

UQUMED

MBBS Program

Year 2 Study Guide



UQUMED Academic
Year (2019-2018)-(1440-1439)

2

Year

Study Guide



This study guide was developed by the
Faculty of Medicine, Umm AlQura University
2018

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Table of Contents

Important contact :	6
Administrative structure of Year 2	7
General Introduction of UQU MED Reformed MBBS Curriculum	8
General Learning Outcomes of the Program	8
General Structure and Outline of the Program:	10
Year 2 (Fundamentals of Clinical Science-1)	11
Introduction	11
Structure of Year 2	12
Methods of Teaching and Learning	13
Learning Projects:	14
Clinical exposure:	14
Consolidation, Integration and Feedback (CIF) Week:	15
Assessment	15
Learning Resources:	17
Timetable :	20
Vertical Modules (VM)	23
VM Learning Outline	23
Hajj and Umrah	23
Research and Evidences	25
Clinical Skills	26
Professional Development	27
Anatomy and Imaging	28
Pathological Sciences	29
Use of Medicine	29
VM Teaching methodologies:	30
VM Assessment:	30



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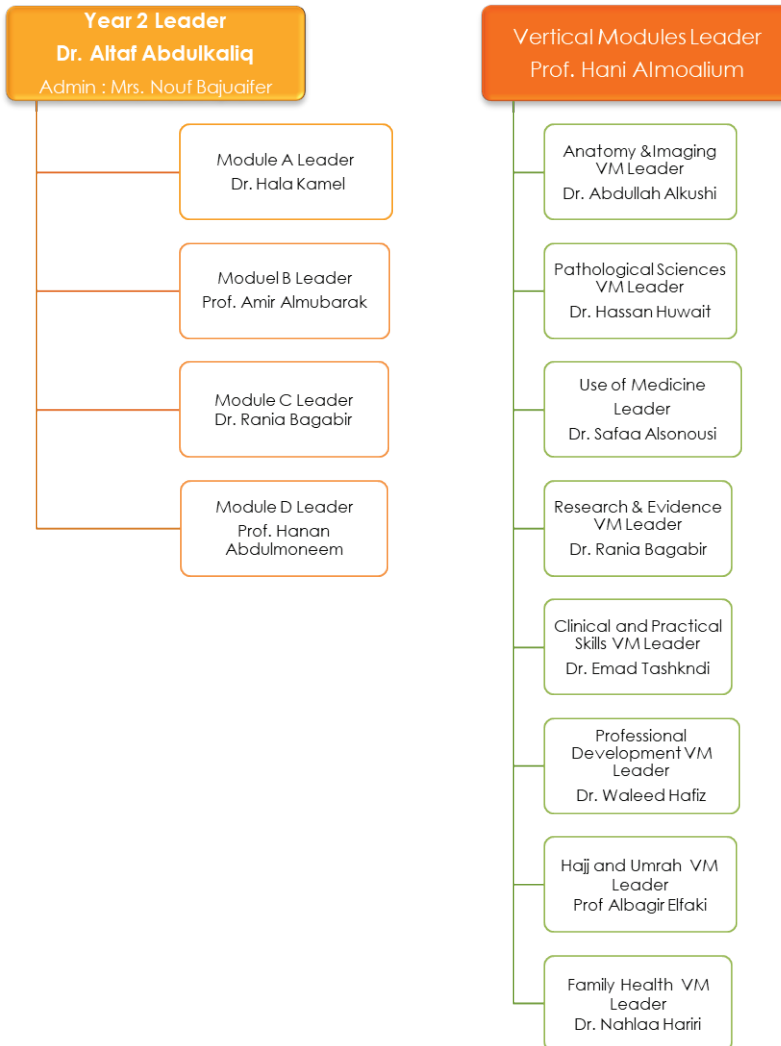
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📍 UQUMed building 3: Training and Medical Education
Medical Education Department



