (IELTS).

### (2) Other requirement

Satisfies the Entrance Evaluation of the Department responsible for the candidate's programme of study which is recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be two (2) semesters and one (1) special semester
- (2) The maximum duration of study shall be eight (8) semesters

## 4. Structure of Programme

- (1) The Master of Medical Education programme by coursework comprises forty two (42) credits as follow:

- (a) six (6) core courses, each of three (3) credits, totalling eighteen (18) credits;
  - (b) four (4) out of a total choices of six (6) elective courses, each of three (3) credits, totaling twelve (12) credits; and
  - (c) a research project of twelve (12) credits.
- (2) Details of the courses offered are as approved by Senate from time to time on the recommendation of the Faculty and candidates shall be informed of such details at the beginning of each session.
- (3) The lists of courses for the programme of Master of Medical Education are provided in List 1.

## **5. Registration**

- (1) Registration for the courses shall commence on the week prior to the start of the relevant semester.
- (2) A candidate is required to register for at least six (6) credit hours in any semester except;
  - (a) in the final semester of his/her programme of study where he may register for less than the number of credits stated above; or
  - (b) where the candidate has been permitted to withdraw from the semester concerned.

## **6. Supervision**

- (1) The supervisor for a candidate shall be appointed when the area of research is approved.
- (2) The co-supervisor and/or consultant may be appointed at any time when required.

## **7. Title of Research**

The area of research shall be determined before the candidate commences the research part of his programme of study.

## **8. Submission**

A candidate is required to submit his/her project report before the end of his maximum period of candidature.

## **9. Examination for the Degree**

- (1) The Examination leading to the degree of Master of Medical Medical Education by coursework shall consist of an examination or examinations in each of the courses prescribed for the Master of Medical Education degree programme as follows:
  - (a) six (6) core courses, each of three (3) credits, totalling eighteen (18) credits;
  - (b) four (4) out of a total choices of six (6) elective courses, each of three (3) credits, totaling twelve (12) credits; and

- (c) a research project of twelve (12) credits.

(2) Examination Components and Allocation of Marks

(a) Taught Courses

- (i) The components of the courses and the marks to be allocated to the components of the courses prescribed for the Examination shall be as follow unless stated otherwise:

Component	Description	Allocation of Marks (Maximum)
(A)	Continuous Assessment	70%
(B)	End of Semester Examination	<u>30%</u>
		Total 100%

- (ii) Research Project, Qualitative Research in Medical Education, Quantitative Research in Medical Education and Workplace-Based Learning

Continuous Assessment.	100%
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- (b) The Senate may on the recommendation of the Faculty, amend the allocation of marks for the components of a course for the Examination.

(3) Course Grade Requirements

Course grades are subjected to regulations prescribed in the Marking Scheme of the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree) Regulations 2014.

**10. Award of Degree**

No candidate shall be recommended for the award of the degree of Master of Medical Education unless he/she has successfully completed all parts of the courses (six core courses, four elective courses and a research project) and passed all the prescribed Examination.

### List 1

Code	Title	Credit Hours
<b>Core Courses</b>		
MQE 7001	Research Methodology in Medical Education	3
MQE 7002	Research Project (P)	12
MQE 7003	Curriculum Development	3
MQE 7004	Teaching Methods in Medical Education	3
MQE 7005	Concepts of Learning	3
MQE 7006	Assessment and Evaluation	3
MQE 7007	Management and Leadership in Medical Education	3
<b>Elective Courses</b>		
MQE 7008	Clinical Teachers	3
MQE 7009	Professionalism in Medical Education	3
MQE 7010	Instructional Design and Educational Technology	3
MQE 7011	Qualitative Research in Medical Education	3
MQE 7012	Quantitative Research in Medical Education	3
MQE 7013	Workplace-Based Learning	3
<b>Total</b>		<b>42</b>

#### MQE7001

#### Research Methodology in Medical Education (3 credits)

##### Learning Outcomes

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

1. Compare strengths and limitations of qualitative, quantitative and mixed-method design research in a collective effort.
2. Demonstrate skills in reviewing literature.
3. Generate problem statement, research objectives and conceptual framework based on literature review.
4. Develop appropriate research design and methodology to achieve research objectives in an ethical manner.

##### Synopsis

Students will explore qualitative, quantitative and mixed-method research in medical education. At the beginning, students will be introduced to conceptual framework of an education research. Then, students learn to construct a researchable problem in health care training institutes which leads to the conceptions of research objectives and questions. Next, for qualitative paradigm, students will discuss the qualitative inquiry, data collection techniques, reliability and validity and data analysis. For quantitative paradigm, hypotheses, sampling, research designs, instruments, reliability and validity will be discussed. Students will be also introduced to mixed-method design research and its differences with quantitative and qualitative research. As the course progresses, students will in prepare and present a research proposal. Ethical issues on conducting a research will also be discussed.

##### Main Reference

1. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to design and evaluate research in education* (9th ed.). New York: McGraw Hill, Inc.
2. Creswell, J. W. (2014). *Educational research : Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Essex: Pearson Education Limited.

##### Assessment Weightage

Continuous Assessment: 70%

Final Examination:30%

#### MQE7002

#### Research Project (12 credits)

##### Learning Outcomes



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

1. Compose a research report (not exceeding 30,000 words) which includes (at least) a chapter on the introduction of the study, a chapter on literature review, a chapter on theoretical framework and conceptual framework for a study, a chapter on methodology, a chapter on original findings and discussions and a chapter on conclusions and implications of the study.
2. Cite sources appropriately in the students' research report.
3. Integrate latest research findings in the students' research reports.

#### Synopsis

Students will practice as novice researchers and prepare themselves for future job prospects such as academicians, researchers and consultants in public, private, non-profit organisations or non-government organisations. Students will carry out steps in the process of research: identifying a research problem, reviewing the literature, specifying a purpose and research questions or hypotheses, collecting quantitative/qualitative data, analysing and interpreting quantitative/qualitative data, reporting and evaluating research. It requires commitments from both students and their supervisor.

#### Main Reference

1. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to design and evaluate research in education* (9th ed.). New York: McGraw Hill, Inc.
2. Creswell, J. W. (2014). *Educational research : Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Essex: Pearson Education Limited.

#### Assessment Weightage

Continuous Assessment: 100%

Final Examination: -

### **MQE7003**

#### **Curriculum Development (3 credits)**

#### Learning Outcomes

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

1. Explain the principles of curriculum development.
2. Analyse strengths and limitations in selected curriculum models.
3. Analyse existing curriculum structure in the students' institution without guidance from the instructors.
4. Report the development in the assessment for medical student.
5. Give examples of ethical activities which can be used to evaluate the academic programme at the students' institution.

#### Synopsis

Students will explore fundamentals of an academic programme, which are the curriculum, assessment and evaluation. Firstly, students are exposed the principles of curriculum design. Subsequently, the course exposes students to curriculum theories and various models of curriculum development (e.g. Tyler model, Taba model, the product model; process model). Next, steps in developing a curriculum will be discussed (e.g. from need assessment to programme evaluation). Students are also exposed to the concept of spiral curriculum and intergrated curriculum. Secondly, students are introduced to principles of assessment and various assessment tools in terms of (but not limited to) reliability and validity. Lastly, students are introduced to programme evaluation for medical schools including internal and external evaluation. As the course progresses, students will analyse current curriculum, assessments and evaluation activities in their own healthcare training institutes. As the course progresses, ethical issues will be discussed

#### Main Reference

1. Swanwick, T. (Eds.). (2014). *Understanding medical education: Evidence, theory and practice*. West Sussex: Wiley Blackwell.
2. Harden, R. M., & Laidlaw, J. M. (2012). *Essential skills for a medical teacher: an introduction to teaching and learning in medicine*. Edinburgh: Churchill Livingstone/Elsevier.
3. Amin, Z., & Khoo, H. E. (2009). *Basics in medical education* (2nd.). Hackensack, NJ: World Scientific

#### Assessment Weightage

Continuous Assessment: 70%  
Final Examination: 30%

#### **MQE7004**

##### **Teaching Methods in Medical Education (3 credits)**

###### Learning Outcomes

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

1. Present a micro teaching.
2. Apply effective teaching strategies to promote meaningful learning.
3. Discuss pedagogical content knowledge within workplace.
4. Describe implications of the quality of pedagogical approaches on the quality of future medical practitioners.

###### Synopsis

Students will explore pedagogical content knowledge in medical education. Students will be introduced to various teaching strategies (including simulative teaching aids). Focus will be upon issues such as to attract attentions from learners at the beginning of a teaching session (induction set), to promote meaningful learning (problem-based learning, inquiry-based learning and cooperative learning) during the teaching session, and to summary the learning outcomes at the end of the teaching session. Students learn to develop lesson plans by applying learning theories. As the course progresses, students will be involved hands-on activities such as microteaching. Students will receive recommendations from peers.

###### Main Reference

1. Harden, R. M., & Laidlaw, J. M. (2012). *Essential skills for a medical teacher: an introduction to teaching and learning in medicine*. Edinburgh: Churchill Livingstone/Elsevier.
2. Bhuiyan, P. S., Rege, N. N., & Supe, A. (Eds.). (2015). *The art of teaching medical students*. New Delhi: Reed Elsevier India Pvt. Ltd.
3. Ramsden, P. (2003). *Learning to teaching in higher education*. (2nd.). London: Routledge Falmer.
4. Light, G., Cox, R., & Calkins, S. (2009). *Learning and teaching in higher education: The reflective professional*. (2nd.). London: SAGE.

###### Assessment Weightage

Continuous Assessment: 70%  
Final Examination: 30%

#### **MQE7005**

##### **Concepts of Learning (3 credits)**

###### Learning Outcomes

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

1. Relate the findings with theoretical framework of the study.
2. Discuss the development in the theory of learning.
3. Develop a small scale study to investigate learners' learning processes and/or outcomes by applying at least one learning theory as theoretical framework of the study.

###### Synopsis

Students will explore various theories of learning (including but not limited to behaviourism, cognitivism, constructivism, neuroscience, multiple intelligence). Through discussing the development of learning theories, students will recognise their importance and applications in teaching and learning practices. As theories are abstract ideas, students will identify the applications in medical schools. As the course progresses, students will design a small scale study on real learners. The concept of theoretical framework of a study will be discussed. Theoretical framework is an essential element in an education research. Any intervention for students should be based on learning theories as to avoid using intuition.

###### Main Reference

1. Driscoll, M. P. (2014). *Psychology of learning for instruction* (3rd ed.). Essex: Pearson Education Limited.

2. Sharan, B. M., Rosemary S. C., Raymond, J., & Wlodkowski, P. C. (2001). *Adult education and lifelong learning: Theory and practice*. New Jersey: John Wiley & Sons

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

### **MQE7006**

#### **Assessment and Evaluation (3 credits)**

Learning Outcomes

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

1. Develop valid and reliable assessments.
2. Analyse validity and reliability of three selected assessment tools.
3. Evaluate an educational programme which has been published in a high impact journal.

Synopsis

Students will explore theories of educational measurement and assessment. Students will learn the development, administration and marking of assessments, as well as analysing the validity and reliability of the assessments. Students will be exposed to philosophy and rationales of the “assessment for learning”. Next, students will learn to conceptualise relationships between program development and its program evaluation. Students will apply previous learnt knowledge and skills in developing an evaluation tool in order to evaluate an actual educational programme.

Main Reference

1. Jackson, N., Jamieson, A., & Khan, A. (Eds.). (2007). *Assessment in medical education and training: A practical guide*. UK: Radcliffe Publishing.
2. Pangaro, L. N., & McGaghie, W. (Eds.). (2015). *ACE handbook on medical student evaluation and assessment*. US: Alliance for Clinical Education.
3. Mertens, D. M., & Wilson, A. T. (2012). *Program evaluation theory and practice: A comprehensive guide*. New York: The Guilford Press.

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

### **MQE7007**

#### **Management and Leadership in Medical Education (3 credits)**

Learning Outcomes

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

1. Discuss principles of management and leadership in the context of medical education.
2. Apply existing and emerging research-informed knowledge of educational leadership within workplace.
3. Analyse future directions in terms of quality assurance of medical students.
4. Discuss educational management and leadership theories within workplace.

Synopsis

Students will explore the concept of educational management and leadership. Students will learn to develop critical understanding of organisation and approaches to promote changes in the organisation. Existing (for example but not limited to interprofessional education, community of practice) and emerging trends in medical curriculum will be discussed as to study how to decide on policies based on evidence. Lastly, students will analyse latest information in order to recommend quality assurance of healthcare training.

Main Reference

1. Northouse, P. G. (2016). *Leadership: Theory and practice* (7th ed.). Los Angeles: SAGE.
2. Swanwick, T. (Eds.). (2014). *Understanding medical education: Evidence, theory, and practice* (2nd ed.). Chichester: Wiley Blackwell.
3. MacCarrick, G. (2013). *Quality assurance in medical education: A practical guide*. London: Springer.

#### 4. Drucker, P. F. (2012). *The practice of management*. Oxford: Elsevier

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

#### **MQE7008**

##### **Clinical Teachers (3 credits)**

###### Learning Outcomes

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

1. Present a micro teaching in the clinical setting.
2. Differentiate learners' needs in terms of acquisition of skills and knowledge between clinical and pre-clinical settings.
3. Discuss teaching strategies and aids for the clinical setting based on appropriate learning theories.
4. Discuss a learning-friendly environment including (but not limited to) learners-teachers' dynamics to promote the acquisition of skills and knowledge in clinical setting.

###### Synopsis

The course is designed for physicians who envision a career of education. Students will learn to develop the skills required to become clinical teachers and mentors for younger generations of physicians. To be able to engage in the course effectively, students are exposed to the significant role of professional values of clinical teachers. Next, students learn to differentiate needs of learners in terms of acquisition of skills and knowledge between clinical and pre-clinical settings. Students will learn to apply teaching strategies and aids in clinical setting based on appropriate learning theories. Lastly, students learn to supervise learners' acquisition of skills and knowledge in the clinical setting, as well as creating a learning-friendly environment.

###### Main Reference

1. Forrest, K., McKimm, J., & Edgar, S. (Eds.). (2013). *Essential simulation in clinical education*. West Sussex: Wiley Blackwell.
2. McAllister, L., Lincoln, M., McLeod, S & Maloney, D. (Eds.). (1997). *Facilitating learning in clinical settings*. UK: Nelson Thornes Ltd.

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

#### **MQE7009**

##### **Professionalism in Medical Education (3 credits)**

###### Learning Outcomes

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

1. Evaluate methods employed to instil medical professionalism.
2. Evaluate methods to assess professionalism in medical context.
3. Discuss the definitions and elements of medical professionalism.
4. Produce a reflection on learner's own experiences of professionalism as a medical practitioner and educator.

###### Synopsis

Students will explore the concepts of medical professionalisms. Students will learn the definitions and elements of medical professionalism. Students will learn to evaluate the methods employed to instill medical professionalism. Later, students will learn to evaluate the methods to assess professionalism in the medical context. Lastly, students will reflect on their own experiences of professionalism as a medical practitioner and educator.

###### Main Reference

1. Levinson, W., Ginsburg, S., Hafferty, F. & Lucey, C. R. (2014). *Understanding medical professionalism*. New York: McGraw Hill Education.

- Hafferty, F. W. & O'Donnell, J. F. (2014). *The hidden curriculum in health professional education*. Lebanon NH: University Press of New England.
- Spandorfer, J. (Eds.). (2009). *Professionalism in medicine: A case-based guide for medical students*. New York: Cambridge University Press.
- Parsi, K. & Sheehan, M. (Eds.). (2006). *Healing as vocation: A medical professionalism primer*. Lanham, MD: Rowman & Littlefield Publishers.
- Cruess, R. L., Cruess, S. R. & Steinert, Y. (Eds.). (2008). *Teaching medical professionalism*. New York: Cambridge University Press.

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

### **MQE7010**

#### **Instructional Design and Educational Technology (3 credits)**

##### Learning Outcomes

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

- Describe instructional design theories.
- Demonstrate latest educational technologies using instructional design theories.
- Explain implications of instructional design and education technology in medical education.
- Critique a lesson plan based on concepts of instructional design.

##### Synopsis

Students will learn concepts of instructional design and applications of latest educational technologies (for instance, but not limited to learning management system, e-learning, smart devices and social networks) in teaching and learning of medical education. As students have acquired the concepts, they apply and design instructional strategies and materials.

##### Main Reference

- Morrisson, G. R., Ross, S. M., Kemp, J. E., & Kalman, H. (2011). *Designing effective instruction*. (6th ed.). New Jersey: John Wiley & Sons.
- Kyei-Blankson, L., & Ntuli, E. (Eds.). (2014). *Practical applications and experiences in K-20 blended learning environments*. Pennsylvania: IGL Global.
- Rhoads, R. A. (2015). *MOOCs, high technology, and higher learning*. Maryland: Johns Hopkins University Press.

Assessment Weightage

Continuous Assessment: 70%

Final Examination: 30%

### **MQE7011**

#### **Qualitative Research in Medical Education (3 credits)**

##### Learning Outcomes

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

- Relate findings with theoretical framework and conceptual framework of the qualitative study.
- Write qualitative findings and discussions for academic papers.
- Demonstrate skills in analysing qualitative data.

##### Synopsis

Students will learn advanced research skills after they have acquired basic knowledge and skills in research. The course is recommended for students who wish to conduct qualitative research for their research projects. Students will collect authentic/actual data in the learning of analysing and interpreting qualitative data. Next, students will learn to relate findings of their studies with theoretical framework and conceptual framework. Lastly, students will practice to write findings and discussions for academic papers. As the course progresses, students will be encouraged to apply knowledge and skills learnt on their research projects.

#### Main Reference

1. Patton, M. P. (2015). *Qualitative Research & Evaluation Methods*. (4th ed.). Thousand Oaks, Calif: Sage Publications.
2. Merriam, S. B. (2016). *Qualitative research: a guide to design and implementation*. San Francisco: Jossey-Bass.
3. Creswell, J. W. (2014). *Educational research : Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Essex: Pearson Education Limited.

#### Assessment Weightage

Continuous Assessment: 100%

Final Examination: -

### **MQE7012**

#### **Quantitative Research in Medical Education (3 credits)**

#### Learning Outcomes

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

1. Relate findings with theoretical framework and conceptual framework of the quantitative study.
2. Write quantitative findings and discussions for academic papers.
3. Demonstrate skills in analysing quantitative data.

#### Synopsis

Students will learn advanced research skills after they have acquired basic knowledge and skills in research. The course is recommended for students who wish to conduct quantitative research for their research projects. Authentic/actual data will be used in the teaching of analysing and interpreting quantitative data, both univariate and multivariate data and in terms of descriptive and inferential analyses. Parametric and non-parametric tests will be introduced, for example but not limited to, normality tests (e.g. Kolmogorov-Smirnov), corrections (e.g. Pearson, Spearman), comparing means (e.g. t-tests, ANOVA, Mann-Whitney U, Kruskal-Wallis), regression (e.g. linear regression, logistic regression) and categorical data (e.g. chi-square). Next, students will learn to relate findings of their studies with theoretical framework and conceptual framework. Lastly, students will practice to write findings and discussions for academic papers. As the course progresses, students will be encouraged to apply knowledge and skills learnt on their research projects.

#### Main Reference

1. Creswell, J. W. (2014). *Educational research : Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Essex: Pearson Education Limited.
2. Field, A. P. (2012). *Discovering statistics using IBM SPSS Statistics*. (4th ed.). London: Sage Publications Ltd.
3. Muijs, D. (2011). *Doing quantitative research in education with SPSS*. (2nd ed.). London: Sage Publications Ltd..

#### Assessment Weightage

Continuous Assessment: 100%

Final Examination: -

### **MQE7013**

#### **Workplace-Based Learning (3 credits)**

#### Learning Outcomes

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

4. Identify the tasks performed by medical educationists in the workplace.
5. Reproduce selected tasks performed by the medical educationists in the workplace.
6. Write report/s to reflect on the tasks performed, lessons learned and future plans.

#### Synopsis

All students are encouraged to take this course as to gain workplace experience. Students will be placed at a selected medical education office/centre/department/unit. In rotations, a student will be attached to



an academic and/or administrative officer to observe the routine and specific tasks. Students are required to identify the tasks performed by medical educationists in the workplace and have opportunities to reproduce these tasks whenever applicable. Examples (but not limited to) include curriculum review meetings, blueprinting an assessment, analysing and reporting evaluation of teaching and learning sessions. Students will document their observations and reflections (i.e., tasks performed, lessons learned and future plans) for their continuing professional development.

#### Main Reference

1. Peters, J K., & Weusberg, M. (2011). *A teacher's reflection book: exercises, stories and invitations*. North Carolina: Carolina Academic Press.
2. Dent, A. A., & Harden, R. M. (Eds.) (2013). *A practical guide for medical teachers* (4th.). China, Elsevier.
3. Harden, R. M., & Crosby, J. (2000). AMEE Guide No. 20: The good teacher is more than a lecturer - The twelve roles of the teacher. *Medical Teacher*, 22(4), 334-347

#### Assessment Weightage

Continuous Assessment: 100%

Final Examination: -

### Master of Medical Education Programme Schedule

Special Semester	<ul style="list-style-type: none"> <li>▪ A research project of six (6) credits.</li> </ul>	Examination
Semester II	<ul style="list-style-type: none"> <li>▪ A research project of six (6) credits.</li> <li>▪ Three (3) core courses, each of three (3) credit hours, totalling nine (9) credits; and</li> <li>▪ Three (3) elective courses, each of three (3) credits, totalling nine (9) credits.</li> </ul>	(i) End of Semester II
Semester I	<ul style="list-style-type: none"> <li>▪ Three (3) core courses, each of three (3) credit hours, totalling nine (9) credits and</li> <li>▪ Three (3) elective courses, each of three (3) credits, totalling nine (9) credits.</li> </ul>	(ii) End of Semester I
		Registration (Admission Evaluation)

**Name of Programme :** Master of Medical Physics  
**Mod :** By Coursework  
**Faculty :** Faculty of Medicine

## 1. Classification of Programme

The Master of Medical Physics is a programme by coursework in which the credits for the research component comprises less than thirty (30) percent of the total credits for the whole programme of study. After completion of the relevant programme of study specified in this Schedule, a candidate shall be eligible for the award of the Master of Medical Physics degree.