Administrative structure of Year 2





General Introduction of UQU MED Reformed MBBS Curriculum

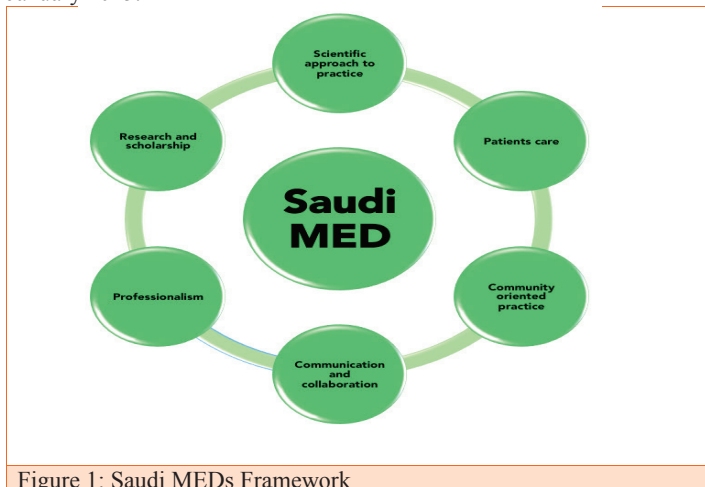
The mission of the UQUMED MBBS program is "to provide medical education of the highest quality according the national and international standards to foster the development of doctors who are able to meet and respond to the health needs and expectation of the Makkah and Saudi Community, and will be well prepared to enter postgraduate training to expand their competencies.

The reformed MBBS curriculum starts in September 2016 to fulfil the following principles:

- To develop a student-centred curriculum
- To develop an integrated curriculum; both in terms of content and learning experiences
- To develop a spiral curriculum; that builds on prior learning
- To develop a clinical-oriented curriculum; with a focus on the practice of medicine in all learning activities and early clinical exposure
- To ensure that graduates are scientifically literate
- To ensure that graduates fulfil the *Saudi MED* competencies
- To develop an assessment *for* learning approach

General Learning Outcomes of the Program

The learning outcomes for the UQUMED Program of Bachelor of Medicine and Surgery "MBBS" are designed to fulfil the Saudi Medical Education Directives Framework "Saudi MEDs", which is approved by the Deanery of Medical Colleges and the Ministry of Education date January 2015.





The following domains are the overall outcomes of the UQU Med MBBS program to be fulfilled by the graduates of the six-year program:

Domain I: Scientific Approach to Practice

1. Demonstrate a genuine understanding of, and an ability to integrate, the basic, clinical, behavioral and social sciences in medical practice
2. Assess evidence critically to deliver evidence-based health care
3. Consider how knowledge of disease pathology is applied in care and prevention

Domain II: Patient care

1. Demonstrate competence in a range of core clinical and practical skills essential for patient care
2. Demonstrate clinical reasoning, decision making, and problem solving skills
3. Diagnose and manage, under supervision, a range of life-threatening medical conditions
4. Diagnose and manage, under supervision, a range of common clinical problems
5. Employ a patient-centered approach of practice
6. Be able to assess patients' healthcare needs, taking into account their physical and mental health and personal and social circumstances, and apply their knowledge and skills to synthesize information from a variety of sources in order to reach the best available diagnosis and understanding of the patient's problem

Domain III: Community oriented practice

7. Demonstrate understanding of the healthcare system in Saudi Arabia
8. Advocate for, and contribute to, health promotion and disease prevention
9. Demonstrate and understanding of, and contribute effectively to, the challenge of pilgrims' welfare during Hajj and Umrah seasons

Domain IV: Communication and Collaboration

10. Effectively communicate with patients, colleagues, and other health professionals
11. Appreciate, and act effectively in, teamwork and inter-professional collaboration
12. Apply an understanding of basic medical informatics in healthcare systems
13. Demonstrate an understanding of cultural diversity, and recognize any possible cultural biases in healthcare

Domain V: Professionalism

14. Adhere to the professional attitudes and behaviors expected of physicians
15. Comply with the Islamic, legal, and ethical principles of professional practice
16. Be prepared to undertake personal and professional development



Domain VI: Research and scholarship

17. Demonstrate competence in basic research skills
18. Demonstrates a commitment to scholarly pursuits and continuing professional activity

General Structure and Outline of the Program:

UQUMED reformed MBBS is a six-year annual program, in addition to an internship year. The program consists of three phases

- Phase I: the Preparatory foundation (Year1)
- Phase II: the integrated clinical sciences and practice (Year 2-6)
- Phase III: the internship (Year 7)

The second phase of the MBBS program (integrated clinical sciences and practice phase) provides opportunities for students to develop competencies consistent with the *Saudi MED* competence-based framework via an integrated curriculum that encompasses both horizontal modules and longitudinal 'vertical' modules within a five-year learning program.