## 2. Entry Requirements

### (2) Entry qualifications

- (a) A Bachelor's degree with Honours or equivalent in physical sciences; or
- (b) A Bachelor's degree with Honours or equivalent in a programme of study consisting a significant courses in physical sciences; or
- (c) A Bachelor's degree or equivalent in physical sciences and at least three years working experience in the relevant field; or
- (d) An equivalent qualification approved by the Senate from time to time.

### (2) Other requirement

Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

## 3. Duration of Study

- (1) The minimum duration of study shall be two (2) semesters
- (2) The maximum duration of study shall be eight (8) semesters

## 4. Structure of Programme

- (1) The Master of Medical Physics programme by coursework comprises of forty (40) credits namely.
  - (a) four (4) core courses, each of four (4) credits, totalling sixteen (16) credits;
  - (d) a core course of two (2) credits;
  - (e) two (2) core courses, each of five (5) credits, totaling ten (10) credits; and
  - (f) a medical physics research project of twelve (12) credits.
- (2) Details of the courses offered are as approved by Senate from time to time on the recommendation of the Faculty and candidates shall be informed of such details at the beginning of each session.



- (4) The lists of courses for the programme of Master of Medical Physics are provided in List 1.

## **5. Registration**

- (1) Registration for the courses shall commence the week prior to the start of the relevant semester.
- (2) A candidate is required to register for at least six (6) credits in any semester except -
  - (a) in the final semester of his programme of study where he may register for less than the number of credits hours stated above; or
  - (b) where the candidate has been permitted to withdraw from the semester concerned.
- (3) A candidate may only register for medical physics research project after he has obtained at least ten (10) credits in the core courses.

## **6. Supervision**

- (1) The supervisor for a candidate shall be appointed when the area of research is approved.
- (2) The co-supervisor and/or consultant may be appointed at any time when required.

## **7. Title of Research**

The area of research shall be determined before the candidate commences the research part of his/her programme of study.

## **8. Submission**

A candidate is required to submit his/her project report before the end of his/her maximum period of candidature.

## **9. Examination for the Degree**

- (1) The Examination leading to the degree of Master of Medical Physics by coursework shall consist of an examination or examinations in each of the courses prescribed for the Master of Medical Physics degree programme as follows:
  - (a) four (4) core courses, each of four (4) credits, totalling sixteen (16) credits;
  - (b) a core course of two (2) credits;
  - (c) two (2) core courses, each of five (5) credits, totaling ten (10) credits; and
  - (d) a medical physics research project of twelve (12) credits.
- (2) Examination Components and Allocation of Marks
  - (b) Taught Courses

- (iii) The components of the courses and the marks to be allocated to the components of the courses prescribed for the Part I Examination shall be:

Component	Description	Allocation of Marks (Maximum)
(A)	End of Semester Examination	40%
(B)	Continuous Assessment	60%
	Total	100%

- (a) MQGQ6113 Computing and Medical Informatics  
Continuous Assessment. 100%

- (c) The Senate may on the recommendation of the Faculty, amend the allocation of marks for the components of a course for the Examination.

(4) Course Grade Requirements

Course grades are subjected to regulations prescribed in the Marking Scheme of the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree) Regulations 2014.

## 10. Award of Degree

No candidate shall be recommended for the award of the degree of Master of Medical Physics unless he has successfully completed all parts of the course and passed all the prescribed examination.

### List 1: Core Courses

Code	Title	Credit Hours
MQGQ6101	Anatomy and Physiology	4
MQGQ6112	Biostatistics	2
MQGQ6113	Computing and Medical Informatics	4
MQGQ6114	Applied Radiation Physics and Dosimetry	4
MQGQ6115	Radiobiology and Radiation Protection	4
MQGQ6116	Medical Imaging and Nuclear Medicine	5
MQGQ6117	Radiotherapy Physics	5
MQGQ6189	Medical Physics Project	12
<b>Total</b>		<b>40</b>

\*subject to amendment from time to time

## **MQGQ 6101**

### **Anatomy and Physiology (4 credits)**

#### Learning Outcomes

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

1. Knowledge and understanding of the anatomy and physiology of cells and fetus
2. Knowledge and understanding of the anatomy and physiology of the senses, lymphatics, and of the central and peripheral nervous system
3. Knowledge and understanding of the anatomy and physiology of the musculoskeletal and endocrine system
4. Knowledge and understanding of the anatomy and physiology of the cardiovascular, blood, peripheral circulation and respiratory system
5. Knowledge and understanding of the anatomy and physiology of the integumentary and urinary systems
6. Knowledge and understanding of the anatomy and physiology of the gastrointestinal tract
7. Knowledge and understanding of the anatomy and physiology of the reproductive system and the breast

#### Synopsis

Cellular Anatomy, Foetal Anatomy, Senses (Visual, Hearing) and Lymphatics, Central Nervous System, Peripheral Nervous System, Musculoskeletal System, Endocrine System, Blood and Peripheral Circulation, Cardiovascular System, Respiratory System, Integumentary and Urinary Systems, Gastrointestinal Tract, Reproductive System and Breast.

Intro & Cell Physiology, Blood, Excitable Cells, Nervous System, Cardiovascular System, Respiratory System, Digestive System, Urinary System, Endocrine System, Reproduction.

#### Main Reference

1. Frederic H. Martini. Fundamentals of Anatomy and Physiology, 8th edition. Pearson Education, 2008
2. Rod R. Seeley, Trent D. Stephens, Philip Tate. Anatomy and Physiology. 5th edition. Mc Graw-Hill Higher Education, 2000
3. Jamie Weir, Peter H. Abrahams, Jonathan D. Spratt, Lonie R Salkowski. Imaging Atlas of Human Anatomy, 4th edition. Mosby, 2010
4. Lothar Wicke. Atlas of Radiologic Anatomy, Saunders, 2004
5. Edith Applegate. The Anatomy & Physiology Learning System, 2nd ed. Saunders, 2000.

#### Assessment Methods

Assignments, presentations, test (60%)  
Examination (40%)

## **MQGQ6112**

### **Biostatistics (2 credits)**

#### Learning Outcomes

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

1. Understand and formulate the basic structure of biomedical research studies, including objective, design, variables, sampling, hypothesis, methodology, and presentation.
2. Understand data classification, summarization, and presentation.
3. Understand the concept of probability and distributions.
4. Understand data inferences, including hypothesis testing and confidence intervals.
5. Carry out statistical tests of comparing single, paired, and independent groups.
6. Carry out statistical tests of comparing non-parametric independent and paired groups.
7. Carry out simple linear correlation and regression.

8. Recognizing multivariate statistical analysis methods.
9. Carry out appropriate error analysis in biomedical research.
10. Understand the role of a biostatistician in research design and management.

#### Synopsis

Basics of statistical data analysis: Characterizing data and measurements, data screening and transformation. Descriptive statistics, shapes of distributions, application of graphical methods. Elementary statistical inference. Regression analysis, logistic regression. Analysis of variance.

#### Main Reference

1. Dawson B, Trapp RG, Basic & Clinical Biostatistics. 3rd ed. McGraw-Hill: 2000.
2. Daniel WW, Biostatistics: A Foundation for Analysis in the Health Sciences. 7th ed. John Wiley & Sons: 1999.
3. Glantz SA. Primer of Biostatistics. 3rd ed. McGraw-Hill: 1991.

#### Assessment Methods

Assignments, tutorials, practicals, test (60%)

Examination (40%)

### **MQGQ6113**

#### **Computing and Medical Informatics (4 credits)**

#### Learning Outcomes

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

1. Understand fundamental topics of computing including terminology, organization, representation, and operations.
2. Understand and apply basic computer programming for scientific tasks.
3. Understand and apply basic numerical methods for solving mathematical functions.
4. Understand basic topics of signal processing including analog/digital, convolution and transforms.
5. Understand and apply basic digital image processing for biomedical imaging tasks.
6. Be familiar with the basics of artificial intelligence and its application in clinical systems.
7. Be familiar with the basics of medical imaging data visualization.
8. Understand the basics of medical informatics including medical data and communication standards and protocols.

#### Synopsis

Computing fundamentals, programming, numerical methods, signal and image processing, communication and medical informatics.

#### Main Reference

1. Long L, Long N, Computers: Information Technology in Perspective. 11th ed. Prentice-Hall: 2003.
2. Norris AC, Essentials of Telemedicine and Telecare. John Wiley & Sons: 2002.
3. Gonzalez RC, Woods RE, Digital Image Processing. 2nd ed. Prentice-Hall: 2002.

#### Assessment Methods

Practicals (60%)

Project (40%)

### **MQGQ6114**

#### **Applied Radiation Physics and Dosimetry (4 credits)**

#### Learning Outcomes

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

5. Understand the concepts and principles of radiation physics, radioactivity, and the interaction of radiation with matter.
6. Understand the principles, quantities and units of radiation dosimetry.

7. Be able to measure or calculate the radiation dose to different personnel in different circumstances.

#### Synopsis

Basic radiation physics. Radioactivity. Radiation interaction with matter. Dosimetric principles, quantities and units. Radiation dosimeters. Radiation monitoring instruments. Basic non-ionizing radiation physics. Dosimetry on non-ionizing radiation.

#### Main Reference

1. Attix FH, Introduction to Radiological Physics and Radiation Dosimetry. 2nd ed. John Wiley & Sons: 1999.
2. Knoll GF, Radiation Detection and Measurement. 3rd ed. John Wiley & Sons: 1999.
3. Rajan G, Advanced Medical Radiation Dosimetry. Medical Physics Publishing: 1992.

#### Assessment Methods

Assignments, test (60%)

Examination (40%)

### **MQGQ6115**

#### **Radiobiology and Radiation Protection (4 credits)**

#### Learning Outcomes

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

1. Understand the concepts and processes involved in the interaction of radiation with living matter.
2. Understand the principles behind various radiation protection recommendations.
3. Be able to practise radiation protection in hospitals.

#### Synopsis

Physics and chemistry of radiation interactions with matter. Molecular and cellular radiobiology. Tumour radiotherapy. Normal tissue response to radiotherapy. Radiobiological basis of radiation protection.

#### Main Reference

1. Hall EJ, Radiobiology for Radiologist. 6<sup>th</sup> ed. Lippincott Williams & Wilkins: 2005.
2. Martin CJ, Sutton DG, Practical Radiation Protection in Healthcare. Oxford University Press: 2002.
3. Steel GG, Basic Clinical Radiobiology. 3<sup>rd</sup> ed. Arnold: 2002.
4. IAEA book

#### Assessment Methods

Assignments, test (60%)

Examination (40%)

### **MQGQ6116**

#### **Medical Imaging and Nuclear Medicine (5 credits)**

#### Learning Outcomes

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

4. Understand the basic concepts and principles of medical imaging and nuclear medicine.
5. Understand the theoretical basis needed for the clinical practice of medical imaging and nuclear medicine.
6. Be able to carry out and interpret the results of basic quality assurance procedures for the general diagnostic and therapeutic modalities in medical imaging and nuclear medicine.

#### Synopsis

The practice of clinical radiology. Fundamentals of atomic and nuclear physics. Fundamentals of patient dosimetry. X-ray Production. Projection radiography. Receptors for projection radiography. Digital

imaging. Fluoroscopic imaging systems. Mammography. Computed Tomography. Special types of radiography. Ultrasound. Magnetic resonance imaging. Image post-processing. Image perception and assessment. Measures of image quality. Quality assurance for medical imaging. Quality assurance for digital imaging. Radionuclide production. Statistics in nuclear medicine counting. Generic performance measures. Electronics related to nuclear medicine imaging devices. Physics in the radiopharmacy. Non-imaging detectors and counters. Nuclear medicine imaging devices. Computers in nuclear medicine. Image reconstruction. Nuclear medicine image display. Hardware and software phantoms. Functional measurements in nuclear medicine. Quantitative nuclear medicine. Basic mathematics for nuclear medicine. Dosimetry – MIRD formalism. Radionuclide therapy. Management of therapy patients. Radiation protection in nuclear medicine. Quality assurance in nuclear medicine.

#### Main Reference

1. Bushberg JT, Seibert JA, Leidholdt EM, Boone JM, The Essential Physics of Medical Imaging. 2nd ed. Lippincott Williams & Wilkins: 2001.
2. Cherry SR, Sorenson JA, Phelps ME, Physics in Nuclear Medicine. 3rd ed. WB Saunders, 2003.
3. Early PJ, Sodee DB, Principles and Practice of Nuclear Medicine. 2nd ed. Mosby, 1995.
4. Sprawls P, Physical Principles of Medical Imaging. 2nd ed. Medical Physics Publishing: 1995.

#### Assessment Methods

Assignments, test (60%)

Examination (40%)

#### **MQGQ6117**

#### **Radiotherapy Physics (5 credits)**

#### Learning Outcomes

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

5. Understand the basic concepts and principles of radiotherapy physics.
6. Understand the theoretical basis needed for the clinical practice of medical physics in radiotherapy.
7. Be able to carry out and interpret the results of basic quality assurance procedures for the radiotherapy modalities.

#### Synopsis

Treatment machines for external beam radiotherapy. External photon beams: physical aspects. Clinical treatment planning in external photon beam radiotherapy. Electron beams: physical and clinical aspects. Calibration of photon and electron beams. Acceptance tests and commissioning measurements. Computerized treatment planning systems for external photon beam radiotherapy. Quality assurance of external beam radiotherapy. Brachytherapy: physical and clinical aspects. Basic radiobiology. Special procedures and techniques in radiotherapy. Radiation protection and safety in radiotherapy.

#### Main Reference

1. Hendee WR, Ibbott GS, Radiation Therapy Physics. 3rd ed. John Wiley & Sons, 2004.
2. International Atomic Energy Agency. Radiation Oncology Physics: A Handbook for Teachers and Students. IAEA, Vienna, Austria, 2005.
3. Khan FM, The Physics of Radiation Therapy. 3rd ed. Lippincott Williams & Wilkins, 2003.

#### Assessment Methods

Assignments, test (60%)

Examination (40%)

**Master of Medical Physics  
Programme Schedule**

Semester II	<ul style="list-style-type: none"> <li>▪ Two (2) core courses, each of five (5) credits, totalling ten (10) credits; and</li> <li>▪ A medical physics research project of twelve (12) credits. A candidate may only register for medical physics research project after he/his has obtained at least ten (10) credits in the core courses.</li> </ul>	Examination
		(iii) End of Semester I
		(iv) End of Semester II
Semester 1	<ul style="list-style-type: none"> <li>▪ four (4) core courses, each of four (4) credits, totalling sixteen (16) credits.</li> <li>▪ A core course of two (2) credits.</li> </ul>	
		Registration (Admission Evaluation)

**Name of Programme :** Master of Nursing Science  
**Faculty :** Faculty of Medicine

**1. Classification of Programme**

The Master of Nursing Science programme is a coursework programme in which the credits for the research component comprises less than thirty (30) percent of the whole programme of study.

**2. Entry Requirements**

Entry qualifications

- (1) A Bachelor's degree in Nursing Science with a CGPA 3.0 and above or an equivalent qualification approved by the Senate; and
- (2) Registered with the Malaysian Nursing Board and possess current practising license; and
- (3) Possess a post basic course in clinical speciality which the duration of study should not be less than 6 months, or
- (4) At least two years working experience in the relevant field.

**3. Duration of Study**

- (1) The minimum duration of study shall be four (4) semesters.
- (2) The maximum duration of study shall be eight (8) semesters.

**4. Structure of Programme**

- (1) The Master of Nursing Science programme comprises of 42 credits.
- (2) The core courses identified are as follows:
  - (a) Six (6) core courses each of three (3) credits, totalling eighteen (18) credits;
  - (b) One (1) core course of two (2) credits;
  - (c) Practicum in Nursing of ten (10) credits;
  - (d) Nursing Research Project I and II totalling nine (9) credits; and
  - (e) One (1) elective course each of three (3) credits.
- (3) Details of the courses offered are as approved by Senate from time to time on the recommendation of the Faculty and candidates shall be informed of such details at the beginning of each session.
- (4) The list of courses for the programme of Master of Nursing Science is provided in List 1.

**5. Registration**

- (1) Registration for the courses commence the week prior to the start of the relevant semester.



- (2) A candidate is required to register for at least two (2) credits in any semester.
- (3) A candidate may only register for Nursing Research Project I after he/she has passed MQD7001, MQD7004, MQD7005 and MQD7006.
- (4) A candidate may only register for Nursing Research Project II after he/she has passed Nursing Research Project I.

## 6. Supervision

- (1) The Faculty shall appoint at least one supervisor for each candidate for the research component. Supervisors for each candidate shall be appointed after the area of research is approved.
- (2) The co-supervisor and/or consultant shall be appointed when required.

## 7. Title of Research

The area of research shall be determined before the candidate commences the research part of his/her programme of study.

## 8. Submission

A candidate is required to submit his/her Nursing Research Project II report before the end of his/her maximum period of candidature.

## 9. Examinations for the Degree

- (1) The examination leading to the degree of Master of Nursing Science programme shall consist of an examination or examinations in each of the courses prescribed for the Master of Nursing Science degree programme as follows:
  - (a) six (6) core courses each of three (3) credits, totalling eighteen (18) credits;
  - (b) One (1) core course of two (2) credits;
  - (c) Practicum in Nursing of ten (10) credits;
  - (d) Nursing Research Project I and II totalling nine (9) credits; and
  - (e) One (1) elective course each of three (3) credits.

- (2) Examination Components and Allocation of Marks

- (a) Core courses and elective courses:

Subject		Allocation of Marks (Maximum)
(i)	Continuous Assessment	30% - 40%
(ii)	End of Semester Examination	60% - 70%
Total		100%

- (b) Nursing Research Project I & II and Nursing Practicum

- (i) Continuous assessment – 100%

- (3) Course Grade Requirements

Course grades are subjected to regulations prescribed in the Marking Scheme of the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree) Regulations 2014.

## 10. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Nursing Science unless he/she has completed all parts of the course, completed the minimum duration of study and has passed the prescribed Examinations.

### Master of Nursing Science Degree

#### List 1 Core Courses

CODE	TITLE	CREDITS
MQD7001	Research Methodology in Nursing	3
MQD7002	Nursing Research Project I	3
MQD7003	Nursing Research Project II	6
MQD7004	Qualitative Methods in Nursing Research	3
MQD7005	Medical Statistics	3
MQD7006	Statistical Computing	2
MQD7007	Health Assessment	3
MQD7008	Issues & Trends in Nursing And Health Care	3
MQD7009	Health Promotion	3
MQD7010	Nursing Practicum	10
MQD7011	Reflection in Nursing Practice*	3
MQD7012	Principle and Methods of Epidemiology*	3
*Choose only ONE TOTAL		42
Note: 1. The minimum passing grade is B. 2. A candidate must pass MQD7001, MQD7004, MQD7005 and MQD7006 before registering for MQD7002. 3. A candidate must also pass MQD7002 before registering for MQD7003.		

## **MQD7001**

### **Research Methodology in Nursing**

#### Learning Outcomes

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

1. Differentiate quantitative research process and the importance of quantitative research in nursing
2. Compare different quantitative research designs
3. Plan appropriate sampling, data collection and analyses methods according to research questions.
4. Critique research studies for evidence based practice.

#### Synopsis

In this course, the student will learn the definition of quantitative research, literature review, and research method, collection of data and analysis of quantitative research reports. This course will provide an overview on the quantitative research methodology in nursing. Practical reviews / critical analyses of quantitative research studies from international journals will be carried out by students.

#### Main Reference

1. Burns, N. & Grove, S.K. (2011) Understanding Nursing Research : Building an evidence based practice 5<sup>th</sup> edit Elsevier Saunders USA
2. Moule, P & Jek G (2011) Making sense of research . 4<sup>th</sup> edit. Learning matters .Sage
3. Polit DF & Beck CT (2013) Essentials of Nursing Research . 8<sup>th</sup> edit. Lippincott Philadelphia
4. Plichta, S.B. & Garson, L.S. (2013) Statistic for nursing and Allied health Lippincott . Philadelphia
5. Williamson G.R & Whittaker A.(2011) Succeeding in research project plans and literature reviews for nursing students.

#### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

## **MQD7002**

### **Nursing Research Project I**

#### Learning Outcomes

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

1. Critique literature
2. develop one nursing research proposal in nursing specialty
3. present the research proposal
4. discuss the proposal during the presentation
5. manage application process for ethical approval to ensure the research is undertaken ethically.

#### Synopsis

In this course, student is required to prepare one nursing research proposal. The research topics can be in any one of the nursing clinical specialty which will be beneficial to the nursing profession. The student has to present her research proposal and submit for ethical approval.

#### Main Reference

1. Creswell, J.W. (2009) Research Design: Qualitative, Quantitative and Mixed Methods Approaches. 3<sup>rd</sup> edition. Sage. Thousand Oaks.
2. Burns n. & Grove, SK (2011) Understanding Nursing Research: Building an evidence based practice. 5<sup>th</sup> edit. Saunders. USA
3. Polit, D.F., & Beck, C.T.(2014) Essentials Of Nursing Research Methods, Appraisal evidence for nursing practice. 8<sup>th</sup> Edit. Philadelphia, Lippincott.
4. Parahoo, K (2006) nursing research: [principles, process and issues. 2<sup>nd</sup> edit New York. Macmillan.

5. Watson,R., McKenna,H., Cowman,S. & Keady,J.(2008) Nursing research: Designs and Methods.Edinburgh.Livingstone.

Assessment Method

Continuous Assessment: 100%

### **MQD7003**

#### **Nursing Research Project II**

##### Learning Outcomes

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

1. conduct one nursing research project in nursing education,management or clinical .
2. analyse reserach data.
3. produce a research project paper and a manuscript .
4. disseminate the research findings.
5. Produce a manuscrip for publication.

##### Synopsis

In this course, student is required to carry out one nursing research project. The research can be carried out in any one of the nursing specialty. The specialties can be on nursing education, management or clinical practice. The student is encouraged to carry out a research which will be benefecial to the nursing profession. The findings of the research must be written as a research report and manuscript .

##### Main Reference

1. Creswell, J.W. (2009) Research Design: Qualitative, Quantitative and Mixed Methods Approaches. 3rd edition. Sage. Thosuand Oaks.
2. Burns n. & Grove, SK (2011) Understanding Nursing Research: Building an evidence based practice. 5<sup>th</sup> edit. Saunders. USA
3. Polit, D.F.,& Beck, C.T.(2014) Essentials Of Nursing Research Methods, Appraisal evidence for nursing practice. 8<sup>th</sup> Edit. Philadelphia, Lippincott.
4. Parahoo,K (2006) nursing research: [principles, process and issues. 2<sup>nd</sup> edit New York. Macmillan.
5. Watson,R., McKenna,H., Cowman,S. & Keady,J.(2008) Nursing research: Designs and Methods.Edinburgh.Livingstone.

Assessment Method

Continuous assessment: 100%

### **MQD7004**

#### **Qualitative Methods in Nursing Research**

##### Learning Outcomes

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

1. Differentiate qualitative and quantitative research
2. Compare different qualitative research design
3. Analyze ethical issues in qualitative research
4. Plan qualitative data collection and qualitative data analysis
5. Critique qualitative research study

##### Synopsis

This course will focused on several qualitative approaches in health / nursing research. Topics will include various methodologies of quality research approaches and strategies related to qualitative data collection and data analysis. Common and current qualitative research which is applicable to nursing such as social critical theory, ethnography, feminist theory, grounded theory, phenomenological

approaches and post-structuralism will be explored. Students will be expected to collect and analyse data qualitatively.

#### Main Reference

1. Creswell, J.W. (2013) Qualitative inquiry & research design: Choosing among five approaches 3rd edition Sage. Thousand Oaks.
2. Miles MB, Huberman AM, Johnny Saldaña (2013) Qualitative Data Analysis: A Methods Sourcebook. 3rd edit. Sage
3. Patton, MQ (2015) Qualitative research & evaluation methods: Integrating theory and practice . 4<sup>th</sup> edit SAGE. Thousand Oaks
4. Polit DF & Beck CT (2014) Essentials of Nursing Research . 8th edit. Lippincott Philadelphia
5. Streubert HJ & Carpenter Dr (2011) Qualitative Research in Nursing . 5th edition .Lippincott.Philadelphia

#### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

### **MQD7005**

#### **Medical Statistics**

#### Learning Outcomes

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

1. Explain the various statistical methods used in medical practice.
2. Apply the appropriate statistical method in medical practice.
3. Interpret the analysis of finding.

#### Synopsis

This course will cover basic statistical techniques that are important for analysing data arising from nursing research. Major topics include descriptive statistics, elements of probability, introduction to estimation and hypothesis testing, nonparametric methods, analysis of variance, and elements of study design. The concept and applications of statistical methods are stressed. At the end of the course, the students will also have the knowledge of the need for non-parametric statistical techniques as alternatives to parametric methods; acquired skills in their practical implementation and have an understanding of the underlying theory.

#### Main Reference

1. Der, G., & Everitt, B. S. (2012). Applied medical statistics using SAS: CRC Press.
2. Fowler, J., Jarvis, P., & Chevannes, M. (2013). Practical statistics for nursing and health care: John Wiley & Sons.
3. Heavey, E. (2014). Statistics for nursing: A practical approach: Jones & Bartlett Publishers.
4. Kim, M., & Mallory, C. (2013). Statistics for evidence-based practice in nursing: Jones & Bartlett Publishers.
5. Petrie, A., & Sabin, C. (2013). Medical statistics at a glance: John Wiley & Sons.

#### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

## **MQD7006**

### **Statistical Computing**

#### Learning Outcomes

At the end of this course, students will be able to :

1. Construct a data file using data sets.
2. Use appropriate statistical methods to analyse the distribution of data.
3. Apply appropriate statistical methods to present the research data.
4. Interpret the test results accurately.

#### Synopsis

This course is to familiarize students with the commonly uses statistical program and exercises of applying statistical procedures. It also provides students opportunity to interpret findings of statistical analysis.

#### Main Reference

1. Altman, D.G. (2006). Practical statistics for medical research (2<sup>nd</sup> ed.). Chapman and Hall: London
2. Bernard, R. (2005). Fundamentals of biostatistics (6th ed.). Thomson Learning: Duxbury
3. Leech, N.L., Barrett,K.C & Morgan,,G.A.(2011). IBM SPSS for intermediate statistics: use and interpretation (4<sup>th</sup> ed).Routledge: New York
4. Morgan,,G.A.,Leech,N.L.,Gloeckner,G.N.,& Barrett,K.C.(2013).IBM SPSS for Introductory statistics: use and interpretation (5<sup>th</sup> ed). Routledge: New York.
5. Plichta,S.B.& Kelvian,E.(2013).Munro's statistical methods for healthcare research (6<sup>th</sup> ed.). Lippincott Williams &Wilkins: Philadelphia

#### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

## **MQD7007**

### **Health Assessment**

#### Learning Outcomes

At the end of this course, student is able to:

1. Develop a conceptual framework for conducting nursing assessment.
2. Discuss the legal and ethical aspect in health assessment.
3. Explain the steps in performing health assessment holistically for patients at any stage of their life span.
4. Apply clinical decision making and critical reasoning skill in health assessment.
5. Identify patients' problems based on history taking and physical examination findings scientifically.

#### Synopsis

The module will discuss functions of health framework and nursing diagnoses. The health assessment process presented will be based on nursing objectives which will focus on data collection and analysis related to the individual's capabilities ,physical status , actual and potential responses to the health problems.

The student will also be exposed to the importance of critical thinking, clinical reasoning, decision making and clinical evaluation. The emphasis is on competency in assessing, recognising and managing multiple variables within patient care.

## Main Reference

1. Jensen, Sharon, and Sharon Jensen (2011). Pocket Guide For Nursing Health Assessment. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
2. Jensen, Sharon (2015). Laboratory Manual For Nursing Health Assessment. Philadelphia, Pa.: Wolters Kluwer.
3. Carpenito, L.J. (2012) Handbook of Nursing Diagnosis 14<sup>th</sup> Edition. Lippincott Williams & Wilkins, Philadelphia.
4. Carpenito, L.J. (2012) Nursing diagnosis: application to Clinical practice 14<sup>th</sup> Edition, Lippincott. Philadelphia.
5. Fuller, J. & Schaller-Ayers (2000) Health Assessment: A Nursing Approach 3rd Edition. Lippincott. Philadelphia, New York & Baltimore.

## Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

### **MQD7008**

#### **Issues and Trends in Nursing and Health Care**

## Learning Outcomes

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

1. Identify current issues in nursing as they relate to health care trends.
2. Analyse critically current issues in nursing education and management.
3. Explain appropriate nursing measures toward current issues from an economic, legal and socio-political perspective.
4. Argue issues related to the preparation of advanced nursing practice in the aspects of nursing management and leadership and law.

## Synopsis

The course will discuss issues / trends that emerged in the nursing field. As health care services become complex and costly, the course will focus on the challenges of the role, function and status of nursing in the context of changes in the health care system.

Building on the knowledge and experience of the students, the course will discuss issues in health care and the role of nurses in the context of sociology, ethics, politics and economics. Reviews / critical analysis of relevant issues will be carried out by individuals / groups of students and will be presented as a written report / oral presentation. Students will be exposed to the importance of critical thinking skills, clinical reasoning, decision making and evaluation.

## Main Reference

1. Baker, A.M. (2009). Advanced Practice Nursing . Jones & Bartlett Publishers. USA.
2. Kelly, P. (2012). Nursing Leadership & Management (3<sup>rd</sup> Ed.). China: Cengage Learning.
3. Lynn, P. (2011). Taylor's Clinical Nursing Skills: A Nursing Process Approach (3<sup>th</sup> ed.). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins
4. Smith, S.F., Duell, D.J. & Martin, B.C. (2012). Clinical Nursing Skills (8<sup>th</sup> ed.). New Jersey: Pearson.
5. Weiss, S. & Tappen, R.M. (2015). Essentials of Nursing Leadership and Management (6<sup>th</sup> ed.). Philadelphia: F.A. Davis Company

## Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

## **MQD7009**

### **Health Promotion**

#### **Learning Outcomes**

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

1. explain concepts, models and theories of health promotion and epidemiology
2. discuss health promotion strategies and policies in health promotion
3. analyze issues and factors influencing planning and development in health promotion
4. carry out health promotion activities

#### **Synopsis**

Health promotion is now a central force in the new public health movement in Malaysia and it is considered as essential aspect of the work of all health care professionals. This course is intended to introduce the students to a wide range of concerns on the theory and practice of health promotion. Relevant sociology, ethical, political, psychological and economics issues will be discussed. It will give students the opportunity to consider broad issues in health promotion as well as nurses' role.

#### **Main Reference**

1. Ewles, L. & Simnett, L. ( 2012 ) Promoting Health, A Practical Guide 6<sup>th</sup> Edit. Scutari Press, London
2. Allender ,J, Rector ,C & Warner, Kr. (2014) Community & public health nursing : promoting the public's health 8<sup>th</sup> Edit]. Philadelphia : Lippincott Williams & Wilkins Health
3. Pender Ewles, L. & Simnett, L. ( 2012 ) Promoting Health, A Practical Guide 6<sup>th</sup> Edit. Scutari Press, London
4. Allender ,J, Rector ,C & Warner, Kr. (2014) Community & public health nursing : promoting the public's health 8<sup>th</sup> Edit]. Philadelphia : Lippincott Williams & Wilkins Health
5. Pender N., Murdaugh C. , Parsons M (2015) Health Promotion in Nursing Practice (7<sup>th</sup> Edition) (Health Promotion in Nursing Practice 7<sup>th</sup> Edition Prentice Hall, Inc.

#### **Assessment Methods**

Continuous Assessment: 40%

Final Examination: 60%

## **MQD7010**

### **Nursing Practicum**

#### **Learning Outcomes**

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

1. Discuss the advanced patient care and roles and responsibilities of an advanced practitioner according to the clinical specialty.
2. Demonstrate specialist nursing skills and competencies according to the clinical specialty.
3. Construct specific patient care protocols or guidelines based on problems or needs identified in the clinical area.
4. Criticise the nursing practice/patient care system in the current health context through application of principles of critical reflection and evidence-based nursing practice.
5. Practice the principles of team work, communication and leadership skill in patient care management.

#### **Synopsis**

This course is designed to enable experienced practitioners to draw on their practice experience to critically explore their health care practice in depth. Its focus is the development of the student's clinical knowledge and competence in their field of practice. The aim is to advance practice to make contributions that are more effective to client outcome/experience according to student's speciality.



Fundamental to this course is the integration of clinical knowledge into practice and develop student's potential to advanced practice.

#### Main Reference

1. Burn, S.M. (2014). AACN Essentials of critical care nursing (3<sup>rd</sup> ed.). China: McGraw-Hill companies.
2. Datta, P. (2014). Pediatric Nursing (3<sup>rd</sup> ed.). Bangladesh: Jaypee Brothers Medical Publishers (P) Ltd
3. Hinkle, J.I. & Cheever, K.H. (2014). Brunner & Sunddarth's textbook of medical-surgical nursing (13<sup>th</sup> ed.). Philadelphia: Lippincott Williams & Wilkins.
4. Marshall. J. & Raynor, M. (2014). Myles Textbook for Midwives (16<sup>th</sup> ed.). China Churchill Livingstone.
5. [Phillips, N. F.](#) (2013). Berry & Kohn's operating room technique (12<sup>th</sup> ed.). St. Louis, Mo. : Elsevier

#### Assessment Methods

Continuous Assessment: 100%

### **MQD7011**

#### **Reflection in Nursing Practice**

#### Learning Outcomes

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

1. Write professional journal regarding their latest learning experiences
2. Identify specific situation from the clinical area as a case for reflection
3. Apply reflection process in learning situation.
4. Identify main concept / theory related to reflection for application of each learning situation.

#### Synopsis

In this module, student will acquire knowledge regarding the journaling concepts. Students will be guided to keep professionals journal. In this module, student will need to keep one study log and use the log to identify specific situation and the significant in basic reflection by group studying. The module content will involve the user of case study and reflection process.

#### Main Reference

1. Lillyman, S., & Merrixi, P.(2014) Portfolios and reflective practice:Routledge.
2. Bulman, C., & Schutz, S.(2013). Reflective practice in nursing (5th ed.). West Sussex, UK: Wiley-Blackwell.
3. Holly, M.L. (2002). Keeping a professional journal (2<sup>nd</sup> ed.). Sydney, Australia: UNSW Press.
4. Johns, C., (2013). Becoming a reflective practitioner (4<sup>th</sup> ed.). Oxford, UK: Blackwell Science.
5. Taylor, B., (2010). Reflective practice for health care professionals: A practical guide (3<sup>rd</sup> ed.). England:Open University Press; McGraw Hill.

#### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

### **MQD7012**

#### **Principle and Methods of Epidemiology**

#### Learning Outcomes

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

1. Explain the principles and concepts of epidemiology.
2. Integrate the knowledge of methods in epidemiology in conducting nursing research.

3. Explain the use of epidemiology research design in clinical research.
4. Evaluate critically various clinical research designs.

### Synopsis

This course gives the student opportunity to learn about the principle and method in epidemiology. The first part of the course introduces the principle and concepts that include principles of prevention and control, introduction to selected measures of health and disease occurrence, standardization, disease surveillance, epidemic management and screening test. Methods of epidemiology are taught in the second part of the course, students will learn about the study designs, measurements of risks, and errors in epidemiological studies, causation and association.

### Main Reference

1. Bonita, R., Beaglehole, R., & Kjellström, T. (2006). Basic epidemiology. Geneva: World Health Organization.
2. Gordis, L. (2014). Epidemiology (5<sup>th</sup> ed). New York: Saunders.
3. Merrill, R.M (2017). Introduction to epidemiology (7<sup>th</sup> ed). Burlington, MA: Jones & Bartlett.
4. Giesecke, J.(2002). Modern Infectious Disease Epidemiology (2<sup>rd</sup> ed). CRC Press.
5. Heymann, David. L. (2008). Control of Communicable Diseases Manual (19<sup>th</sup>ed). American Public Health Association: Washington DC

### Assessment Methods

Continuous Assessment: 40%

Final Examination: 60%

**Master of Nursing Science  
Programme Schedule**

<b>Y E A R  I</b>	Semester I	<ul style="list-style-type: none"> <li>▪ Two (2) core courses each of three (3) credits.</li> <li>▪ One (1) core course of two (2) credits.</li> <li>▪ One (1) elective course of three (3) credits.</li> </ul>	Admission
	Semester II	<ul style="list-style-type: none"> <li>▪ Four (4) core courses each of three (3) credits.</li> </ul>	End of Semester I Examination
<b>Y E A R  II</b>	Semester I	<ul style="list-style-type: none"> <li>▪ Nursing Practicum of ten (10) credits.</li> <li>▪ Nursing Research Project I of three (3) credits.</li> </ul>	End of Semester II Examination
	Semester II	<ul style="list-style-type: none"> <li>▪ Nursing Research Project II of six (6) credits.</li> </ul>	End of Semester I Examination
			Graduation

**Name of Programme :** Master of Public Health  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Public Health programme is a coursework programme in which the credits for the research component comprises less than thirty (30) percent of the whole programme of study. After completion of the relevant programme of study specified in this Schedule, a candidate shall be eligible for the award of the Master of Public Health degree.

### 2. Entry Requirements

#### (1) Entry qualifications

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery of the University or an equivalent medical qualification approved by the Senate;
- and
- (b) At least one year of post-registration general medical experience approved by the Senate;
- or
- (c) The degree of Bachelor of Dental Surgery of the University;
- (d) The degrees of Bachelor of Allied Health from University;
- (e) A Bachelor's degree of the University with at least a second class honours in a relevant discipline; or
- (f) An equivalent qualification approved by the Senate; And
- (g) At least one year of relevant work experience in clinical or health

#### (2) Other requirements

For Foreign students:

- (a) Minimum TOEFL score of 600 (paper based), or 250 (computer based), or 100 (internet based) or IELTS band 6; or
- (b) Satisfies the Department in the Faculty responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

### 3. Duration of Study

- (1) The minimum duration of study shall be two (2) semesters and one (1) special semester
- (2) The maximum duration of study shall be eight (8) semesters.

### 4. Structure of Programme

- (1) The Master of Public Health programme comprises forty (42) credits namely:
  - (a) Seven (7) core courses each of three (3) credits, totalling twenty-one (21) credits;
  - (b) One (1) core course that leads to one (1) Research Project of nine (9) credits;

- (c) six (6) elective courses each of two (2) credits, totalling twelve (12) credits.
- (2) Details of the courses offered are as approved by Senate from time to time on the recommendation of the Faculty and candidates shall be informed of such details at the beginning of each session.
- (3) The list of courses for the programme of Master of Public Health is provided in List 1 & List 2.

## **5. Registration**

- (1) Registration for the courses of study shall commence the week prior to the start of the relevant semester.
- (2) A candidate is required to register for at least three (3) credits in any semester except where the candidate has been permitted to withdraw from the semester concerned.

## **6. Attendance**

During his programme of study a student may be permitted to undertake part of his training in other institutions or agencies recognised by the Faculty.

## **7. Supervision**

- (1) The Faculty shall appoint at least one supervisor for each candidate not later than two months after the registration of the candidate.
- (2) The co-supervisor and/or consultant shall be appointed when required.
- (3) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The title of the Research Project for a candidate shall be determined by the Department responsible for the candidate's programme of study not later than two months prior to the commencement of the research project.

## **9. Submission**

A candidate is required to submit his research papers not later than one month before the end of the relevant semester for examination.

## **10. Examinations for the Degree**

The Examination leading to the degree of Master of Public Health shall consist of an examination or examinations in each of the courses prescribed for the Master of Public Health degree programme as follows:

- (1) seven (7) core courses each of three (3) credits, totalling twenty-one (21) credits;
- (2) One (1) core course that leads to one (1) Research Project of nine (9) credits;
- (3) six (6) elective courses each of two (2) credit hours, totalling twelve (12) credits;
- (4) Examination Components and Allocation of Marks

- (a) Taught Courses  
The components of the taught courses and the marks to be allocated to the components of the courses prescribed for the Examination shall be:

Component		Allocation of Marks (Maximum)
(i)	Continuous Assessment	50-100%
(ii)	End of Semester Examination	0-50%
<b>Total</b>		<b>100%</b>

- (b) Research Papers

The marks allocated to the components of the research papers shall be 100% on submission of the written report.

- (c) The Senate may on the recommendation of the Faculty amend the allocation of marks for the components of a course for the Examination.

- (6) Course Grade Requirements

Course grades are subjected to regulations prescribed in the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree) Regulations 2014.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Master of Public Health unless he/she has completed all parts of the course and has passed the prescribed Examinations.

### List 1: Core Courses

Code	Title	Credits
MQB7001	Research Methodology	3
MQB7002	Research Project	9
MQB7003	Principles Family Health	3
MQB7004	Society, Behaviour and Health	3
MQB7005	Principles and Methods of Epidemiology	3
MQB7006	Principles of Biostatistics	3
MQB7029	Management in Health	3
MQB7034	Environmental Health	3
<b>Total</b>		<b>30</b>

### List 2: Elective Courses

Code	Title	Credits
MQB7010	Epidemiology of Diseases in Malaysia	2
MQB7012	Producing Better Evidence	2
MQB7014	Health Economics	2
MQB7015	Law and Health	2
MQB7016	Women, Child and Adolescent Health	2
MQB7026	Public Health Nutrition	2
MQB7027	Qualitative Inquiry in Public Health	2
MQB7028	Health Risk Assessment	2

MQB7030	Comparative Health System	2
MQB7031	Global Health	2
MQB7032	Primary Health Care	2
MQB7033	Social Health Determinants	2
MQB7035	Occupational Health	2
MQB7036	Occupational Medicine	2
MQB7037	Medical Surveillance and Fitness to Work	2

**TOTAL: 12 credits**

### **MQB7001**

#### **Research Methodology (3 Credits)**

##### Learning Outcomes

1. Formulating a good research questions.
2. Choose the design and research methods appropriate to the research question is formulated.
3. Evaluate critically various epidemiologic studies the basic study design.

##### Synopsis

This course introduces candidates to the critical appraisal. Journal readings and exercises in journal critiques are used to illustrate methodological issues in epidemiological studies. This course also introduces the candidate to the basic principles of research methods. The course takes the candidate through the steps of the research process and provides the candidate a hands-on experience to write critique on an article and a research proposal.