Each year of this phase consists of a number of multi-disciplinary horizontal modules that are delivered collaboratively by multiple academic departments within the Faculty of Medicine. In addition, there are eight vertical modules that run along the five-year program, from year-2 to year-6.

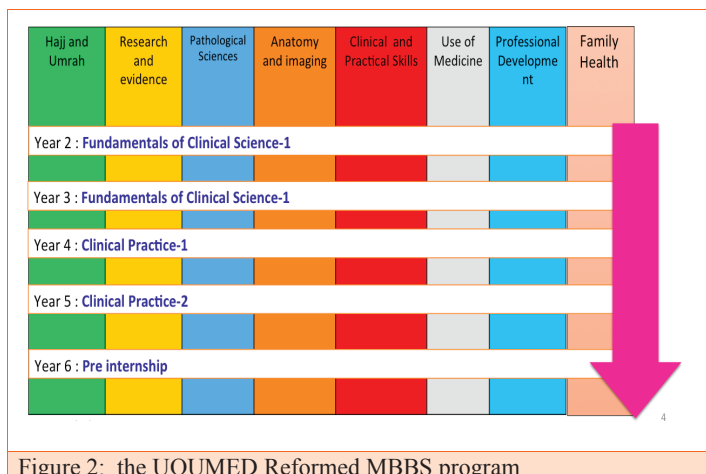


Figure 2: the UQUMED Reformed MBBS program



Year 2 (Fundamentals of Clinical Science-1)

Introduction

The two years that make up the Fundamentals of Clinical Science phase of the program (Years 2 - 3) provide an underpinning learning experience in basic clinical sciences and the foundations of learning in the vertical modules that run through all years of the curriculum. Learning is delivered as a series of sequential, integrated, systems-based modules. Each module is based around a physiological system and provides integrated teaching across disciplines. Each horizontal module is integrated with the learning within the vertical modules, and is designed to build on knowledge and skills learnt in previous modules. There are opportunities for early patient exposure and for meeting health professionals to allow students to keep preparation for the practice of medicine firmly in sight.

The aim of the Fundamentals of Clinical Science level is to enable students to:

- Gain a firm understanding of the scientific knowledge and principles that are relevant to, and essential for, excellence in clinical practice
- Develop an understanding of science in the context of its application to clinical medicine, organized according to physiological and functional systems (e.g., Circulation and Breathing) rather than according to academic disciplines (e.g., physiology, biochemistry and anatomy)
- Understand the application of science to medicine and have the skills to appreciate methods of scientific research; thereby enabling students to appreciate and understand future advances in medicine.
- Develop the key skills required for data collection and analysis, information retrieval and use of electronic databases, problem solving, report writing and presentation of information and case reports.
- Have opportunities to appreciate the ethical, social and legal dimensions of medicine.
- Have an opportunity for early patient contact and start to develop the foundations of the professional skills required for good patient care and safety.
- Start to develop an understanding of the value of health education, preventive medicine and the natural history of disease.
- Demonstrate understanding of challenge of pilgrims' welfare and have opportunity to contribute to some extent in pilgrims' welfare
- Gain a good foundation for learning in the later years of the program



The Fundamentals of Clinical Science level will be achieved in Year 2 through:

- An Introduction and Orientation Module to Year 2
- A Foundations of Health and Medical Practice Module, to provide essential core systems knowledge and an introduction to learning in medicine
- Systems based learning in horizontal modules: Infection and Defense, Circulation and Breathing, and Fluids, Nutrition and Metabolism that occur in sequential blocks during the year
- Vertical modules that are on-going throughout the year and extend into the latter years of the programme
- Maintenance of a portfolio and practical procedures checklist
- Written and practical summative assessments intra-block and end of the year comprehensive exams
- An Introduction and Orientation sessions to Year 3 which will take place at the end of Year 2, including opportunities for early clinical practice

Structure of Year 2

The year begins with an Introduction and Orientation week. This will include a general introduction and orientation to the medical school and learning medicine, and specific information about Year 2 concerning the studying modules with their themes, the teaching modalities, and the in-course and end of year assessments.