##### Main Reference

1. Gordis L. Epidemiology: Elsevier/Saunders; 5th edition ,2014.
2. Stewart A. Basic Statistics and Epidemiology: A Practical Guide: Radcliffe Publishing; 2010.
3. Toto R, McPhaul M. Clinical Research: From Proposal to Implementation: Lippincott Williams & Wilkins; 2010.
4. Guyatt GH, Oxman AD, Sultan S, et al. GRADE guidelines: 9. Rating up the quality of evidence. J Clin Epidemiol. 2011;64(12):1311-6. doi: 10.1016/j.jclinepi.2011.06.004.
5. Sterne Jonathan A C, White Ian R, Carlin John B, Spratt Michael, Royston Patrick, Kenward Michael G et al. Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls BMJ 2009; 338 :b2393

##### Assessment Methods

Continuous Assessment: Oral presentation (15%), Report submission (group) (15%), Submission of journal article critique – Individual (70%)

### **MQB7002**

#### **Research Project (9 Credits)**

##### Learning Outcomes

1. Conduct all steps of research process
2. Develop a research proposal
3. Collect data
4. Manage and analyse data
5. Write up the report

##### Synopsis

The course takes the candidate through the steps of research process and provides the candidate a hands-on experience to develop a research project, carry out the research and write up the report.

#### Main Reference

1. Gordis, Leon. Epidemiology 5th edition. Publisher: W.B. Saunders, 2014. ISBN: 978-1-4557-3733-8
2. Stewart A. Basic Statistics and Epidemiology: A Practical Guide: Radcliffe Publishing; 2010.
3. Schimel J: Writing science: how to write papers that get cited and proposals that get funded. New York: Oxford University Press; 2012. ISBN: 9780199760237.

#### Assessment Methods

Continuous Assessment: 100%

### **MQB7003**

#### **Principles of Family Health (3 Credits)**

#### Learning Outcomes

1. Describe the Family Health concepts and principles in the promotion of health in the population.
2. Illustrate in depth, methods of assessing the population health status in the community using various health statistics.
3. Solve the problems faced by population subgroups e.g. women, children, adolescents, disabled and elderly; and the recommended strategies needed.

#### Synopsis

This course is an introduction to the principles of Family Health. The course will cover basic programmes of reproductive health such as safe motherhood and high-risk approach in MCH care. It will also include child survival and development strategies and common conditions seen in mothers and children. Nutrition topics and wellness promotion programmes will also be covered.

#### Main Reference

- 1) Simon & Schuster, 2008. Our Bodies, Ourselves: Pregnancy and Birth Boston Women's Health Book Collective. A Touchstone Book, New York London Toronto Sdney
- 2) Environmental Health and Child Survival: Epidemiology, Economics, Experiences (Environment and Development Series) by World Bank, 2008.
- 3) Judith E. Brown, Janet S. Isaacs, U. Beate Krinke (3RD Eds). Nutrition Through the Life Cycle. 2008 Thomson Learning.
- 4) Hughes, Fergus P. 2010. Children, Play, and Development (4th Edition). SAGE Publications (CA)
- 5) John Enhiri. 2009. Maternal and Child Health: Global Challenges, Programs, and Policies. Springer New York Dordrecht Heidelberg London 2009
- 6) Lawrence S. Neinstein. 2007. Adolescent health care : a practical guide (5th eds). Lippincott Williams & Wilkins

#### Assessment Methods

Continuous assessment (seminar presentation) : 50%.

Final Examination : 50%

### **MQB7004**

#### **Society, Behaviour and Health (3 Credits)**

#### Learning Outcomes

1. Describe the influences of society and behaviour on health.
2. Illustrate models of health behaviour of individuals and community.
3. Solve problem related to society, behaviour and health



### Synopsis

This course will discuss the influence of behaviour, cultural and social class on health and illness. Issues of socialization, social control, deviance and stigma will also be covered. Models of health behaviour in the individual and community levels will be covered. The planning, managing and research on health promotion programs will also be discussed.

### Main Reference

1. Samantha Huffman et. al. Exploitation, vulnerability to tuberculosis and access to treatment among Uzbek labor migrants in Kazakhstan *Social Science & Medicine* 74 (2012) 864-872
2. Timothy Brown et al. The impact of changes in county public health expenditures on general health in the population. *Health Economics, Policy and Law*, 2014
3. DJ Williams, PD Donnelly. Is violence a disease? Situating violence prevention in public health policy and practice. *Public Health* 128, 2014:960-967
4. Kevin White. 2009. An introduction to the sociology of health and illness. SAGE Publications Ltd, 2009.
5. Graham Scambler. *Sociology as applied to medicine* (6th edition). Elsevier Health Sciences, 2008.
6. Kai-Lit Phua & Yut-Lin Wong (eds.). *Medical Sociology: Key Concepts and Issues*. Cengage Learning Asia Pte Ltd. 2008.
7. Krieger, N. Theories for social epidemiology in the 21st century: and ecosocial perspective. *International Journal of Epidemiology* 2001; 30:668-677.

### Assessment Methods

Continuous assessment (seminar presentation): 50%

Final Examination : 50%

## **MQB7005**

### **Principles and Methods of Epidemiology (3 Credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply the epidemiological concepts to explain disease occurrence and transmission
2. Apply the principles of prevention and control to manage health problems
3. Demonstrate ability to calculate population statistics and measures of association

### Synopsis

This course introduces candidates to the principles and methods of epidemiology which will form the basis to other courses in epidemiology. This course also demonstrates the applications of epidemiologic principles and methods

### Main Reference

1. Gordis L. *Epidemiology*: Elsevier/Saunders; 5th edition ,2014.
2. Rothman, Kenneth. *Modern Epidemiology*. 3rd edition. Lippincott Williams & Wilkins, 2008. ISBN:978-0-7817-5564-1
3. Penny Webb, Bain Chris, Prozzo Sandi. *Essential Epidemiology*. Cambridge University Press. 2005. ISBN 0-51-54661-3
4. Douglas G Altman. *Practical Statistics for Medical research* 2nd. Publisher Chapman & Hall/CRC, 2004. ISBN: 0-412- 27630-5
5. *Statistics for epidemiology* by Nicholas P Jewell. Publisher Chapman & Hall/CRC, 2004, ISBN: 1-58488-433-9.

### Assessment Methods

Continuous assessment (Tests: 50%)  
Final examination (50%)

### **MQB7006**

#### **Principles of Biostatistics (3 credits)**

##### Learning Outcomes

1. Describe principles of Biostatistics.
2. Apply the appropriate statistical techniques in problem solving.
3. Solve the problems of biostatistics in the issues by applying the basic concepts.

##### Synopsis

This will cover basic statistical techniques that are important for analyzing data arising from public health research. Major topics include descriptive statistics, elements of probability, introduction to estimation and hypothesis testing, nonparametric methods, analytical techniques for categorical data, regression analysis, analysis of variance, and elements of study design. The concept and applications of statistical methods are stressed. At the end of the module, the candidate will also have the knowledge of the need for non-parametric statistical techniques as alternatives to parametric methods; acquired skills in their practical implementation and have an understanding of the underlying theory.

##### Main References

1. David G Kleinbaum, Mitchel Klein. Survival Analysis: A Self-Learning Text. 3rd Edition, Springer 2012
2. Hosmer DW, Lemeshow S, Sturdivant RX. Applied Logistic Regression. Third edition. John Wiley & Sons. 2013.
3. Bernard Rosner. Fundamentals of Biostatistics. 8th Edition. Duxbury Thomson Learning. 2015.
4. Modelling Survival Data in Medical Research. Third Edition. Chapman & Hall/CRC Texts in Statistical Science. 2014
5. Beth Dawson and Robert G Trapp, Basic & Clinical Biostatistics. Third Edition. Lange Medical Books/McGraw-Hill, 2001.
6. Neil A. Weiss. Introductory Statistics, Eight Edition, Pearson International Edition, 2008.
7. Nicholas P. Jewell, Statistics for Epidemiology, Chapman & Hall/CRC, 2004.

##### Assessment Methods

Continuous Assessment 60%  
Final examination: 40%

### **MQB7029**

#### **Principles of Management in Health (3 Credits)**

##### Learning Outcomes

1. Apply the concepts on management functions and principles and able to utilise their application in any healthcare programmes.
2. Review current health management practise based on individual and group experiences.
3. Able to solve problem regarding current health management practise based on individual and group experiences.

##### Synopsis

This course is designed to expose the student the basic principles of Management and its application to the Health Services delivery. It will also expose issues in management as applicable to Primary Health Care and Hospitals.

##### Main Reference

- (1) Gopee N., Galloway J. Leadership and Management in Healthcare Sage Publications Ltd. London, 2nd Edition, 2014.
- (2) Essentials of Health Information Management: Principles and Practices; Michelle A. Green and Mary Jo Bowie; 3rd Edition, Cengage Learning, USA, 2015
- (3) Ghani S.N., Yadav H, Health care in Malaysia. Univ. Of Malaya Press, Kuala Lumpur, 2008.
- (4) Yadav, H. Hospital Management>Univ. Of Malaya Press, Kuala Lumpur, 2006
- (5) Malaysian institute of Management, Management in Malaysia, 2008.
- (6) McMahon R. Barton, E, Piot, M.et.al. On Being in-charge, WHO, Geneva, 2007.

#### Assessment Methods

Continuous Assessment 50%

Final examination: 50%

### **MQB7034**

#### **Environmental Health (3 Credits)**

#### Learning Outcomes

At the end of the course, the candidate is able to:

1. Describe environmental health issues
2. Relate environmental health issues to individual and public health
3. Solve basic environmental health issues.

#### Synopsis

This course is an overview of the environmental health issues in the local and global perspective, addressing the current and future issues. The course covers core topics that prepare students to understand and address environmental health issues; air pollution; water pollution; housing environments and health impact assessment.

#### Main Reference

1. Current occupational & environmental medicine 5th ed. LaDou, Joseph, Robert Harrison New York : McGraw-Hill, 2014.
2. ABC of occupational & environmental medicine; David Snashall, Dipti Patel; 3rd Edition, Wiley-Blackwell. 2013
3. Basic Environmental Health, Annalee Yassi, Oxford University Press 2001
4. Current occupational & environmental medicine 4th ed. LaDou, Joseph, New York : McGraw-Hill, 2007.

#### Assessment Methods

Continuous Assessment 50%

Final examination 50%

### **ELECTIVE COURSES**

### **MQB7010**

#### **Epidemiology of Diseases in Malaysia (2 Credits)**

#### Learning Outcomes

1. Describe the characteristics of communicable (CDs) and non-communicable diseases (NCDs) diseases.
2. Illustrate a network factors that contribute to the emergence of NCDs and re- emergence of CDs.
3. Solve problem in term of prevention and control measures for CDs and NCDs.

## Synopsis

This course provides a broad introduction to the epidemiology, prevention and control of the major communicable (including emerging and re-emerging) diseases. Other emphasis is epidemiology of major non-communicable diseases and their methods of prevention and control.

## Main Reference

1. Gordis L. Epidemiology: Elsevier/Saunders; 5th edition, 2014.
2. Webber R. Communicable disease epidemiology and control: a global perspective: CABI; 2009.
3. Labarthe D. Epidemiology and Prevention of Cardiovascular Diseases: A Global Challenge: Jones and Bartlett Publishers; 2010.
4. National Strategic Plan on HIV and AIDS 2011-2015, Ministry of health Malaysia 2011
5. Global AIDS Response Progress Report 2014, Ministry of Health
6. WHO Global Vaccine Action Plan 2011-2020, World health Organization 2012.
7. World Health Organization: WHO <http://www.who.int/en/>
8. Ministry of Health Malaysia: <http://www.moh.gov.my/>

## Assessment Methods

Continuous Assessment: 50%

Final examination: 50%

## MQB7012

### Producing Better Evidence (2 Credits)

## Learning Outcomes

1. Describe method to produce scientific evidence
2. Illustrate method to produce scientific evidence
3. Solve problems using the scientific method "Systemic review/meta-analysis"

## Synopsis

Introduction to performing systematic search and critically appraising the literature / evidence. Systematic reviews and meta-analyses produce the highest hierarchy of evidence should be used to inform clinical decision-making and health care policy. The principles of meta-analytic statistical methods are reviewed, and the application of these to data sets is explored. Application of methods includes considerations for clinical trials and observational studies. The use of meta-analysis to explore data and identify sources of variation among studies is emphasized, as is the use of meta-analysis to identify future research questions

## Main Reference

1. Stewart A. Basic Statistics and Epidemiology: A Practical Guide: Radcliffe Publishing; 2010.
2. Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011.
3. Borenstein M, Hedges L. Introduction to meta-analysis: John Wiley & Sons; 2009.
4. Kulinskaya E, Morgenthaler S, Staudte R. Meta analysis: a guide to calibrating and combining statistical evidence: John Wiley & Sons; 2008.
5. Books L. Systematic Review: Meta-Analysis, Publication Bias, Systematic Review, Secondary Data, Thomas C. Chalmers, Cochrane Library, Funnel Plot: General Books LLC; 2010.

## Assessment Methods

Continuous Assessment 50%

Final Examination: 50%

## **MQB7014**

### **Health Economics (2 Credits)**

#### **Learning Outcomes**

1. Describe the economic concepts to the evaluation of performance of a health care system
2. Illustrate appropriate economic evaluation tool to be applied to different problems of resource allocation, management, evaluation and planning in health services.
3. Solve the problem related strengths and weaknesses of different health financing mechanisms and different provider payment methods

#### **Synopsis**

This course is designed to introduce students to the aims, concepts, theories and methods of economic analysis as well as to give an appreciation of how these methods are being applied to problems of resource allocation, management, evaluation and planning in health services.

#### **Main Reference**

1. Baumol W J, Blinder A S. 2015. Microeconomics. Principles and Policy. Int. Student Edition. 13th Edition. Singapore: Thomson South-Western.
2. Drummond MF, Sculpher MJ, Torrance GW, O'Brien B, Stoddart GL, 2015. Methods for the Economic Evaluation of Health Care Programmes. 4th Edition. Oxford. Oxford University Press.
3. Folland S, Goodman A, Stano M. 2012. The Economics of Health and Health Care. 7th Edition. New Jersey: Pearson Prentice Hall.
4. Roberts MJ, Hsiao W, Berman P, Reich MR. 2008. Getting health reform right. New York: Oxford University Press.

#### **Assessment Methods**

Continuous assessment : 50%

Final examination: 50%

## **MQB7015**

### **Law and Health (2 Credits)**

#### **Learning Outcomes**

1. Describe the principle of medical ethics, Malaysian federal system & health governance.
2. Apply the concept of medical ethics in Doctor-Patient relationship.
3. Apply the public health laws in implementing health care programme

#### **Synopsis**

This course is designed to provide the candidate with the basic knowledge of legal issues related to medical and public health practice. It will introduce the working of a legal system in a country and explore current issues in medical ethics, Doctor – Patient relationship and Public Health Law.

#### **Main References**

1. Wu, M.A. The Malaysian Legal System. 3rd ed. Pearson Malaysia Sdn. Bhd., Petaling Jaya, 2007.
2. Puteri, NJK. Medical Negligence Law in Malaysia. International Law Book Services, Petaling Jaya, 2003.
3. Puteri, NJK. Abu Haniffa MA. Issues in Medical Law Ethics. Int. Islamic University Malaysia, 2003.
4. Suffian, M. An Introduction to the Legal System of Malaysia. Penerbit Fajar, Kuala Lumpur 1988.

#### **Assessment Methods**

Continuous assessment (seminar): 50%,

Final Examination: 50%

### **MQB7016**

#### **Women, Child and Adolescent Health (2 Credits)**

##### **Learning Outcomes**

1. Identify the leading public health issues that are facing men, women, child and adolescents
2. Elaborate the factors affecting men, women, child, and adolescent health.
3. Apply the concepts and principles of family health in the management of public health issues facing men, women, child and adolescents

##### **Synopsis**

This course provides an introduction to the principles of women, child and adolescent's health. The course will include the women's reproductive health, chronic conditions among women as well as infertility and contraception. The children's growth and development, immunization and breast-feeding and the common diseases of the children will be covered. High risk behaviour and counselling of children and adolescents will be discussed.

##### **Main Reference**

1. Simon & Schuster, 2008. Our Bodies, Ourselves: Pregnancy and Birth Boston Women's Health Book Collective. A Touchstone Book, New York London Toronto Sydney.
2. Judith E. Brown, Janet S. Isaacs, U. Beate Krinke. 2013. Nutrition Through the Life Cycle. 5th ed. Thomson Learning.
3. Laura Reichenbach, Mindy Jane Roseman. 2009. Reproductive Health and Human Rights: The Way Forward. University of Pennsylvania Press.
4. Rose Weitz. 2012. The Sociology of Health, Illness, and Health Care. 6th ed. Cengage Learning.
5. Theo Stickley. 2008. Learning about Mental Health Practice. John Wiley and Sons.
6. Jonathan B. Kotch. 2012. Maternal and Child Health: Programs, Problems, and Policy in Public Health.
7. Lynn Rew. 2005. Adolescent Health: A Multidisciplinary Approach to Theory, Research, and Intervention. Sage Publications, Inc.

##### **Assessment Methods**

Continuous assessment (seminar presentation): 50%

Final Examination: 50%

### **MQB7026**

#### **Public Health Nutrition (2 Credits)**

##### **Learning Outcomes**

1. Evaluate methods of nutritional assessment for all age groups.
2. Analyse the importance of nutrition in health promotion and disease prevention.
3. Propose appropriate strategies to improve community nutrition programs in the country you serve.

##### **Synopsis**

The course will focus on the nutrition related problems throughout the life cycle, various methods of nutritional assessments, public health nutrition approach in health promotion and primary prevention of diseases as well as community programs in nutrition carried out in the country. Current nutritional issues affecting health will also be discussed.

**Main Reference**

1. Judith E. Brown, Janet S. Isaacs, U. Beate Krinke. 2013. Nutrition through the Life Cycle. 5th ed. Thomson Learning.
2. FrancesSizer, Ellie Whitney. 2013. Nutrition: Concepts and controversies. 13th ed. Brooks Cole.
3. L. Kay Bartholomew et al. 2011. Planning Health Promotion Programs: An Intervention Mapping Approach. 3rd ed. Jossey-Bass.
4. Theo Stickley. 2008. Learning about Mental Health Practice. John Wiley and Sons.
5. Lawrence S. Neinstein. 2007. Adolescent Health Care: A Practical Guide. Lippincott & Wilkins.

**Assessment Methods**

Continuous assessment: 50%

Final Examination: 50%

**MQB7027****Qualitative Inquiry in Public Health (2 Credits)****Learning Outcomes**

1. Practice of qualitative research and produce a qualitative research proposal
2. Perform qualitative interview and data analysis.
3. Critically appraise of qualitative research in the literature

**Synopsis**

This unit is mainly concerned with the development of capacities and skills in using a range of qualitative research techniques in public health. It is expected that the students will be familiar with the theoretical foundations of qualitative research and common methods of data collection, sampling techniques, validity, ethical issues, and data analysis. The unit also seeks to enhance students' knowledge and skills to critically assess qualitative research by the end of the course.

**Main Reference**

1. Norman K Denzin and Michael D Giardina, Qualitative Inquiry: past, present and future. (A critical reader). 1st edition, 2015
2. Shirley R. Steinberg and Gaile S. Cannella, Critical qualitative research reader. Peter Lang Publishing, New York. 2012
3. Rice PL, Douglas, E. Qualitative research methods: A health focus. Oxford: Oxford University Press. 2007.
4. Pope C & Mays N. Qualitative research in health care. 3rd edition. Blackwell Publishing. 2008.
5. Creswell JW, Plano Clark, VL. Designing and conducting mixed methods research. Sage Publications. 2007.

**Assessment Methods**

Continuous assessment: 100%

**MQB7028****Health Risk Assessment (2 Credits)****Learning Outcomes**

1. Analyse the adverse effects of chemical, physical, biological, ergonomics and psychosocial hazards;
2. Evaluate the adverse effect of hazards to individual health and public health;
3. Conduct basic health risk assessment
4. Communicate health risk to specific audience.

### **Synopsis**

The course focus on the three component of health risk assessment; which is risk assessment, risk management and risk communication. It will include overview on methods and modalities for qualitative and quantitative risk assessment in the workplace. The courses will stress on the assessment of health risk related to exposure to chemicals, physical, biological, ergonomics and psychosocial hazards.

### **Main Reference**

1. Risk Assessment: Tool, Techniques and Their Applications; Lee T. Ostrom , Cheryl A. Wilhelmsen, Wiley 2012.
2. Chemical Risk Assessment: A Manual For REACH; Peter Fisk, Wiley 2014.
3. Risk of Hazardous Wastes; Paul E. Rosenfeld and Lydia Feng, Wiley 2011.

### **Assessment Methods**

Continuous assessment: Assignment 1 (10% - 30%), Assingment 2 (30% - 60%), Quiz/test (10% - 30%)  
Seminar / Presentation (10% - 30%)

### **MQB7030**

#### **Comparative Health System (2 credits)**

### **Learning Outcomes**

1. Describe the framework, actors and services of different health system
2. Identify the challenges of health care delivery to achieve universal coverage
3. Evaluation of different component of health system

### **Main references:**

1. Comparative Health System: Global Perspectives; James A. Johnson; Carleen Stoskopf; Wiley 2011.
2. Global Health System: Comparing Strategies for Delivering Health Services; Margie Lovett-Scott and Faith Prather; Michael Brown Publisher; 2012.
3. Lucy Gilson (ed.) (2012) Health Policy and Systems Research: A Methodology Reader. Alliance for Health Policy and Systems Research, WHO.
4. WHO (2010) The World Health Report 2010. The Health Systems Financing: the path to universal coverage. Geneva, World Health Organization.
5. Bodenheimer T, & Grumbach K (2005) Understanding Health Policy. A Clinical Approach. The McGraw – Hill Companies, USA
6. WHO (2000) World Health Report 2000. Health systems: improving performance. Geneva. World Health Organization

### **Synopsis**

This course provides the knowledge and assessment of health system

### **Assessment Methods**

Continuous Assessment: 100%

### **MQB7031**

#### **Global Health (2 credits)**

### **Learning Outcomes**

1. Describe the concepts and theoretical perspectives in global health
2. Illustrate the governance of global health including the key institutions involved
3. Solve the problem about understanding of concepts, theory and governance to analysis of current and emerging issues in global health



**Main references**

1. Global Health 101 (Essentials Public Health); Richard Skolnik; Jones and Bartlett, USA; 2015
2. Comparative Health System: Global Perspectives; James A. Johnson; Carleen Stoskopf; Wiley 2011.
3. Global Health Care: Issues and Policies (Holtz, Global Health Care); Carol Holtz, 2012
4. Introduction to Global Health; Kathryn H. Jacobsen; Jones and Bartlett, USA; 2013
5. Labonte, R., Schrecker, T., Packer, C. & Runnels, V. (eds). Globalisation and Health. Pathways, Evidence and Policy. New York: Routledge. 2010.

**Synopsis**

This course is designed to increase student understanding of current and emerging transnational issues in population health through application of concepts and theories and through an understanding of governing structure of global health. Topics include health impact of global climate changes, trade liberalisations and increased population mobility.

**Assessment Methods**

Continuous Assessment (seminars and written assignments): 100%

**MQB7032****Primary Health Care (2 credits)****Learning Outcomes**

1. Describe the principles and practice of
2. Apply the participatory approach of delivering PHC services in line with the concept of Universal Health Coverage (UHC).
3. Demonstrate the integration of health care services within the concept of PHC.

**Main references:**

1. Advanced Health Assessment & Clinical Diagnosis in Primary Care; Joyce E. Dains; Linda Ciofu Baumann; Elsevier Publication, 5th Edition; 2015.
2. Current Practise Guidelines in Primary Care; Joseph S. Esherick, Daniel S. Clark, Lange, 2015
3. World Health Organisation. Working together for health. World Health Report 2006
4. Lerberghe W van. Primary Health Care: now more than ever. World Health Report 2008.

**Synopsis**

This course is designed to expose the students the basic principles of the delivery of health services to the disadvantaged community. It will also expose issues in community empowerment and the development of partnering relationships between the communities and the providers of care.

**Assessment Methods**

Continuous assessment: 100%

**MQB7033****Social Health Determinants (2 credits)****Learning Outcomes**

1. Examine pathways through which social determinants operate in different population groups.
2. Apply the major conceptual and measurement issues in conducting research into the effects of key social factors on individual, community and population health.
3. Determine policy responses and interventions to promote health or reduce health inequalities through structural interventions.

**Main references:**

1. Social Determinants of Health: A Comparative Approach; Alan Davidson; Oxford University Press; 2015
2. Social Causes of Health and Diseases; William Cockerham; Polity Press, University of London; 2nd edition; 2013
3. Adler NE, Newman K. Socioeconomic Disparities in health : pathways and policies. Health Affairs 2002;21(2):60-76
4. Walker RE, Keane CR, Burke JG. Disparities and access to health food in the United States: a review of food desert literature. Health & Place 2010;16(5):876-884
5. Saegert S, Evans GW. Poverty, housing niches, and health in the United States. Journal of Social Issues 2003;59(3):569-89
6. Braveman P. Health disparities and health equity: concepts and measurement. Annu Rev Public Health 2006;27:167-94.
7. Norman D, Kennedy B, Kawachi I. Why justice is good for our health: the social determinants of health inequalities. Daedalus 1999;128:215-51.
8. Williams DR, Costa MV, Odunlami AO, Mohammed SA. Moving upstream: how interventions that address the social determinants of health can improve health and reduce disparities. Journal of Public Health Manag Pract 2008;14(Suppl):S8.
9. Marmot M, Commission on Social Determinants of Health. Achieving health equity: from root causes to fair outcomes. The Lancet 2007;370(9593):1153-63

**Synopsis**

Social epidemiology is the study of the distribution of health outcomes and their social determinants that contribute to or detract from the health of individuals and communities. This course will provide an overview of the major conceptual and measurement issues in conducting research into the effects of key social factors on individual, community and population health and examine pathways through which social determinants operate at different stages of the life course and in different population groups. Policy responses and interventions to promote health or reduce health inequality will also be introduced. The course also includes developing an understanding of a research methods used in social epidemiology.

**Assessment Methods**

Continuous assessment: 100%

**MQB7035 Occupational Health (2 credits)****Learning Outcomes**

1. Identify occupational health issues
2. Relate occupational health issues to workers, workplace and community
3. Conduct basic workplace assessment
4. Solve basic occupational health issues

**Main references:**

1. Occupational Health: Pocket Consultant 5th Edition 2008, Aw, Gardner T. Harrington. Blackwell Science
2. Current Occupational and Environmental Medicine 5th ed. LaDou, Joseph, Harrison, Robert, New York : McGraw-Hill, 2014
3. Hunter's Diseases of Occupations 10th ed. 2010, Baxter, Peter J, Aw, Tar Ching, Cockcroft, Anne, Durrington, Paul, Harrington, J Malcolm, CRC Press.

**Synopsis**

This course is an overview of the occupational health issues in the local and global perspective. The course covers core topics that prepare students to understand and address occupational health issues; toxicology; exposure assessment; risk assessment, occupational disease and disability, accident and safety at work

**Assessment Methods**

Continuous Assessment: 50%

Final examination: 50%

**MQB7036****Occupational Medicine (2 Credits)****Learning Outcomes**

1. Describe diseases related to work
2. Diagnose work related diseases
3. Manage work related diseases as a Public Health Specialist

**Main references:**

1. Current occupational & environmental medicine 5th ed. LaDou, Joseph, Robert Harrison New York : McGraw-Hill, 2014.
2. ABC of occupational & environmental medicine; David Snashall, Dipti Patel; 3rd Edition, Wiley-Blackwell. 2013
3. ABC of Occupational and Environmental Medicine 2nd ed. Snashall, David.London: BMJ Books, 2003.
4. Practical Occupational Medicine 2nd ed. Agius, Raymond M.New York: Hodder Arnold, 2006.
5. Occupational Safety and Health Act 1994 and Regulations. Laws of Malaysia. International Law Book Services 2007
6. Occupational Health: Pocket Consultant 5th Edition 2008, Aw, Gardner T. Harrington.Blackwell Science

**Synopsis**

This course will provide the student with the basic to intermediate knowledge of diseases related to workplace exposure, diagnosis and management of work aggravated and occupational diseases, and an introduction to the principle of occupational toxicology. It will also cover the principle of methods and modalities used in the establishment of those diseases in the workplace and community.

**Assessment Methods**

Continuous Assessment: 100%

**MQB7037****Medical Surveillance and Fitness for Work (2 credits)****Learning Outcomes**

1. Identify the appropriate tests used in medical surveillance
2. Analyse and draw conclusions from the medical surveillance results

3. Conduct fitness for work evaluation
4. Propose appropriate workplace recommendations based on medical surveillance results and evaluate fitness for work

### Synopsis

This course is complementary to the OM course. The course focuses on the use of clinical diagnostic methods and equipment to assess the effect from exposure to occupational hazards. It will also include fitness for work assessment and issues related to rehabilitation and return to work.

### Main Reference

1. Current occupational & environmental medicine 5th ed. LaDou, Joseph, Robert Harrison New York : McGraw-Hill, 2014.
2. ABC of occupational & environmental medicine; David Snashall, Dipti Patel; 3rd Edition, Wiley-Blackwell. 2013
3. Guidelines on Medical Surveillance. Department of Occupational Safety and Health, Malaysia, 2001.
4. Practical Occupational Medicine 2nd ed. Agius, Raymond M. New York : Hodder Arnold, 2006.
5. Occupational Safety and Health Act 1994 and Regulations. Laws of Malaysia. International Law Book Services 2007.

### Assessment Methods

Continuous Assessment: 100%)

### Master of Public Health Programme Schedule

Semester 2	<ul style="list-style-type: none"> <li>▪ Seven core courses each of three credit hours, totalling twenty one (21) credit hours.</li> </ul>	Examination
Semester 1	<ul style="list-style-type: none"> <li>▪ One core course of nine (9) credit hours.</li> <li>▪ Six elective courses each of two credit hours, totalling twelve (12) credit hours.</li> </ul>	End of Semester 1 End of Semester 2
		Registration (Admission Evaluation)

**Name of Programme :** Master of Medical Science  
**Mod :** By Research  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Medical Science by Research is a programme in which the research component comprises one hundred (100) percent of the programme of study.

### 2. Entry Requirements

The qualification for admission into the Degree programme of study are as follows:

- (1) The degrees of Bachelor of Medicine and Bachelor of Surgery or the degree of Bachelor of Dental Surgery; or
- (2) The Bachelor degrees in the relevant sciences field of the University and a CGPA of not less than 3.0 or equivalent; or
- (3) An equivalent qualification approved by the Senate from time to time; and
- (4) A non-Malaysian applicant whose degree is from a university or institution of higher learning where the medium of instruction for that degree is not the English language and where the applicant wishes to follow a programme and/or write his thesis in the English language shall be required:
  - (a) To obtain a score of 600 for a paper-based total (PBT); a score of 250 for a computer-based total (CBT) or a score of 100 for an internet-based total (IBT) for the Test of English as a Foreign Language (TOEFL); or
  - (b) To obtain a band of 6 for the International English Language Testing System (IELTS).

### 3. Duration of Study

- (1) The minimum duration of study shall be two (2) semester
- (2) The minimum duration of study shall be eight (8) semester

### 4. Structure of Programme

- (1) This programme is a research programme leading to the submission of a dissertation and the format is as provided in the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree) Regulations 2014.
- (2) Where the Faculty deems it necessary a candidate may be required to follow or follow and pass such course or course(s) as determined by the Faculty.

### 5. Course Registration

Except where he/she has been permitted to withdraw from the semester concerned, a candidate for the programme by dissertation who is required to follow or follow and pass such course or courses shall be required to register for the course or courses in the semester the course or courses is or are offered.

**6. Supervision**

- (1) The supervisor for a candidate shall be appointed when the area of research is approved.
- (2) The co-supervisor and/or consultant may be appointed at any time when required.

**7. Title of Research**

The area of research for the dissertation shall be determined when the candidate is accepted for admission to the programme of study.

**8. Submission**

- (1) A candidate who is required to follow such course or courses as determined by the Faculty shall not be permitted to submit the dissertation until the Dean confirms that he has followed the course or courses to his satisfactions.
- (2) A candidate shall submit his dissertation for examination within the period of candidature.

**Name of Programme :** Master of Medical Science  
**Mode :** By Coursework and Research  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Master of Medical Science by Coursework and Research is a programme by coursework and dissertation in which the credit hours for the research component comprises seventy (70%) percent or more of the total credits for the whole programme of study.

### 2. Entry Requirements

The qualification for admission into the Degree programme of study are as follows:

- (a) The degrees of Bachelor of Medicine and Bachelor of Surgery or the degree of Bachelor of Dental Surgery of the University; or
- (b) The Bachelor of Science in the relevant field of the University and a CGPA of not less than 3.0 (or its equivalent); or
- (c) An equivalent qualification approved by the Senate from time to time; and
- (d) Evidence of adequate training and ability to undertake the Degree programme of study; and
- (e) Satisfies the Department responsible for the candidate's programme of study in an Entrance Evaluation recognised by the Faculty.

### 3. Duration of Study

- (1) The minimum duration of study shall be four (4) semester
- (2) The minimum duration of study shall be eight (8) semester

### 4. Structure of Programme

- (1) The Master of Medical Science programme by coursework and research comprises fifty six (56) credits and consists of two parts, namely:
  - (a) Part I consisting of six core courses totalling sixteen (16) credits;
  - (b) Part II involving research leading to the submission of a dissertation totaling forty (40) credits.
- (2) Details of the courses offered are as approved by Senate from time to time on the recommendation of the Faculty and candidates shall be informed of such details at the beginning of each session.
- (3) The lists of courses for the programme of Master of Medical Science are provided in List 1.
- (3) Course grades are subjected to regulations prescribed in the Marking Scheme of the University of Malaya (Master's Degree) Rules 2014 and University of Malaya (Master's Degree)(Regulations 2014).

## 5. Registration

- (1) Registration for the courses shall commence the week prior to the start of the relevant semester.
- (2) A candidate is required to register for at least nine credits in any semester except -
  - (a) in the final semester of her/his programme of study where he may register for less than the number of credits stated above; or
  - (b) where the candidate has been permitted to withdraw from the semester concerned.
- (3) A candidate may only register for Part II of the programme of study after he/she has obtained at least nine credit hours.

## 6. Supervision

- (a) The supervisor for a candidate shall be appointed when the area of research is approved.
- (b) The co-supervisor and/or consultant may be appointed at any time when required.

## 7. Title of Research

The area of research for the dissertation shall be determined before the candidate commences the research part of his programme of study.

## 8. Submission

- (1) A candidate is allowed to submit the dissertation when he/she has conducted research for at least one semester after registering for Part II of this programme.
- (2) A candidate shall submit his/her dissertation for examination within the period of candidature.

### List 1: Core Courses (Module Physiology)

Code	Title	Credits
MWGN6108	Human Physiology I	3
MWGN6107	Human Physiology II	3
MQGQ6112	Biostatistics	3
MWGN6109	Advance Medical Physiology	3
MWGN6170	Seminars and Literature Review I	2
MWGN6173	Seminars and Literature Review II	2

Subject to change from time to time



## **MWGN 6108**

### **Human Physiology I (3 credits)**

#### Learning Outcomes

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

1. Use knowledge pertaining to the discipline of Physiology regarding core topics and cardiovascular and respiratory systems
2. Apply practical skills for research purposes in the discipline of Physiology
3. Perform social skills and responsibility toward fellow humans and animals in the discipline of Physiology

#### Synopsis

Human Physiology is the study of how the human body functions under normal conditions. The human body is organised into various organ systems namely: nervous, musculoskeletal, cardiovascular, respiratory, gastrointestinal, renal, endocrine and reproductive systems.

The Physiology course in Semester 1 is taught based on core subjects and system blocks, namely:

- Cell transport and membrane potentials
- Blood
- Muscle contractions and functions
- Physiology of the cardiovascular system
- Physiology of the respiratory

#### Main Reference

1. Textbook of Medical Physiology, 12th Edition. A C Guyton and J E Hall, Elsevier Saunders, Philadelphia, 2011.
2. Review of Medical Physiology, 23rd Edition. W.F. Ganong, McGraw-Hill, New York 2011
3. Rosnah Ismail, Raji Subramanian, Lam Sau Kuen and Ruby Husain, eds, (2006) Learning Physiology Through Practicals. University of Malaya Press.

#### Assessment Methods

Continuous Assessment : 30%

Final Examination : 70%

## **MWGN 6107**

### **Human Physiology II (3 credits)**

#### Learning Outcomes

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

1. Use knowledge pertaining to the discipline of Physiology regarding gastrointestinal, renal, endocrine and reproductive systems and neurophysiology
2. Apply practical skills for research purposes in the discipline of Physiology
3. Perform social skills and responsibility toward fellow humans and animals in the discipline of Physiology

#### Synopsis

Human Physiology is the study of how the human body functions under normal conditions. The human body is organised into various organ systems namely: nervous, musculoskeletal, cardiovascular, respiratory, gastrointestinal, renal, endocrine and reproductive systems.

The Physiology course in Semester 2 is taught based on system blocks, namely:

- Gastrointestinal system
- Renal system

- Endocrine system
- Reproductive system
- Neurophysiology

#### Main Reference

1. Textbook of Medical Physiology, 12th Edition. A C Guyton and J E Hall, Elsevier Saunders, Philadelphia, 2010.
2. Review of Medical Physiology, 23rd Edition. W.F. Ganong, McGraw-Hill, New York 2011
3. Rosnah Ismail, Raji Subramanian, Lam Sau Kuen and Ruby Husain, eds, (2006) Learning Physiology Through Practicals. University of Malaya Press.

#### Assessment Methods

Continuous Assessment : 30%  
Final Examination : 70%

### **MWGN 6109**

#### **Advanced Medical Physiology (3 credits)**

#### Learning Outcomes

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

1. Use knowledge pertaining to the discipline of Physiology in unique settings
2. Apply practical skills for research purposes in the discipline of Physiology
3. Perform social skills and responsibility toward fellow humans and animals in the discipline of Physiology

#### Synopsis

Current and research information on: Hearing and balance, Vision, Neuropeptide, Pain, Locomotion, Exercise Physiology, Cardiovascular System, Blood Volume/Pressure Regulation, Hormone Receptor Mechanisms, Ion Channel Physiology, EEG, Neurotransmitters and Endocrine Functions, High altitude and diving physiology

#### Main Reference

1. Textbook of Medical Physiology, 12th Edition. A C Guyton and J E Hall, Elsevier Saunders, Philadelphia, 2010.
2. Review of Medical Physiology, 23rd Edition. W.F. Ganong, McGraw-Hill, New York 2011
3. Rosnah Ismail, Raji Subramanian, Lam Sau Kuen and Ruby Husain, eds, (2006) Learning Physiology Through Practicals. University of Malaya Press.

#### Assessment Methods

Continuous Assessment: 50%  
Final examination: 50%

**MQGQ 6112**  
**Biostatistics (2 credits)**

Learning Outcomes

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

1. Use knowledge pertaining to biostatistical methods
2. Solve problems in a scientific manner

Synopsis

Basics of statistical data analysis: Characterizing data and measurements, data screening and transformation. Descriptive statistics, shapes of distributions, application of graphical methods. Elementary statistical inference. Regression analysis, logistic regression. Analysis of variance.

Main References

1. Dawson B, Trapp RG, Basic & Clinical Biostatistics. 4<sup>th</sup> ed. LANGE Basic Science: 2004.
2. Daniel WW, Biostatistics: A Foundation for Analysis in the Health Sciences. 9th ed. John Wiley & Sons: 2008.
3. Glantz SA. Primer of Biostatistics. 7th ed. McGraw-Hill: 2011.

Assessment Methods

Continuous Assessment : 40%  
Final Examination : 60%

**MWGN 6170**  
**Seminar and literature review I (2 credits)**

Learning Outcomes

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

1. Develop ability to gather current information in the discipline of Physiology pertaining to core topics and cardiovascular and respiratory systems
2. Use skills for information management and lifelong learning in the discipline of Physiology

Synopsis

Students are trained to search the literature and prepare reviews of current topics. They are also required to make oral presentations and submit concise written reports of the topics they have presented.

Main Reference

1. Textbook of Medical Physiology, 11th Edition. A C Guyton and J E Hall, Elsevier Saunders, Philadelphia, 2006.
2. Human Physiology. Davies, A., Blakeley, A. G. H. and Kid, C. Churchill Livingstone, London. 2001
3. Review of Medical Physiology, 22nd Edition. W.F. Ganong, McGraw-Hill, New York 2005
4. Current medical journals

Assessment Methods

Continuous assessment: 100%

**MWGN 6173****Seminar and literature review II (3 credits)****Learning Outcomes**

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

1. Develop ability to gather current information in the discipline of Physiology pertaining to gastrointestinal, renal, endocrine and reproductive systems and neurophysiology
2. Use skills for information management and lifelong learning in the discipline of Physiology

**Synopsis**

Students are trained to search the literature and critique reviews of current topics. They are also required to make oral presentations and submit concise written reports of the topics they have presented.

**Main Reference**

1. Textbook of Medical Physiology, 11th Edition. A C Guyton and J E Hall, Elsevier Saunders, Philadelphia, 2006.
2. Human Physiology. Davies, A., Blakeley, A. G. H. and Kid, C. Churchill Livingstone, London. 2001
3. Review of Medical Physiology, 22nd Edition. W.F. Ganong, McGraw-Hill, New York 2005
4. Current medical journals

**Assessment Methods**

Continuous assessment: 100%

<b>Name of Programme</b>	:	<b>Doctor of Medicine</b>
<b>Mode</b>	:	<b>Research</b>
<b>Faculty</b>	:	<b>Faculty of Medicine</b>

This programme offered for Malaysian applicant only especially for University Malaya Medical Center (UMMC) Staff.

The Medicine Doctor or Doctor of Medicine (MD) is a doctorate level degree held by medical doctors. In the United Kingdom and many other Commonwealth countries, the M.D. is a higher doctoral degree reserved for those who have contributed significantly to the academic study of medicine and surgery, respectively. This is not to be confused with the Doctor of Medicine (M.D) offered by U.S medical schools. That is a degree programme, whereas this is a doctorate programme.

The Doctor of Medicine programme offered by the Faculty of Medicine, University of Malaya is a higher doctoral degree programme, to which the candidate must already have the necessary medical experience before application to this programme.

The Doctor of Medicine programme in which the research component comprises one hundred (100) percent of the programme of study.

### 1. Entry Requirements

To be registered as a candidate for the degree of Doctor of Medicine, a candidate must:

- (1) be a graduate of at least two years standing in medicine and surgery of the University of Malaya, or of another approved University;

Or

- (2) possess such other qualifications and experience as the Senate may specially approve.

### 2. Duration of study

- (1) The minimum duration of study shall be four (4) semesters.
- (2) The maximum duration of study shall be ten (10) semesters.

### 3. Structure of Programme

To supplicate for the degree of Doctor of Medicine, a candidate shall submit a thesis which must be original work on a subject approved by the Senate on the recommendation of the Faculty and at the discretion of the examiners be examined in such manner as the examiners think fit on the subject matter of the thesis and related subjects;

A candidate may not submit this thesis earlier than twenty four (24) months nor later than five (5) years after the date of his initial registration except with the approval of the Senate. A candidate shall give at least three (3) months notice in writing to the Registrar of his intention to submit his thesis for Examination.