From week 2 of the academic year, students will then complete studying the contents of four horizontal modules that are distributed over the academic year. Each module consists of certain numbers of weeks, where each week has specific theme on which the topics of the week are built. The last week of the module called Consolidation, Integration, and Feedback (CIF) week, during which all provided scientific and clinical concepts will be wrapped up in a clinical case discussion to achieve the optimum consolidation of the medical information and the perfect integration of medical sciences with clinical practice.

In addition, students will be introduced to the vertical modules (VM), which will be taught throughout MBBS programme, where teaching fits best with the rest of the curriculum from Year 2 to Year 6. All vertical modules' contents are designed to be relevant to the themes and contents of horizontal modules, and embedded within their weekly schedules. General University required subjects will be also introduced and studied within the horizontal modules throughout the year, and they include Islamic Culture, Holy Qur'an, Prophet's Life, and Arabic Language.



The Horizontal Modules include the following:

- Foundations of Health and Medical Practice
Consists of 7-week-module, taught during the first semester
- Infection and Defense
Consists of 6-week module, taught during the first semester
- Circulation and Breathing
Consists of 8-week-module, taught during the second semester
- Fluids, Nutrition and Metabolism
Consists of 8-week-module, taught during the second semester

The Vertical Modules include the following:

1. Hajj and Umrah
2. Research and Evidence
3. Anatomy and Imaging
4. Pathological Sciences
5. Use of Medicine
6. Clinical and Practical Skills
7. Professional Development

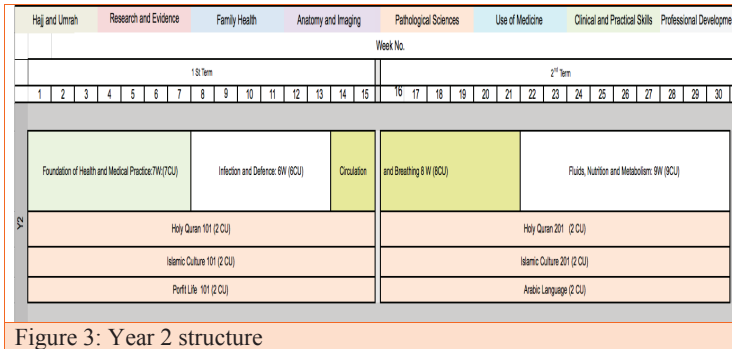


Figure 3: Year 2 structure

Methods of Teaching and Learning

The program aims to adopt student-centred leaning approaches and uses many interactive learning strategies in addition to the interactive lectures.

In Year 2 of the MBBS program, students are exposed to various learning approaches that include large and small group teaching. Students are expected to be involved effectively in the learning process.

Students’ learning opportunities;

- Lectures
- Case-based Learning
- Flipped-classes
- Tutorials and workshops





- Learning projects
- Fieldwork visit
- Self-paced learning tasks and directed self-learning

Learning Projects:

Learning project is a required task that is developed by students to fulfil specific leaning outcomes related to Vertical Modules (VM) within the Horizontal Module (HM). Each student must complete two leaning projects, each of which is related to one of the main themes.

Students will be divided into groups. Each group are expected to deliver three projects of the following themes:

- Research and evidence of health promotions , and professional and personal development
- Pathological Processes project

To accomplish a learning project, students will be addressed to discuss a topic, which will be assigned by the module lead, related to one of the mentioned themes. Then they must design a project to;

- Apply and disseminate research findings
- Design a Campaign,
- Design and produce educational materials (printed- Audi visual), or
- Develop oral presentation or written essay of a given theme

Learning projects will be presented in a form of written report and an educational outcome that will be presented and discussed in a small symposium. The learning projects mark will be part of the portfolio. Each student will be evaluated independently on his/her individual contribution to the project and teamwork collaboration.

Clinical exposure:

The reformed MBBS is mainly focusing on the early clinical exposure and patient-centre practice. Thus from Year 2 of the program, students are introduced to the clinical environment.

Aim of the clinical exposure in Year 2:

- Experience the different environments, where medicine is practised
- Indicate the importance of patient safety and the role that they play in this
- Develop the communication skills they need to interact with patients, carers and other healthcare workers and understand the impact of their own behaviours and communication
- Understand how ethical principles support patient encounters

How could you be involved effectively in your learning?



- Understand what constitutes professional behaviour in the clinical setting
- Recognise how communication and interactions with others may affect them personally, and develop coping mechanisms for this
- Develop the skills of lifelong, reflective learning

Consolidation, Integration and Feedback (CIF) Week:

The Year 2 curriculum will include four CIF weeks that will take place at the end of the integrated modules. Some of the material during these weeks will be based around case studies or discussion. The four CIF weeks have been designed to allow:

- Revision and consolidation of key facts and concepts from the preceding module(s)
- Integration of learning during the preceding module with other horizontal modules and/or related vertical modules
- Opportunities for formative assessment of learning in the preceding module(s), and for following up their performance of portfolio
- Feedback relating to assessment and progress
- Students also present their learning projects, which are related to one of the related vertical themes. By the end of Year 2, each student will participate within group of 4-6 students in delivering or presenting three learning projects.


Assessment

The nature of the reformed UQUMed MBBS curriculum in phase 2 (years 2-6) is an annual system. Successful completion of in-year and end of year exams, and compulsory course requirements is essential to allow progression to the next year of study. Since the curriculum is integrated vertically and horizontally, exams are integrated as well.

The assessment system is consisted of formative and summative evaluation of students' progress.

Formative assessment has no assigned marks. By the end of each block there will be compulsory in-course formative assessments. The objectives of these assessments are both to stimulate efficient learning and to provide students with the opportunity to experience assessments under examination conditions.

Summative assessment in Year 2 consists of the following:



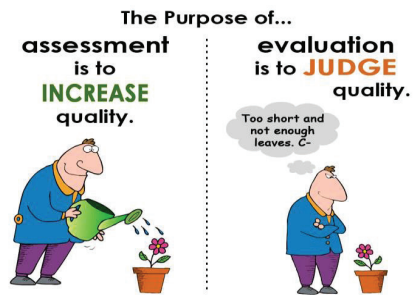
Portfolio

"A portfolio collection of a student's work, which provides evidence of the achievement of knowledge, skills, appropriate attitudes and professional growth through a process of self-reflection over a period of time"

Davis et al 2009



Portfolio	10%
Summative Assessment 1 & 2 (Module A&B)& (Module C&D)	10%
Final Comprehensive	80%
Written Exam (2 Papers)	50%
Clinical & Practical	30%





Learning Resources:

The following learning resources are the general references for each subjects, however, may some leaning sessions have otherwise specific reference, the resources will be clearly stated.

Subjects	References
Anatomy, Embryology, and Histology	<p>Textbooks:</p> <ol style="list-style-type: none"> 1. <i>Clinical Anatomy by Regions</i> - Authors: Richard S. Snell 9th edition, 2015 2. <i>Langman's Medical Embryology 12th Edition (2012)</i>: T W Sadler; Jan Langman Philadelphia : Wolters Kluwer Health/Lippincott Williams & Wilkins 3. <i>Histology: A Text and Atlas: With Correlated Cell and Molecular Biology</i> by Ross and Pawlina, 7th edition, 2015, Wolters Kluwer <p>Recommended References:</p> <ol style="list-style-type: none"> 1. <i>Grays Anatomy for Students</i>: Richard L. Drake, Wayne Vogl, Adam W. M. Mitchell: 3rd edition, 2015. 2. <i>Grant's Atlas</i>: Anne M. R. Agur, Arthur F Dalley II; 13th edition, 2011 3. <i>Color Textbook of Histology (2007)</i> : 3 rd EDITION by Leslie P. Gartner and James L. Hiatt. W.B. Saunders Co.
Haematology and Immunology	<p>Textbooks:</p> <ol style="list-style-type: none"> 1-Kumar and Clark's clinical medicine seventh edition (2009) 2-Cellular and molecular immunology by Abbas, Lichtman and Pillai, 8th edition <p>Recommended References :</p> <ol style="list-style-type: none"> 1-Hoffbrand's essential hematology seventh edition (2016) 2- Basic immunology: functions and disorders of the immune system by Abul K Abbas and Andre H. Lichtman, 5th edition
Biochemistry	<p>Textbook:</p> <p>1-Lippincott's Illustrated Reviews: Biochemistry 6th ed. (2014) By Pamela C Champe, Richard A Harvey, Denise R Ferrier.</p> <p>Recommended References:</p> <ol style="list-style-type: none"> 1- Harpers Illustrated Biochemistry 30 ed., 2015 Victor Rodwell ,David Bender , Kathleen M. Botham , Peter J. Kennelly , P. Anthony Weil 2-Clinical Biochemistry: An Illustrated Color Text, (5th e) by Allan Gaw , Michael J. Murphy , Robert A. Cowan and Denis St. J. O'Reilly (2013)