**Name of Programme :** Doctor of Public Health  
**Mode :** By Coursework and Research  
**Faculty :** Faculty of Medicine

### 1. Classification of Programme

The Doctor of Public Health programme is a mix mode programme (coursework and research) which the credits for the coursework component comprise less than thirty (30) percent of the whole programme of study. After completion of the relevant programme of study specified in this Schedule, a candidate shall be eligible for the award of the Doctor of Public Health degree.

### 2. Entry Requirements

- (1) Entry requirements for admission into the Doctor of Public Health programme (Mix Mode) – [Regulations 3 (2)] are as follows:
  - (a) The minimum qualifications for admission into the Doctor of Public Health programme are as follows:
    - (i) A Master of Public Health degree with a CGPA of not less than 3.0 (or its equivalent); or
    - (ii) A Master's degree in the relevant Public Health field with a CGPA of not less than 3.0 (or its equivalent); and
    - (iii) Have work related experience of at least one (1) year or for a certain period that has been decided by the Department from time to time
- (2) A non-Malaysian applicant whose degree is from a university or institution of higher learning where the medium of instruction for that degree is not the English language and where the applicant wishes to follow a programme and/or write his thesis in the English language shall be required:
  - (a) To obtain a score of 600 for a paper-based total (PBT); a score of 250 for a computer-based total (CBT) or a score of 100 for an internet-based total (IBT) for the Test of English as a Foreign Language (TOEFL); or
  - (b) To obtain a band of 6 for the International English Language Testing System (IELTS).

### 3. Duration of Study

- (1) The minimum duration of study shall be six (6) semesters.
- (2) The maximum duration of study shall be twelve (12) semesters.

### 4. Structure of Programme

The Doctor of Public Health programme of study with a total of 84 credit hours comprises the two following parts:

- i. Part 1 which consists of courses with a total of 24 credits includes –
  - (a) One Compulsory Core Courses of three (3) credits;
  - (b) One Compulsory Internship Course of six (6) credits;
  - (c) Two Compulsory Professional Area Core Courses of three (3) credits each; and
  - (d) Three Professional Specialisation Courses of three credits each.
- ii. Part 2 which consists of research that leads to a thesis of 60 credits.

A candidate must successfully complete Part 1 before he is allowed to proceed to Part 2.

A candidate shall attain a minimum of grade B in the Compulsory Core Course MWA8001 – Advanced Research Methods.
- iii. The list of courses for the programme of Doctor of Public Health is provided in List 1.

## **5. Registration**

- (1) Registration for the courses of study shall commence the week prior to the start of the relevant semester.
- (2) A candidate is required to register for at least three (3) credits in any semester except where the candidate has been permitted to withdraw from the semester concerned.

## **6. Attendance**

- (1) A candidate shall attend all programmes of instruction and research in respect of the programme of study he is attending except where the candidate has been granted medical or maternity leave by a registered medical officer or has been given leave of absence by the Dean of the Faculty.
- (2) A candidate may with the approval of the Faculty undergo a part of the programme of study at another institution.

## **7. Supervision**

- (1) The Faculty shall appoint at least two (2) supervisors for each candidate not later than two months after the registration of the candidate.
- (2) The maximum number of supervisors for each candidate allowed by the faculty is three (3). For a candidate requiring more than three supervisors, the Department shall provide justification to the Faculty.
- (3) The co-supervisor and/or consultant shall be appointed when required.
- (4) A consultant shall be appointed for a candidate who undertakes part of his programme of study outside the University. The consultant shall be appointed not later than two months after the candidate has commenced training in the outside location.

## **8. Title of Research**

The title of the thesis for a candidate shall be submitted to the faculty for approval when the candidate has submitted the three months' notice of submission of the thesis.

## 9. Submission

- (1) A candidate shall submit his thesis for examination within the period of candidature.
- (2) A candidate shall give at least three months' notice in writing to the Faculty prior to the submission of his thesis for examination.

## 10. Examinations for the Degree

- (1) The Examination leading to the degree of Doctor of Public Health shall consist of an examination; or examinations in each of the courses prescribed for Part 1 of the Doctor of Public Health degree programme as follows:
  - (a) One Compulsory Core Courses of three (3) credits;
  - (b) One Compulsory Internship Course of six (6) credits;
  - (c) Two Compulsory Professional Area Core Courses of three (3) credits each; and
  - (d) Three Professional Specialisation Courses of three credits each.
- (2) Examination Components and Allocation of Marks:
  - (a) Taught Courses

The components of the taught courses and the marks to be allocated to the components of the courses prescribed for the Examination shall be:

### Component Allocation of Marks (Maximum)

(i) Continuous Assessment	50 -100%
(ii) End of Semester Examination	0- 50%
<b>Total</b>	<b>100%</b>

- (b) The Senate may on the recommendation of the Faculty amend the allocation of marks for the components of a course for the Examination.
- (3) Write a thesis of 60 credit hours in Part 2.
- (4) Course Grade Requirements

Course grades are subjected to regulations prescribed in the University of Malaya (Doctoral Degree) Rules 2017 and University of Malaya (Doctoral Degree) Regulations 2017.

## 11. Award of Degree

No candidate shall be recommended for the award of the Degree of Doctor of Public Health unless he has completed all parts of the course and has passed the prescribed Examinations.



## List 1

### List of Courses

#### Part 1: Coursework Component Compulsory Core Course

Course Code	Course Title	Credits
MWA8001	<i>Advanced Research Methods</i>	3

#### Compulsory Internship Course

Course Code	Course Title	Credits
MWA8006	<i>Professional Internship</i>	6

#### Professional Area Core Courses

Course Code	Course Title	Credits
MWA8004	<i>Essentials of Epidemiology in Public Health</i>	3
MWA8005	Health Policy and Leadership	3

#### Professional Specialization Courses

Course Code	Course Title	Credits
<b>(1) Area : Health Services Management</b>		
MWA8003	<i>Economic Evaluation in Health Care</i>	3
MWA8007	<i>Human Resource Planning and Management</i>	3
MWA8008	<i>Health Law and Ethics</i>	3
MWA8009	<i>Health Economics</i>	3
MWA8010	<i>Health Logistics Management</i>	3
MWA8011	<i>Quality in Health</i>	3
<b>(2) Area : Family Health</b>		
MWA8012	Women's Health	3
MWA8013	Child and Adolescent Health	3
MWA8014	Lifetime Health	3
MWA8015	Nutrition and Lactation Management	3
MWA8016	Society, Behaviour and Health	3
<b>(3) Area : Environmental Health</b>		
MWA8017	Environmental Pollution	3
MWA8018	Food Technology and Health	3
MWA8019	Waste Management	3
<b>(4) Area : Occupational Medicine</b>		

MWA8020	Human Factor and Ergonomics	3
MWA8021	Disability Assessment	3
MWA8022	Occupational Lung Diseases	3
MWA8023	<i>Occupational Safety and Health Management Systems</i>	3
<b>(4) Area: Epidemiology in Health</b>		
MWA8024	<i>Advanced Epidemiology</i>	3
MWA8025	Clinical Epidemiology	3
MWA8026	Epidemiology of Communicable Diseases	3
MWA8027	Epidemiology of Non Communicable Diseases	3
<b>(5) Area : Biomedical Statistics</b>		
MWA8028	Analysis of Rates and Proportions	3
MWA8029	Statistical Computing	3
MWA8030	Introduction to Meta-Analysis	3
MWA8031	Principles of Clinical Trials	3
MWA8032	<i>Qualitative Methods in Health Research</i>	3
MWA8033	<i>Critical Readings and Special Topics in Epidemiology</i>	3
MWA8034	<i>Nutritional Epidemiology</i>	3

#### Part 2: Research Component

Code	Title	Credits
MWA8002	Tesis <i>Thesis</i>	60

## CORE COURSES

### **MWA8001 Advanced Research Methods (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Evaluate the various methods of data collection, questionnaire design, data management, data analysis utilising quantitative and/or qualitative research design to develop a research proposal
2. Apply ethical issues in conducting research
3. Write a research proposal

#### Synopsis

This course aims to further develop students understanding on the principles, concepts and methods of public health and health service research. The content of this course covers the theoretical considerations and practical steps of planning, implementation of research as well as the ethical principles and challenges of conducting research. In this course, higher level methods of appraisal and review of literature will be discussed. More complex form of study design will be examined in-depth with consideration of both qualitative and quantitative methods. Students will be guided to develop the skills required to disseminate research plans and findings in a range of contexts.

Individual discussions with supervisor are mandatory in order to complete this course.

#### Main Reference

1. Guest G, Namely E. Public Health Research Methods. Sage Publishing; 2015
2. Szklo M, Nieto FJ. Epidemiology Beyond the Basics. Jones and Bartlett Publishers; 2014
3. Creswell JW. Research Design Qualitative, Quantitative and Mixed Method Approaches. Sage Publishing; 2014
4. Amdur R, Bankert E. Institutional Review Board: Member Handbook: Jones & Bartlett Publishers; 2011

#### Assessment Methods

Continuous Assessment: 100%

Final Examination: -

### **MWA8002 Thesis (60 Credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Demonstrate a critical understanding of situational analysis, research, health policy, project management within the context of public health setting
2. Demonstrate the synthesis of knowledge based on critical appraisal of a situation, definition of a research problem, collection and analysis of relevant primary or secondary data, and the interpretation of these findings
3. Produce a thesis relevant to his/her research problem.

#### Synopsis

The DrPH thesis is the final academic test of candidate's competency addressing a practical problem confronting a leader in public health practice. The focus of the programme is on the scholarship of application and translation of health practice. This module requires candidate to apply key features of the taught curriculum to improve understanding of an important public health-related issue. The thesis will demonstrate candidate's mastery of skills and knowledge needed to lead a health-related programme, suggest change in the guideline or policy and/or develop new methods to accomplish the stated goals. The thesis must be based on original research, worthy of publication and acceptable to the department.

#### Main Reference

1. Bowling, A. 4th Edition, (2014) Research Methods in Health: Investigating Health and Health Services, Open University Press.
2. Fink A (2005) Conducting Research Literature Reviews (second edition). Sage: London
3. Rothman, K.J. (2002). Modern Epidemiology (2<sup>nd</sup> Edition). Philadelphia, PA: Lippincott-Raven
4. Rose, G. (1993). The Strategy of Preventive Medicine. Oxford: Oxford University Press
5. Detels Rogers, McEwen James, Beaglehole Robert, and Tanaka Heizo (2002) Oxford Textbook of Public Health. Oxford. Oxford University Press

Assessment Methods  
Final Examination: 100%

### **MWA8004 Essentials of Epidemiology in Public Health (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply the principles and methods of epidemiology and the quantitative approach to clinical and public health problems.
2. Identify the important elements of study design, data analysis and inference in epidemiology research
3. Define ethics and its importance to epidemiology, and solve problems of dealing with uncertainty in making public health policies.

#### Synopsis

This course will provide an orientation to epidemiology as a basic science for public health and clinical medicine. It provides an introduction to the terminology and methods used in the core scientific practices of public health. It will address the principles of the quantitative approach to clinical and public health problems. One of the important components in understanding these concepts is through literature appraisal. Critical readings in epidemiology will enable candidates to make objective, sound and independent evaluations of the literatures read.

#### Main Reference

1. Rothman, K.: Modern Epidemiology, Lippincott-Raven Publishers, 3rd edition. 2008
2. Gordis Leon: Epidemiology, W.B. Saunders Co., Philadelphia, 4<sup>th</sup> Ed 2008
3. Bland, Martin. An introduction to medical statistics. 3<sup>rd</sup> edition. Oxford University Press. 2005.
4. Karuthan Chinna, Krishnan K. Biostatistics for the Health Sciences. McGraw Hill. 2009.
5. Beaglehole R, Bonita R. Basic Epidemiology. WHO 2<sup>nd</sup> ed 2006
6. Friis, Robert H : Epidemiology for Public Health Practice, Sudbury, MA, Jones and Bartlett Publishers, 4<sup>th</sup> ed 2009
7. Robert A. Day, Barbara Gastel. How to write and publish a scientific paper, 7<sup>th</sup> ed Greenwood 2011

Assessment Methods  
Continuous assessment: 50%  
Final Examination: 50%

### **MWA8005 Health Policy and Leadership (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Evaluate the different processes involved in the formulation of health policies and the impact of health policies on performance of health systems
2. Evaluate type of leadership skills required in public and private health sectors.

#### Synopsis

An introductory course on the study of public policy & leadership. It explains the basis, development and importance to public health, rules and regulations formulation and its impact on organisation and community. The student will also be exposed to the role of advocacy (persuasion) which is used to convince policy makers (governments) on its adoption. The role of good leadership in public health practitioner will also be explored in this activity.

#### Main Reference

1. Goodwin N. 2006. *Leadership in healthcare*. Oxford. Routledge.
2. Walt G. 1994. *Health Policy: An Introduction to Process and Power*. London. Zed Books.
3. Roberts MJ, Hsiao W, Berman P, Reich MR. 2004. *Getting health reform right*. New York: Oxford University Press.
4. Chee HL, Barraclough S (eds). 2007. *Health care in Malaysia. The dynamics of provision, financing and access*. Oxford. Routledge.

Assessment Methods  
Continuous assessment: 50%  
Final examination: 50%

### **MWA8006 Professional Internship (6 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Determine the healthcare system and the policy in the implementation of the healthcare programs.
2. Integrate the relationship of public health problems, the role of society and pressure groups in the formulation of policy and implementation of healthcare programs.
3. Experience the politics of getting problems to the government's perception and priorities.

#### Synopsis

An introductory course on the study of public policy & leadership. It explains the basis, development and importance to public health, rules and regulations formulation and its impact on organisation and community. The student will experience the role of advocacy (persuasion) which is used to convince policy makers (governments) on its adoption. Practicing good leadership and management of public health system.

#### Main Reference

1. Goodwin N. Leadership in Healthcare, Routledge, Abingdon, Oxford, UK 2006.
2. Harrison MI. Implementing Change in Health Systems. SAGE Publications, London, UK 2004.
3. Abdul Hamid AK. Medical Ethics, Etiquette and Law. University Malaya Press, Kuala Lumpur 2006.
4. Yadav H. Hospital Management. University Malaya Press, Kuala Lumpur 2006.
5. Ghani SN, Yadav H. Health Care in Malaysia. University Malaya Press, Kuala Lumpur 2008.

#### Assessment Methods

Continuous Assessment: 100%

#### Learning Outcomes

At the end of this course, the candidate is able to:

#### Synopsis

#### Main Reference

#### Assessment Methods

### **ELECTIVE COURSES**

#### **MWA8003 Economic Evaluation in Health Care (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply the common tools for Economic Evaluation studies.
2. Make decision based on the various methods of costing for healthcare
3. Conduct a health economic evaluation project.
4. Interpret the findings of economic evaluation studies

#### Synopsis

This course provides the skill in conducting health economic evaluation and evaluating the various economic evaluation studies.

#### Main Reference

1. Folland S, Goodman A, Stano M. 2012. *The Economics of Health and Health Care*. New Jersey: Pearson Prentice Hall, 7<sup>th</sup> Edition.
2. Michael F. Drummond, Bernie O'Brian, Greg L. Stodart, George W. Torrance. 2002.
3. Methods for the Economic Evaluation of Healthcare Programmes. 2<sup>nd</sup> Edition. Oxford Medical Publications. 2005
4. WHO Guide To Cost-Effectiveness Analysis. 2003. WHO Geneva.
5. S.N.Ghani, H. Yadav. Health Care in Malaysia, Universiti Malaya Press, Kuala Lumpur 2008.

#### Assessment Methods

Continuous Assessment: 100%

#### **MWA 8007 Human Resource Planning and Management (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Explain the concepts of human resource planning and management in health care organization.

2. Identify and implement the various methods and principles used in planning human resource, recruit, train and appraise in health care organization.

#### Synopsis

This course deals with most of the facets of current thinking on human resource management. The aim is to equip potential public health specialists in health and hospital services management with the knowledge, attitudes and skills to deal with human resources in the future.

#### Main Reference

1. The World Health Report. Working Together for Health, WHO 2006.
2. Yadav, H. Hospital Management. Univ. Malaya Press, Kuala Lumpur, 2006
3. McMahon R. Barton, E. Piot, M. et.al. On Being in-charge, WHO, Geneva, 2007.
4. N Gopee, J Galloway. Leadership and Management in Healthcare. Sage 2<sup>nd</sup> Edition 2013,
5. Fred Lee. If Disney Ran Your Hospital. Second River Healthcare 2008.

#### Assessment Methods

Continuous Assessment: 50%

Final Examination: 50%

#### **MWA 8008 Health Law and Ethics (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Assess relevance and impact of relevant health laws to the management and administration of health services.
2. Assess relevance of the ethical basis of health care guidelines and laws governing provision of health care

#### Synopsis

An introductory course in the assessment of the application and impact of various laws governing the provision of health care services. Students will also review ethical basis for such health laws.

#### Main Reference

1. Wu MA. 2009. *The Malaysian Legal System 3<sup>rd</sup> Ed.* Pearson Malaysia, Petaling Jaya.
2. Abdul Hamid AK. 2008. *Medical Ethics, Etiquette and Law.* Univ. of Malaya Press, Kuala Lumpur
3. Mappers TA. 2010. *Biomedical Ethics 7<sup>th</sup> Ed.* McGraw-Hill, Boston
4. Roberts MJ, Hsiao W, Berman P, Reich MR. 2004. *Getting health reform right.* New York: Oxford University Press.

#### Assessment Methods

Continuous assessment: 50%

Final examination: 50%

#### **MWA 8009 Health Economics (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply the concepts of economics to healthcare.
2. Conduct a health economic evaluation project.
3. Make comparison on the respective healthcare system and the healthcare financing system in the world and identify the strength and weaknesses of each system

#### Synopsis

This course provides the skill in conducting health economics evaluation and evaluating the various financial and healthcare systems in the world.

#### Main Reference

1. Folland S, Goodman A, Stano M. 2012. *The Economics of Health and Health Care.* New Jersey: Pearson Prentice Hall, 7<sup>th</sup> Edition.
2. Michael F. Drummond, Bernie O'Brian, Greg L. Stodart, George W. Torrance. 2002.
3. Methods for the Economic Evaluation of Healthcare Programmes. 2<sup>nd</sup> Edition. Oxford Medical Publications. 2005
4. WHO Guide To Cost-Effectiveness Analysis. 2003. WHO Geneva.
5. S.N.Ghani, H. Yadav. Health Care in Malaysia, Universiti Malaya Press, Kuala Lumpur 2008.

#### Assessment Methods

Continuous assessment: 100%

### **MWA 8010 Health Logistics Management (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. Explain how technology in health is developed, adopted, diffused, used, assessed and managed.
2. Determine the various logistics tasks in patient-related medical secondary processes with specific reference to information and documentation management, drug management, maintenance of medical equipment and facilities, logistics of sterile goods, and disposal of hazardous waste.
3. Determine the various logistics tasks in patient-related non-medical secondary processes with specific reference to food management, management of linen and laundry, and cleansing services.
4. Determine the various logistic tasks in patient remote tertiary processes with specific reference to management of administrative demands, mail service, and disposal of non-hazardous waste.

#### **Synopsis**

This course introduces the concepts of health technology assessment, defines the scope of health technology assessment and management. It does also explore the other aspect of health logistics which is related to this course.

#### **Main Reference**

1. Kara BY, Sabuncuoglu I, Bidanda B (Eds). Global Logistics Management, 2014. CRC Press.
2. Sebastian, Hans-Jürgen, Kaminsky, Phil, Müller, Thomas (Eds.) Quantitative Approaches in Logistics and Supply Chain Management; 2013. Springer International Publishing Switzerland.
3. USAID DELIVER PROJECT, Task Order 1. 2011. The Logistics Handbook: A Practical Guide for the Supply Chain Management of Health Commodities. Arlington, Va.: USAID DELIVER PROJECT, Task Order 1.
4. Mark Graba. Lean Hospitals: Improving Quality, Patient Safety, and Employee Satisfaction. Productivity Press. 2008 (ISBN-13: 9781420083804).
5. James R. Langabeer. Health Care Operations Management: A Quantitative Approach to Business and Logistics. Jones & Bartlett Publishers, US. 2007. (ISBN: 0763750514)
6. Joseph S. Pliskin, Shimeon Pass. Focused operations management for health services organizations. John Wiley and Sons, 2006.(ISBN 078798454X, 9780787984540)
7. Jan Walburg, Helen Bevan, John Wilderspin and Karin Lemmens. Performance management in health care: improving patient outcomes: an integrated approach. Routledge, US, 2006.(ISBN10:0-415-32397-5)
8. Jan Vissers, Roger Beech. Health Operations Management: Patient Flow Logistics in Health Care (Routledge Health Management), 2005. (ISBN-10: 0415323967)
9. Mohd Hishamuddin Harun (2001). Integrated Telehealth, The Malaysian Experience.
10. Banta D, Luce BR (1993) Health Care Technology and its Assessment Technology Assessment in Health care for Developing Countries. International Journal of Technology Assessment in Health Care, Cambridge University Press 1996.

#### **Assessment Methods**

Continuous Assessment 60%,

Final examination: 40%

### **MWA 8011 Quality in Health (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. Describe the concepts of quality assurance in health care.
2. Develop quality assurance programme in health care organization.
3. Apply quality assurance programme in health care organization.

#### **Synopsis**

This course introduces the philosophy of quality in health from planning to the process. It also covers health management and the importance of leadership, teambuilding and internalization of quality.

#### **Main Reference**

1. Al- Assaf, A.F., Sheikh, M. Quality Improvement in Primary Health Care: A Practical Guide. WHO publication, Eastern Mediterranean Series, No. 26. 2004
2. Bengoa, R., Kwar, R., Key, P., Leatherman, S., Massoud, R., Saturno, P. Quality of Care: A process for making strategic choices in Health System. WHO publication. 2006.