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Microbiology	<p><u>Textbooks:</u> 1- Medical Microbiology by David Greenwood et al., (2012), 18th edition 2-Human Virology by Leslie Collier, Jhon Oxford and Paul Kellam, 4th edition, Oxford University press 3-Medical Microbiology by atrick R. Murray, Ken S. Rosenthal, and Michael A. Pfaller, 8th Edition</p> <p><u>Recommended References:</u> 1- Mims' Medical Microbiology, By Richard Goering, Hazel Dockrell, Mark Zuckerman, Ivan Roitt and Peter L. Chiodini, 5th Edition 2- Infection and immunity by Jhon H. L. Playfair, 2nd edition</p>
Parasitology	<p>Parasitology for medical and clinical laboratory professionals BY John W. Ridley, 1st edition</p>
Pathology	<p>Robbins Pathological Basis of Diseases by Vinay Kumar et all., 9th edition, Saunders Ltd.</p>
Pharmacology	<p><u>Textbook:</u> Lippincott's Illustrated Reviews: Pharmacology, 6th edition (2015), Karen Whalen, ISBN-13: 978-1451191776 , ISBN-10: 1451191774</p> <p><u>Recommended References:</u> Basic and Clinical Pharmacology, 13 edition, (2014), Bertram Katzung & Anthony Trevor, Publisher: McGraw-Hill Medical, ISBN-13: 978-0071825054 , ISBN-10: 0071825053</p>
Physiology	<p><u>Textbook:</u> Guyton and Hall Textbook of Medical Physiology, 13e (2015) .John E. Hall</p> <p><u>Recommended References :</u> Clinical Physiology, 1st edition (2014) by E.J. Campbell et al, Blackwell Scientific</p>



<p>Research and Evidence</p>	<p>Recommended References:</p> <p>1-Epidemiology: An Introduction Publication Date: June 4, 2012 ISBN-10: 0199754551 ISBN-13: 978-0199754557 Edition: 2</p> <p>2-Epidemiology, Biostatistics and Preventive Medicine Publication Date: May 21, 2007 ISBN-10: 141603496X ISBN-13: 978-1416034964 Edition: 3</p> <p>3-Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition Publication Date: September 21, 2007 ISBN-10: 0071441980 ISBN-13: 978-0071441988 Edition: 15</p> <p>4-Introduction To Public Health Publication Date: April 21, 2010 ISBN-10: 0763763810 ISBN-13: 978-0763763817 Edition: 3</p>
<p>Professional Development</p>	<p>Recommended References:</p> <p>1. <i>Doing Right: A Practical Guide to Ethics for Medical Trainees and Physicians.</i> By Philip C. Hebert. Oxford</p> <p>2. <i>Medical Ethics and Law: by Tony Hope and Julian Savulescu.</i> Churchill Livingstone, Elsevier</p> <p>3. <i>How to Succeed at Medical School: An Essential Guide to Learning.</i> Dason Evans, Jo Brown. Wiley, BMJ books 2015.</p> <p>4. <i>Communication Skills for Medicine.</i> By Margaret Lloyd, Robert Bor Churchill Livingstone, Elsevier</p>
<p>Clinical Skills 2nd Year</p>	<p>Recommended References:</p> <p>1. <i>Clinical Examination, 7th Edition A Systematic Guide to Physical Diagnosis</i> by Nicholas J. Talley and Simon O'Connor</p> <p>2. <i>Skills for Communicating with Patients, 3rd Edition</i> by Jonathan Silverman, Suzanne Kurtz, Juliet Drape</p> <p>3. <i>Practical Guidelines for Infection Control in Health Care Facilities, World Health Organization.</i> http://www.wpro.who.int/publications/docs/practical_guidelines_infection_control.pdf</p> <p>4. <i>The American Heart Association's Basic Life Support Course for Health Care Providers 2010 Guidelines</i></p> <p>5. <i>The American Heart Association's First Aid Course 2010 guidelines</i></p>



Timetable :

The below timetable is the master plan of the whole Year 2, showing the beginning and the end of each semester and module, the dates of the scheduled holidays and exams among the academic year, and the names of the four proposed modules of Year 2 and their enclosed themes.