3. Maimunah A Hamid, A.F.Al-Assaf, Azman Abu Bakar, Low Lee Lan. Measuring and Managing Quality of Health Care. Training Module: Managing Performance. Institute for Health System Research. Ministry of Health Malaysia. 2004
4. Maimunah A Hamid, A.F.Al-Assaf, Haniza Mohd. Anuar, Low Lee Lan. Measuring and Managing Quality of Health Care. Training Module: Promoting Quality. Institute for Health System Research. Ministry of Health Malaysia. 2004
5. Maimunah A Hamid, A.F.Al-Assaf, Rozaini Mohd Zain, Low Lee Lan. Measuring and Managing Quality of Health Care. Training Module: Implementing Quality & Improving Performance. Institute for Health System Research. Ministry of Health Malaysia. 2007
6. Lucy Gilson (ed.) (2012) Health Policy and Systems Research: A Methodology Reader. Alliance for Health Policy and Systems Research, WHO.
7. WHO (2010) The World Health Report 2010. The Health Systems Financing: the path to universal coverage. Geneva, World Health Organization.

#### Assessment Methods

Continuous Assessment: 50%

Final Examination: 50%

### **MWA 8012 Women's Health (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Recommend population based approach to improved women's health.
2. Analyse gender roles and the impact of gender inequalities in women.
3. Differentiate and decide the beneficial and harmful practices including traditional practices in MCH and its dangers during antenatal care, labour and post partum.

#### Synopsis

Aspects on women's health will be covered in detail. The topics such as gender issues and violence and infertility will be covered to give a wider perspective of women's health. Basically the health of the women depends on many issues beyond the scope of health services and these will be discussed. International issues related to women's health will be discussed.

#### Main Reference

1. Boston Women's Health Book Collective. A Touchstone Book, New York London Toronto Sydney.
2. [Laura Reichenbach](#), [Mindy Jane Roseman](#). 2009. Reproductive health and human rights : the way forward. University of Pennsylvania Press.
3. Rose Weitz. 2009. The Sociology of Health, Illness, and Health Care. Cengage Learning.
4. Theo Stickley. 2008. Learning about mental health practice. John Wiley and Sons.
5. Lawrence S. Neinstein. 2007. Adolescent health care: a practical guide. Lippincott & Wilkins.
6. International Journal of Gynaecology and Obstetrics (Volumes 2011-2015) Official publication of FIGO The International Federation of Gynecology and Obstetrics <http://www.ijgo.org/issues>.

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8013 Child and Adolescent Health (3 credit)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Integrate the importance and principles of early childhood development and the relationship between health and nutrition, psychological and social development of children.
2. Critically analyse the child & adolescent health programmes implemented in Malaysia
3. Perform a situational analyses on child & adolescent Health problem and strategies future programmes.

#### Synopsis

Child health will cover in more detail on the topics that have been covered in MPH syllabus. Communicable and non-communicable diseases will be covered. New areas like child abuse, new vaccines and the child's rights will also be discussed.

The adolescent health includes the theories of behaviour change, access to health care, and guidelines to preventive services available in the country.



#### Main Reference

1. Kevin White. 2009. An introduction to the sociology of health and illness. SAGE Publications Ltd, 2009.
2. [Anne-Marie Barry](#), [Chris Yuill](#). [Understanding the Sociology of Health](#). SAGE, 2008
3. [Graham Scambler](#). Sociology as applied to medicine (6<sup>th</sup> edition). Elsevier Health Sciences, 2008.
4. David R. Shaffer, Katherine Kipp. 2009. Developmental Psychology : Childhood and Adolescence. Cengage Learning.
5. [Judith E. Brown](#), [Janet S. Isaacs](#), [U. Beate Krinke](#) (3<sup>RD</sup> Eds). Nutrition Through the Life Cycle. 2008 Thomson Learning.
6. World Health Organization (WHO). Core competencies in Adolescent Health and Development for Primary Care Providers. 2015.
7. World Health Organization (WHO). mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings. 2014. <http://www.paho.org/mhgap/en/>

#### Assessment Methods

Continuous Assessment: 100%

#### **MWA 8014 Lifetime Health (3 credits)**

##### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply knowledge and principle of Public Health to current lifetime health problem.
2. Critically appraise Family Health Programmes implemented in Malaysia
3. Perform a situational analysis of public Health problem across the Lifetime and strategies future program

##### Synopsis

This will discuss the health problems of the segments of the population from womb to tomb and how the issues are addressed in the country. The physical, social, psychological and emotional, problems will be discussed.

##### Main Reference

1. Susan Krauss Whitbourne. The aging body – Physiological changes and physiological consequences. Springer –Verlag 1985
2. Nessa Casey. The Epigenetics Revolution. Columbia University Press NY 2013
3. Marlene Goldman, Rebecca Trois. Women and Health. Academic Press, 2012
4. Bruno Lunenfeld. Textbook of Men's Health and Aging 2<sup>nd</sup> ed. CRC Press, 2007
5. [Judith E. Brown](#), [Janet S. Isaacs](#), [U. Beate Krinke](#) (3<sup>RD</sup> Eds). Nutrition Through the Life Cycle. 2008 Thomson Learning.

#### Assessment Methods

Continuous Assessment: 100%

#### **MWA 8015 Nutrition and Lactation Management (3 credits)**

##### Learning Outcomes

At the end of this course, the candidate is able to:

1. Critically appraise current health problems, the evidence relating dietary factors to health and disease with methods of implementation.
2. Analyse Nutritional Plan of Action Malaysia (NPAM) and the implementation for communities which are at risk for nutritional disorders
3. Discuss the principles and concepts for nutritional supplement feeding, types and benefits.

##### Synopsis

The course will cover in more detail topics on the latest strategies and programmes in nutrition.

##### Main Reference

1. Judith E. Brown, Janet S. Isaacs, U. Beate Krinke. 2007. Nutrition Through the Life Cycle. Cengage Learning.
2. FrancesSizer, Ellie Whitney. 2007. Nutrition: Concepts and controversies. Cengage Learning.
3. L. Kay Bartholomew. Planning health promotion programs: an intervention mapping approach. John Wiley and Sons, 2006.
4. Theo Stickley. 2008. Learning about mental health practice. John Wiley and Sons.
5. Lawrence S. Neinstein. 2007. Adolescent health care : a practical guide. Lippincott & Wilkins.

#### Assessment Methods

Continuous Assessment: 50%

Final Examination: 50%

### **MWA 8016 Society, Behaviour and Health (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Critically appraise the contribution of medical sociology to health, health beliefs and practices, deviance, labelling, stigmatisation and social control.
2. Analyse the social determinants of health & the implications of social class on planning health policies and programmes.
3. Apply the concept of mass media, social marketing and community development approach in Health Promotion.

#### Synopsis

The Society, Behaviour and Health course will provide current knowledge in the field of behavioural sciences and health promotion.

#### Main Reference

1. William C. Cockerham. Medical Sociology 13<sup>th</sup> Edition. Pearson Education Inc. Prentice Hall NJ 2011
2. Michelle L. Inderbitis, Kirstin A Bates, Randy R. Garney. Deviance and Social Control. SAGE Publications Inc USA 2013
3. Michael Marmot. The Status Syndrome. Owl Books, Henry Holt Co. 2004
4. James F McKenzie, James T Girvan, Randall R Cottrell. Principles and Foundation of Health promotion and education 5<sup>th</sup> Edition. Benjamin Cummings 2012
5. Karen Glanz, Barbara K Rimer, K. Viswanath. Health Behavior: Theory, Research and Practice 5<sup>th</sup>. Edition. Jossey Boss 2015.

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8017 Environmental Pollution (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Identify the various environmental pollutants.
2. Evaluate the pollutants related to human health.
3. Formulate pollution prevention and control programmes related to human health.

#### Synopsis

This course will provide the candidate with in-depth knowledge of environmental pollution and its relation to human health. The candidate will learn different types of environmental pollution in general followed by each specific pollutant and possible health risks and prevention and control. The candidate will have better understanding of the diseases related to pollution and plan for prevention programmes to reduce the effect of pollution on human health.

#### Main Reference

1. Santra SC. Environmental Science, Jan 2004. New Central Book Agency, Calcutta.
2. Jerry A. Nathanson M.S. P.E. and Richard A. Schneider M.S. P.E. Basic Environmental Technology: Water Supply, Waste Management and Pollution Control (6th Edition), 2014, Prentice Hall;
3. Occupational and Environmental Health: Recognizing and Preventing Disease and Injury, Barry S. Levy David H. Wegman Sherry L. Baron , Rosemary K. Sokas, Oxford University Press; 6 edition, 2011
4. Understanding Environmental Health: How We Live in the World, Nancy Irwin Maxwell Jones and Barttler learning 2013
5. Lippmann M, Cohen BS, Schlesinger RB. Environmental Health Science, 2003. Oxford University Press, USA.
6. Levy, Barry S.Occupational and environmental health : recognizing and preventing disease and injury 5th ed , 2005 New York : Lippincott Williams and Wilkins
7. Current occupational & environmental medicine 4th ed. LaDou, Joseph, New York : McGraw-Hill, 2007.
8. Basic Environmental Health, Annalee Yassi, Oxford University Press 2001

#### Assessment Methods

Continuous Assessment: 100%

#### **MWA 8018 Food Technology and Health (3 credits)**

##### Learning Outcomes

At the end of this course, the candidate is able to:

1. identify various food-borne diseases and food processing critical control points
2. evaluate Food Safety and Quality Control
3. formulate Food Technology and Health Hazards Management

#### Synopsis

This course will provide the candidate with in-depth knowledge of food technology in relation to human health. The candidate will learn different types of food processing, food safety and quality control in various stages in general and ministry in particular. The candidate will have better understanding of the current issues related to foods and how to involve in prevention and control of the food related health hazards in the community.

#### Main Reference

1. Lima, Giuseppina P. P., Vianello, Fabio (Eds.). Food Quality, Safety and Technology. 2014. Springer-Verlag Wien.
2. CURRENT Occupational & Environmental Medicine: Fourth Edition. 2007. McGraw-Hill Companies.
3. Codex alimentarius. Food hygiene basic texts 3rd ed. Joint FAO/WHO Codex Alimentarius Commission. Rome: Food and Agriculture Organization of the United Nations, 2003.
4. Lippmann M, Cohen BS, Schlesinger RB. Environmental Health Science, 2003. Oxford University Press, USA.
5. FAO/WHO guidance to governments on the application of HACCP in small and/or less-developed food businesses World Health Organization.Rome : World Health Organization [and] Food and Agriculture Organization of the United Nations, 2006.
6. Food safety handbook Schmidt, Ronald H., Hoboken, N.J. : Wiley-Interscience, 2003

#### Assessment Methods

Continuous Assessment: 100%

#### **MWA 8019 Waste Management (3 credits)**

##### Learning Outcomes

At the end of this course, the candidate is able to:

1. Identify the different types of waste in the environment and various solid waste, waste water and excreta disposal systems
2. Evaluate various existing wastes management and disease control
3. Recommend new wastes management and disease control methods

### Synopsis

This course will provide the candidate with in-depth knowledge of wastes management and its relation to human health. The candidate will learn different types of various waste disposal systems and how to apply in different situations. The candidate will have better understanding of the current issues related wastes and management, and how to involve in prevention and control of the waste related health hazards in the community.

### Main Reference

1. Santra SC. Environmental Science, Jan 2004. New Central Book Agency, Calcutta.
2. Lippmann M, Cohen BS, Schlesinger RB. Environmental Health Science, 2003. Oxford University Press, USA.
3. Levy, Barry S. Occupational and environmental health : recognizing and preventing disease and injury 5th ed , 2005 New York : Lippincott Williams and Wilkins
4. Current occupational & environmental medicine 4th ed. LaDou, Joseph, New York : McGraw-Hill, 2007.
5. Basic Environmental Health, Annalee Yassi, Oxford University Press 2001

### Assessment Methods

Continuous Assessment: 100%

### **MWA 8020 Human Factor and Ergonomics (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Describe the relationship between ergonomics, human factors, the limits of human capacity and diseases.
2. Evaluate the workstations and work environment in relationship to ergonomics principles
3. Recommend modifications to the workstations and work environment to improve ergonomics

### Synopsis

This course will provide the candidate with an in-depth knowledge of ergonomics and human factors. The candidate will learn workplace assessment and the limits of human capacity. The candidate will have better understanding of the diseases related to ergonomics and workstation design.

### Main Reference

1. Handbook of Human Factors and Ergonomics. 4th ed. Gavriel Salvendy 2012 John Wiley.
2. Current Occupational and Environmental Medicine 5<sup>th</sup> ed. LaDou, Joseph, New York : McGraw-Hill, 2014
3. Hunter's Diseases of Occupations. 10<sup>th</sup> ed. Peter J Baxter, Tar-Ching Aw, Anne Cockcroft, Paul Durrington, J Malcolm Harrington. CRC Press

### Assessment Methods

Continuous Assessment: 100%

### **MWA 8021 Disability Assessment (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. analyse the principles of disability assessment based on AMA guidelines and SOCSO guidelines
2. evaluate the level of disability and impairment of individuals for the purpose of compensation and return to work
3. recommend an appropriate programme for return to work in a disabled person

### Synopsis

This course will provide the candidate the skill to conduct Disability and Impairment Assessment and develop return to work programmes.

### Main Reference

1. AMA Guide to the Evaluation of Permanent Impairment, Linda Cocchiarella, Gunnar B.J Andersson. 6<sup>th</sup> Edition, AMA Press, 2010
2. SOCSO. Guidelines on the Diagnosis of Occupational Diseases. 1<sup>st</sup> Ed (Revised), SOCSO, 2009.
3. SOCSO. Guidelines on Impairment and Disability Assessment of Traumatic Injuries, Occupational Diseases and Invalidity. 3<sup>rd</sup> Ed, SOCSO, 2013.
4. Employee's Social Security Act 1969.
5. Fitness for work: the medical aspects. 4<sup>th</sup> Ed. Palmer, Keith T. 2007 Oxford University Press.

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8022 Occupational Lung Diseases (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. identify the types of Occupational Lung Diseases that occur due to workplace exposures
2. diagnose and manage the individual with occupational lung diseases
3. manage return to work and compensation issues in occupational lung diseases

#### Synopsis

The course will provide the candidate the knowledge and skills on the types of occupational lung diseases, diagnosis, management, return to work and compensation issues related to occupational lung diseases.

#### Main Reference

1. A Clinical Guide to Occupational and Environmental Lung Diseases. 1<sup>st</sup> Ed. 2012. Humana Press.
2. Occupational and Environmental Lung Diseases: Diseases from Work, Home, Outdoor and Other Exposures. 1<sup>st</sup> Ed. 2010. Wiley-Blackwell
3. Current Occupational and Environmental Medicine 5<sup>th</sup> ed. 2014 LaDou, Joseph, New York : McGraw-Hill
4. Hunter's Diseases of Occupations. 10<sup>th</sup> ed. Peter J Baxter, Tar-Ching Aw, Anne Cockcroft, Paul Durrington, J Malcolm Harrington. CRC Press
5. Occupational Safety and Health Act 1994 and Regulations. Laws of Malaysia. International Law Book Services 2007
6. AMA Guide to the Evaluation of Permanent Impairment, Linda Cocchiarella, Gunnar B.J Andersson. 6<sup>th</sup> Edition, AMA Press, 2010
7. SOCSO. Guidelines on the Diagnosis of Occupational Diseases. 1<sup>st</sup> Ed (Revised), SOCSO, 2009.

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8023 Occupational Safety and Health Management Systems (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Analyse the OSH management systems and standards like ISO, OSAS 18000 and ILO-OSH MS
2. Evaluate Occupational Health Policy and management systems to the needs of an organisation
3. Recommend OSH management systems in improving safety and health issues in an organisation

#### Synopsis

This course will provide the candidate the knowledge on the International Labour Organisation-Occupational Health Management Systems. The course will include the planning and implementation of the system in an organisation.

#### Main Reference

1. British Standard Institution. Occupational health and safety management systems. Guidelines for the implementation of OHSAS 18001:2015. BSI.
2. Occupational Safety and Health Act 1994 and Regulations. Laws of Malaysia. International Law Book Services 2011

3. Factories and Machinery Act 1967 (Act 139) & regulations and rules : Malaysia. Kuala Lumpur : International Law Book Services, 2013.

#### Assessment Methods

Continuous assessment: 100%

### **MWA 8024 Advanced Epidemiology (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply and analyse the history of epidemiology, epidemiologic concepts, analytical approaches, and interpretation of study results.
2. Identify modelling issues in multivariate regression analysis for etiologic studies (case control and cohort studies).
3. Perform survival analysis, mathematical modelling and the causal theory.

#### Synopsis

Epidemiology provides the scientific basis for much of public health and clinical practice. The current revolution in health care and disease prevention indicates that the demand for valuable results from this field will continue to grow. This module provides in-depth discussion for understanding the common problems faced in the design, conduct and analysis as well as interpretation of research. Topics on causal inferences will be discussed in much wider perspective.

#### Main Reference

1. Lash, T., M. Fox, and A. Fink, Applying Quantitative Bias Analysis to Epidemiological Data. 2009, New York: Springer.
2. Nieto J and Szklo M, Epidemiology: Beyond the Basics 3rd Edition 2014. Burlington, Jones and Bartlett Learning.
3. Myriam Hunink M.G and Weinstein M.C, Decision Making in Health and Medicine: Integrating Evidence and Values 2nd Edition 2014 Cambridge University Press
4. Creswell, J.W, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 4th ed. 2014 Los Angeles: Sage

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8025 Clinical Epidemiology (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. apply the principles and methods of clinical epidemiology and related issues
2. critically appraise the quantitative epidemiology literature, including clinical guidelines and patient-based measures used in clinical setting

#### Synopsis

The aim of the course is to introduce the candidates to make rational evidenced based decisions in clinical practice. Clinical epidemiology attempts to answer clinical questions relevant to the daily practice of medicine and to improve patient care. It focuses on individuals or groups of patients in clinical settings. The tasks of clinical epidemiology in clinical sciences, the concepts, methods and tools will be presented and discussed; particular emphasis will be place on the use of randomised trials and observational study design.

#### Main Reference

1. Adams Simon T, Leveson Stephen H. Clinical prediction rules BMJ 2012; 344 :d8312
2. Grobbee Direderick E, Arno W. Hoes. Clinical Epidemiology, Principles, Methods and Applications for clinical research. Jones and Bartlett. 2014

#### Assessment Methods

Continuous Assessment: 50%  
Final Examination: 50%

### **MWA 8026 Epidemiology of Communicable Diseases (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. Interpret infectious diseases epidemiology, including outbreak investigation, surveillance, analysis of infectious diseases data, and laboratory testing of specimens;
2. Evaluate the different control strategies for infectious diseases, including infection control, antimicrobial management, immunization, risk factor modification, and screening;
3. Apply Infectious Disease Modelling for informed decision-making.

#### **Synopsis**

This course is designed to provide students with an overview of the principles and practices of infectious diseases epidemiology with focus on how the presence and control of communicable diseases affects public health locally, nationally and internationally.

#### **Main Reference**

1. Webber R. Communicable diseases A Global Perspective: 2012.
2. Nelson K, Williams C. Infectious disease epidemiology: theory and practice: Jones and Bartlett Publishers; 2013.
3. Modeling Infectious Disease Parameters Based on Serological and Social Contact Data: A Modern Statistical Perspective (Statistics for Biology and Health) 2012th Edition Niel Hens, Ziv Shkedy, Marc Aerts, Christel Faes, Pierre Van Damme, Philippe Beutels

#### **Assessment Methods**

Continuous Assessment: 50%  
Final Examination: 50%

### **MWA 8027 Epidemiology of Non Communicable Diseases (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. Apply principles of life course approach to non-communicable disease epidemiology
2. Appraise molecular biomarkers in measuring exposure, susceptibility and disease outcomes in epidemiological studies of non-communicable diseases
3. Distinguish between determinants of disease at an individual level and at a population level

#### **Synopsis**

The course is designed to provide an in-depth understanding on the epidemiology of several important non-communicable diseases and conditions. The focus of this course is on the principles and methods of epidemiology and prevention that are of particular relevance to non-communicable diseases. The course introduces the new aspects in epidemiology ie: Mendelian randomization, molecular biomarkers etc.

#### **Main Reference**

1. Lash, T., M. Fox, and A. Fink, Applying Quantitative Bias Analysis to Epidemiological Data. 2011, New York: Springer.
2. Rothman, K., S. Greenland, and T. Lash, Modern Epidemiology. 3rd ed. 2012, Philadelphia: Lippincott Williams & Wilkins.
3. Savitz, D.A. (2011). Interpreting Epidemiologic Evidence: Strategies for Study Design & Analysis New York: Oxford University Press.

#### **Assessment Methods**

Continuous Assessment: 50%  
Final Examination: 50%



### **MWA 8028 Analysis of Rates and Proportions (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. Construct various measures of health occurrences
2. Perform statistical analysis for categorical data
3. Perform statistical analysis for time to event data

#### **Synopsis**

This module will emphasize concepts and methods for analysis of data that are of categorical and rate-of-occurrence (e.g., incidence rate), and time-to-event (survival duration). The module will divide into two parts. The first part covers topics such as measures of association, 2x2 tables, stratification, matched pairs, logistic regression and model building. The second half of the module covers methods for analysis of rates and survival data. These includes hazard, survivor, and cumulative hazard functions, Kaplan-Meier and actuarial estimation of the survival distribution, comparison of survival using log rank and other tests, regression models including the Cox proportional hazards model, adjustment for time-varying covariates, and use of parametric distributions (exponential, Weibull) in survival analysis. Class material will include presentation of statistical methods for estimation and testing, along with current software (Stata, SPSS, SAS) for implementing analysis of survival data. Applications of statistical methods will be emphasized.

#### **Main Reference**

1. Bernard Rosner. Fundamentals of Biostatistics. 6th Edition. Duxbury Thomson Learning. 2015.
2. David G Kleinbaum, Mitchel Klein. Survival Analysis: A Self-Learning Text. 3rd Edition, Springer 2011.
3. Multivariate Data Analysis. 6<sup>th</sup> Edition. Hair JF, Black WC, Babin BJ, Anderson RE, Tatham RL, Pearson Prentice Hall 2006.
4. Hosmer D.W. and Lemeshow, S. Applied Logistic Regression. 2<sup>nd</sup> Edition. John Wiley & Sons. 2000.

#### **Assessment Methods**

Continuous Assessment: 100%

### **MWA 8029 Statistical Computing (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. manage and process data in terms of secure and safe storage, data cleaning and data editing.
2. perform appropriate statistical analyses for the right type of data
3. create and use codes (syntax/commands) in performing data analysis operations

#### **Synopsis**

This module will emphasize concepts and methods for analysis of data by the use of statistical program. In this course the students are exposed to current statistical program i.e. Stata, SPSS, SAS. It is a prerequisite that the students have already acquired a good understanding of basic principles of statistics before using such programs.

#### **Main Reference**

1. Bernard Rosner. Fundamentals of Biostatistics. 6th Edition. Duxbury Thomson Learning. 2015.
2. Hosmer D.W and Lemeshow S. Applied Logistic Regression. Wiley, 2013.
3. Neil H.S, Essentials of Multivariate Data Analysis, 2013

#### **Assessment Methods**

Continuous assessment: 80%

Final Examination: 20%

### **MWA 8030 Introduction to Meta-Analysis (3 credits)**

#### **Learning Outcomes**

At the end of this course, the candidate is able to:

1. develop a protocol of conducting meta analysis



2. develop search strategies and critically appraise the evidence
3. interpret statistical methods used to pool estimates
4. explain heterogeneity and meta regression

#### Synopsis

This is an introduction of meta-analysis and is concerned with the use of existing data to inform clinical decision-making and health care policy, the course focuses on research synthesis (meta-analysis). The principles of meta-analytic statistical methods are reviewed, and the application of these to data sets is explored. Application of methods includes considerations for clinical trials and observational studies. The use of meta-analysis to explore data and identify sources of variation among studies is emphasized, as is the use of meta-analysis to identify future research questions.

#### Main Reference

1. Micheal Borenstein, Larry V.H, Introduction to Meta Analysis;Kindle Edition; 2011.
2. Flora H, James M, Handbook for Clinical Research: Design, Statistics, and Implementation: Paperback; 2014.
3. Mike W.L, Meta-Analysis: A Structural Equation Modelling Approach.Wiley;2015

#### Assessment Methods

Continuous Assessment: 50%

Final Examination: 50%

### **MWA 8031 Principles of Clinical Trials (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. critique a clinical trial
2. Design and prepare a proposal for clinical trial
3. Conduct a clinical trial

#### Synopsis

The module is designed for individuals interested in the scientific, policy, and management aspects of clinical trials. This provides an understanding of the principles of clinical trials. Topics include the types of clinical research, organization, study design, treatment allocation, randomization and stratification, quality control, protocol adherence and compliance, sample size requirements, patient consent, and interpretation of results. It will also cover ethical considerations, safety data reporting and data collection techniques. Students design a clinical investigation in their own field of interest, write a proposal for it, and critique recently published medical literature.

#### Main Reference

1. Friedman L, Furberg C, Demets D. Fundamentals of Clinical Trials: Springer-Verlag GmbH; 2014
2. Hulley S. Stephen R, Designing clinical research: Lippincott Williams & Wilkins; 2013.
3. Cleophas T, Zwinderman A, Cleophas T, Cleophas E. Statistics Applied to Clinical Trials: Springer; 5<sup>th</sup> Edition. 2012.

#### Assessment Methods

Continuous assessment: 100%

### **MWA 8032 Qualitative Methods in Health Research (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Apply qualitative methodologies in their research projects
2. Critically appraise quality of qualitative research in the literature.
3. Discuss ethical issues in the conduct of qualitative research

#### Synopsis

This course is mainly concerned with the development of capacities and skills in using a range of qualitative research techniques in health. It is expected that the students will be familiar with the theoretical foundations of qualitative research and common methods of data collection, sampling techniques, validity, ethical issues, and data analysis to apply in their research projects. The unit also

seeks to enhance students' knowledge and skills to critically assess qualitative research by the end of the course.

#### Main Reference

1. Deborah K. Qualitative and Mixed Methods in Public Health. Sage Publications.2011.
2. Gregory S, Emily N, Public Health Research Methods; Sage Publications.2014
3. Pope C & Mays N. Qualitative research in health care. 3<sup>rd</sup> edition. Blackwell Publishing. 2008.

#### Assessment Methods

Continuous assessment: 100%

### **MWA 8033 Critical Readings and Special Topics in Epidemiology (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. critically appraise hybrid study designs that can be used for data collection;
2. synthesize scientific evidence to refute research questions; and
3. critically appraise scientific articles for errors and bias

#### Synopsis

This course examines common problems in the design, analysis, and interpretation of observational studies. Problems of exposure and disease definitions, time-dependent effects, confounding, and misclassification are considered in the light of data sources typically available. Relevant statistical methods are discussed. The module also discusses the surge of epidemiology activities, its expanded scope and influence to other disciplines.

#### Main Reference

1. Ann A, George R.S, Essential of Epidemiology in Public Health; 3<sup>rd</sup> Edition, Jones and Barlette; 2013
2. Rothman K, Greenland S, Lash T. Modern epidemiology: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2012.
3. Diederick E Grobbee & Arno W.Hoes. Clinical epidemiology: Principles, Methods and Applications for Clinical Research. Jones & Bartlett Publishers, Boston. 2009.

#### Assessment Methods

Continuous Assessment: 100%

### **MWA 8034 Nutritional Epidemiology (3 credits)**

#### Learning Outcomes

At the end of this course, the candidate is able to:

1. Conduct various methods of nutritional assessments
2. Analyse nutritional data
3. Apply the principles of nutritional epidemiology to clinical practice

#### Synopsis

This course is designed for candidates who are interested in conducting or better interpreting epidemiologic studies relating diet and nutrition to health and disease. There is an increasing awareness that various aspects of diet and nutrition may be important contributing factors in chronic disease. This course aims to examine epidemiologic methodology in relation to nutritional measures, and to review the current state of knowledge regarding diet and other nutritional indicators as etiologic factors in disease.

#### Main Reference

1. Rothman K, Greenland S, Lash T. Modern epidemiology: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2012.
2. Willett W. Nutritional epidemiology: Oxford University Press; 2013
3. Edelman S, Shalrin J. Life cycle nutrition: an evidence-based approach: Jones and Bartlett Publishers; 2009.

4. McNaughton S, Exercise DUSo, Program NSFL, Deakin University. Faculty of Health M, Nursing, Program BSFL. Nutritional epidemiology: Study guide and readings: Deakin University; 2007.
5. Gibson R. Principles of nutritional assessment: Oxford University Press; 2005.

#### Assessment Methods

Continuous Assessment: 50%

Final Examination: 50%

## **K. PATHMARAJAH MEMORIAL AWARD**

The K. Pathmarajah Memorial Award is an annual award established from the income of a fund of RM10,800.00 donated by members of the Manipal Alumni Association, family and friends in memory of the late Dr. K. Pathmarajah formerly lecturer in the Faculty of Medicine.

### **Rules**

1. The K. Pathmarajah Memorial Award shall be awarded to the best student in the Part II Examination for the Degree of Master of Anesthesiology.
2. The award shall be made by the Senate on the recommendation of the Board of Examiners for the examination concerned.
3. The award shall take the form of a gold medal up to a value of RM500.00.
4. The gold medal shall not be awarded in any academic year if no candidate is deemed worthy of the award. In such event the funds available for that academic year shall be carried forward for additional awards in any subsequent academic year if there is more than one candidate worthy of the award.

## **DR. RANJEET BHAGWAN SINGH AWARD**

The Dr. Ranjeet Bhagwan Singh Award has been established from the income of a fund of Ringgit 5,000 donated to the University of Malaya by Dr. Ranjeet Bhagwan Singh for award to the best student in the Master of Pathology Examination.

### **Rules**

1. The Dr. Ranjeet Bhagwan Singh Award shall take the form of a gold medal which shall be awarded annually by the Senate of the University of Malaya to the best student in the Master of Pathology Examinations.
2. The award shall be made by the Senate on the recommendation of the Board of Examiners concerned.
3. No award shall be made if there is no candidate of sufficient merit in any academic year. In such event, the fund available shall be carried forward to provide for an additional award in another year if there are more than one candidate of sufficient academic merit.
4. The cost of the award shall be met from the income derived annually from the donation.

## **MASTER OF RADIOLOGY PRIZE**

The Master of Radiology Prize was established with a donation of Ringgit Ten Thousand from Pribumi Sdn. Bhd. and Ringgit Five Thousand from Meditel Electronics Sdn. Bhd. to the University of Malaya. The prize will be awarded annually to a student with the best overall achievement in the Master of Radiology Program based on the final examination for the degree of Master of Radiology. The cost of the prize will be met from the income derived annually from this donation.

### **Rules**

1. The Master of Radiology Prize shall be awarded annually to one student with the best achievement in the Program based on the final examination for the Degree of Master of Radiology.
2. The award shall be made by the Senate on the recommendation of the Board of Examiners concerned.
3. A candidate who has failed in any of the Part I, Part II or Final Assessment shall not be considered for this prize.
4. The first award shall commence based on the academic achievement of the student in the examination for the 2001/2002 Academic Session.
5. The prize will be in the form of cash with a value of RM600.00.
6. No award shall be made in any academic year if there is no candidate of sufficient academic merit. In such an event, the funds available will be carried forward to provide for additional awards in any subsequent academic year where there is more than one candidate of sufficient merit.

### **MASTER OF MEDICAL PHYSICS PRIZE**

The Master of Medical Physics Prize was established with a donation of Ringgit Ten Thousand from Primabumi Sdn. Bhd. and Ringgit Five Thousand from Meditel Electronics Sdn. Bhd. to the University of Malaya. The prize will be awarded annually to a student with the best overall achievement in the Master of Medical Physics Program based on the final examination for the degree of Master of Medical Physics. The cost of the prize will be met from the income derived annually from this donation.

### **Rules**

1. The Master of Medical Physics Prize shall be awarded annually to one student with the best achievement in the Program based on the final examination for the Degree of Master of Medical Physics.
2. The award shall be made by the Senate on the recommendation of the Board of Examiners concerned.
3. A candidate who has failed in any of the Semester I or Semester II Examination shall not be considered for this prize.
4. The first award shall commence based on the academic achievement of the student in the examination for the 2001/2002 Academic Session.
5. The prize will be in the form of cash with a value of RM600.00.
6. No award shall be made in any academic year if there is no candidate of sufficient academic merit. In such an event, the funds available will be carried forward to provide for additional awards in any subsequent academic year where there is more than one candidate of sufficient merit.

### **DR. JOHN BOSCO AWARD**

The John Bosco Award is an annual award established from the John Bosco Memorial Fund which was started with donations from family and friends of the late Professor John Bosco, former head of the Department of Medicine.

#### **Rules**

1. The John Bosco Award is to be given to the best and most worthy candidate who passes the part II and final examination for the degree of Master of Internal Medicine. He or she must not fail in any section of the exams clinical or written and the candidate should show consistent performance through his or her training .
2. The award shall be in the form of a book prize and the total value of RM2000.00.
3. Dr. John Bosco award shall be made on every session by the Senate on the recommendation of the Board of Examiners concerned.
4. The award may be withheld if no candidate is deemed to be of sufficient merit in any academic year. In such event, the fund shall be carried forward to provide for an additional award in another year if there is more than one candidate of sufficient academic merit.

nfzl/Update 9.11.2018

NO	CODE		MASTERS' PROGRAMMES	YEAR OFFERED	YEAR							1970 - 2018		GRAND TOTAL
	Admission	Programme			1970-2012	2013	2014	2015	2016	2017	2018	M'sian	International	
1	M01	MGG	Obstetrics and Gynaecology	1987/1988	139	6	11	12	10	7	13	183	15	198
2	M02	MGE	Anaesthesiology	1987/1988	203	18	26	22	31	19	24	333	10	343
3	M03	MGH	Paediatrics	1988/1989	81	18	9	12	12	12	21	160	5	165
4	M04	MGF	Internal Medicine	1988/1989	151	5	13	13	23	17	17	222	17	239
5	M05	MGC	Psychological Medicine	1973/1974	107	7	5	4	14	9	7	148	5	153
6	M06	MGM	Radiology	1992/1993	152	15	13	11	22	16	19	237	11	248
7	M07	MGD	Surgery	1989/1990	143	21	9	14	14	9	18	215	13	228
8	M08	MGL	Ophthalmology	1992/1993	105	9	12	11	10	11	10	158	10	168
9	M09	MGI	Orthopaedic Surgery	1989/1990	166	7	13	17	11	19	21	238	16	254
10	M10	MGK	Otorhinolaryngology - Head & Neck Surgery	1992/1993	88	10	6	13	10	2	13	123	19	142
11	M11	MGA	Pathology	1973/1974	137	16	6	3	0	-	-	154	8	162
			Pathology (Anatomic Pathology)		-	-	-	4	2	5	4	15	0	15
			Pathology (Chemical Pathology)		-	-	-	1	0	3	3	7	0	7
			Pathology (Forensic Pathology)		-	-	-	0	0	0	1	1	0	1
			Pathology (Haematology)		-	-	-	1	1	4	4	10	0	10
			Pathology Medical Microbiology)		-	-	-	4	2	2	1	9	0	9
12	M12	MGJ	Family Medicine	1989/1990	83	12	14	9	13	17	9	155	2	157
13	M13	MGB	Public Health	1973/1974	599							1970 – 2011		
												420	179	599
		SPECIALITY	Public Health (Hospital Management)	1998/1999	0							0	0	0
			Public Health (Epidemiology)	1998/1999	21							19	2	21
			Public Health (Family Health)	1998/1999	24							20	4	24
			Public Health (Health Services Management)	1998/1999	18							16	2	18
			Public Health (Occupational Health)	1998/1999	26							26	0	26
		MGR	Medical Science in Public Health	1997/1998	97							34	63	97

NO	CODE		MASTERS' PROGRAMMES	YEAR OFFERED	YEAR							1970 – 2018			GRAND TOTAL
	Admission	Programme			1970-2012	2013	2014	2015	2016	2017	2018	M'sian	International		
	M13	MGX	Public Health (Semester System)	2009/2010	96	20	22	23	22	19	12	143	71		214
		MQD		2017/2018	-	-	-	-	-	-	17	17	0		17
14		MGY	Science in Public Health (Semester System)	2009/2010	15	7	7	7	9	7	11	44	19		63
15	M14	MGO	Sports Medicine	1996/1997	17	4	3	4	7	5	7	47	0		47
16	M15	MGP	Rehabilitation Medicine	1997/1998	43	11	5	8	10	6	13	95	1		96
17	M16	MGV	Emergency Medicine	2005/2006	31	17	16	28	18	11	17	106	32		138
18	M19	MGT	Clinical Oncology	2003/2004	19	3	3	3	6	6	4	44	0		44
19	M20	MGU	Paediatric Surgery	2005/2006	8	3	4	3	7	7	5	33	4		37
20		MGQ	Medical Physics	1997/1998	56	5	7	7	13	12	14	104	10		114
			Medical Physics (Research)		1	0	0	0	1	-	-	2	0		2
21		MGS	Medical Science in Clinical Pathology*	2000/2001	43	7	0	0	1	-	-	0	51		51
22		SPECIALITY	Medical Science in Clinical Pathology (Histopathology)*	2003/2004	19	1	2	1	0	1	-	0	24		24
23			Medical Science in Clinical Pathology (Forensic Pathology)*	2003/2005	1	0	0	0	0	-	-	0	1		1
24			Medical Science in Clinical Pathology (Medical Microbiology)*	2003/2006	6	2	0	0	0	-	-	0	8		8
25			Medical Science in Clinical Pathology (Haematology)*	2003/2007	12	3	4	0	0	-	-	0	19		19
26		MGW	Nursing Science	2006/2007	42	17	15	16	21	18	13	125	17	142	
27		MGN	Medical Science (Research)		246	47	34	24	56	50	33	441	49	490	
			Medical Science (Mix Mode)	2007/2008	0	0	1	0	0	2	2	5	0	5	
DOCTORATE DEGREE															
28		MHB	Doctor of Medicine		35	1	0	0	0	1	0	37	0		37
29		MHA	Doctor of Philosophy		106	37	27	33	41	62	53	241	118		359
30		MHC	Doctor of Public Health	2009/2010	0	5	2	3	15	11	11	45	2		47
TOTAL					3136	334	289	311	402	370	397	4432	807		5239

Notes :

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Programmes offered for International candidates only.

Update:9.11.2018



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|----|--|
| 1  | TAN SRI DANARAJ MEDICAL LIBRARY                      |
| 2  | IMAGING LABORATORY                                   |
| 3  | BIOMEDICAL IMAGING DEPARTMENT                        |
| 4  | MULTIDISCIPLINARY LABORATORIES                       |
| 5  | CLINICAL 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

## **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 serve 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.

- |    |                              |
|----|------------------------------|
| 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 12<sup>th</sup> 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 Baktisiswa 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**

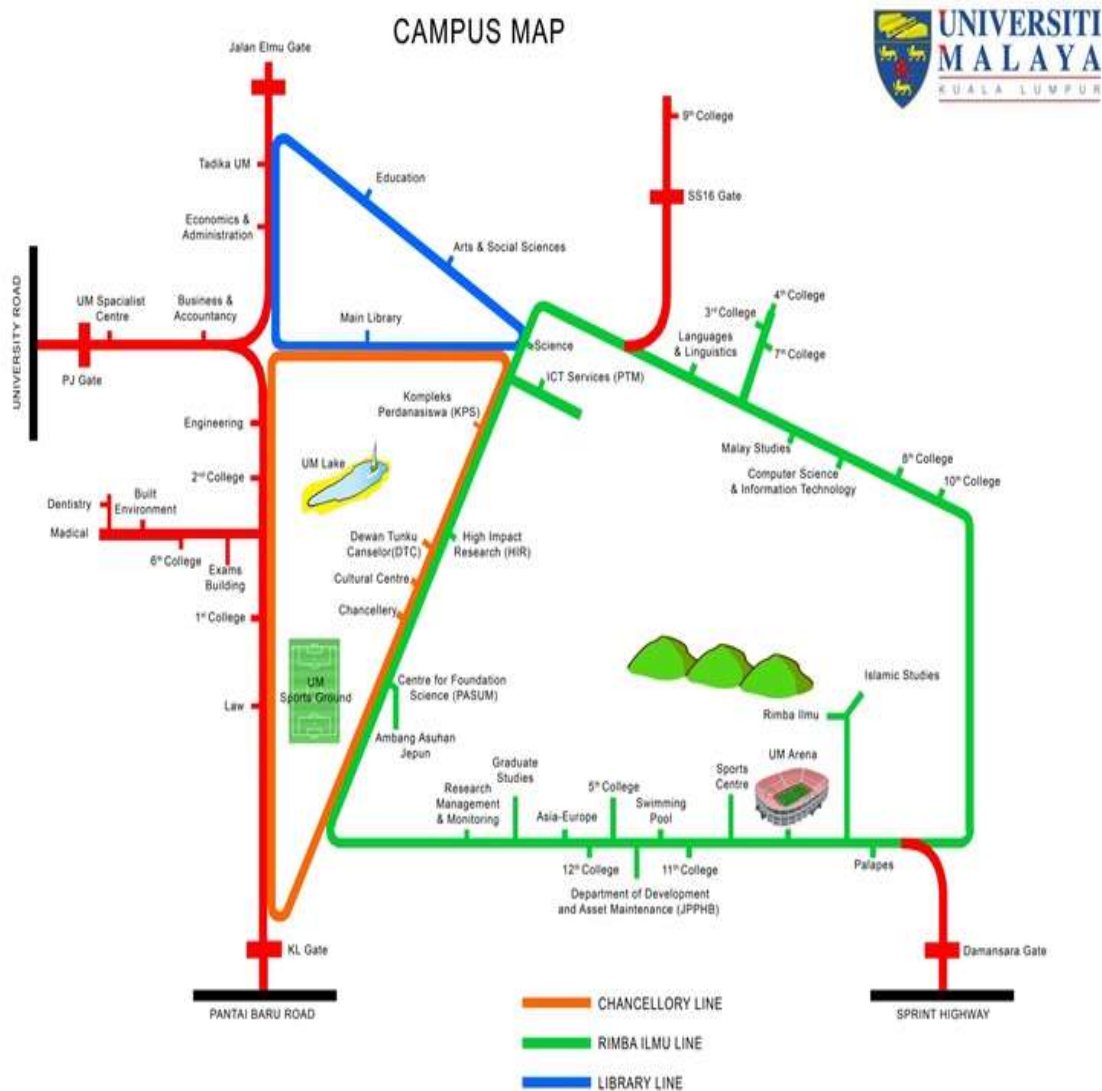
These shops are available on the first and ground floor of the main hospital block.

### **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 examination building in the campus.







JULY 2014

Prepared by: Mohd Sahabudin M Zin

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*THANK YOU*  
PREPARED BY;

**POSTGRADUATE SECTION, DEANS OFFICE**

FACULTY OF MEDICINE  
UNIVERSITY OF MALAYA