The first term

Week No.	Date	Module	Themes
1	22/12/39 2/9/18	Introductory Days	Inductions and introductory workshops (Sun-Mon)
	24/12/39 4/9/18	Module A: Foundations of health and Medical Practice	Theme 1: Studying Medicine
2	29/12/39 9/9/18		Theme 2: Human development
3	6/1/1440 16/9/18		Theme 3: Body Metabolism
4	13/1/1440 23/9/18		National Day
	14/1/1440 24/9/18		Theme 4: Body Lethargy
5	20/1/1440 30/9/19		Theme 5: Failure to Thrive
6	27/1/1440 7/10/18		Theme 6: Inborn Error of Metabolism
7	5/2/1440 14/10/18		CIF Week I
8	12/2/1440 21/10/18	Module B: Infections and Defence	Theme 1: Innate Immunity & Microbiology
9	19/2/1440 28/10/18		Theme 2: Tuberculosis
10	26/2/1440 4/11/18		Theme 3: MERS-CoV
11	3/3/1440 11/11/18		Theme 4: Malaria
12	10/3/1440 18/11/18		Theme 5: HIV
13	17/3/1440 25/11/18		CIF Week II
14	24/3/1440 2/12/18	Module C: Circulation and Breathing	Theme 1: Introductory Subjects
15	2/4/1440 9/12/17		Theme 2: Cough & Fever
16	9/4/1440 16/12/18	Self-Paced Revision	
17	16/4/1440 23/12/18	First Mid-Year Comprehensive Exam (Module A & B)	
	23/4/1440 30/12/18	Mid-Year Holiday	



The Second Term

Week No.	Date	Module	Themes
1	30/4/1440 6/1/19	Module C: Circulation and Breathing	Theme 3: Shortness of Breath (SOB)
2	7/5/1440 13/1/19		Theme 4: Chest Pain (cardiac origin)
3	14/5/1440 20/1/19		Theme 5: Chest Tightness (Pericarditis)
4	21/5/1440 27/1/19		Theme 6: Hypertension
5	28/5/1440 3/2/19		Theme 7: Integrated Clinical Sessions
6	5/6/1440 10/2/19	Module D : Fluids , Nutrition and Metabolism	Theme 1: Difficulty of Swallowing
7	12/6/1440 17/2/19		Theme 2: Epigastric Pain
8	19/6/1440 24/2/19		Theme 3: Metabolic Syndrome
9	26/6/1440 3/3/19		Theme 4: Jaundice
10	3/7/1440 10/3/19		Theme 5: Diarrhoea
11	10/7/1440 17/3/19		Theme 6: Heat Exhaustion & Sunstroke
12	17/7/1440 24/3/19		Theme 7: Loin pain
13	24/7/1440 31/3/19		Theme 8: Acute Abdomen
14	2/8/1440 7/4/19		CIF Week
15	9/8/1440 14/4/18	Self-Paced Revision Second Mid-Year Comprehensive Exam (Module C & D)	
16	16/8/1440 21/4/18	FINAL Exams	
17	23/8/1440 28/4/19		
	27/8/1440 2/5/19	End of the 2nd term and Summer Holiday	



Vertical Modules (VM)

The UQUMED is introducing new and exciting learning experiences through the concept of VM.

There are eight-integrated vertical modules in phase II of the MBBS curriculum. These are:

1. Hajj and Umrah
2. Research and Evidence
3. Family Health
4. Anatomy and Imaging
5. Pathological Sciences
6. Use of Medicine
7. Clinical Skills
8. Professional Development

All Vertical modules except Family Health start from Year 2 and continue to Year 6. The Family Health VM starts from Year 4 and continues to Year 6.

VM Learning Outline

The integrated VM are taught and assessed *within the horizontal modules* and extend through all years of phase II of the program. The teaching of the following VM will be considered mainly during the same days of the horizontal modules:

- Anatomy and Imaging.
- Pathological Sciences.
- Use of Medicine.

The teaching in the following VM will be considered in specified learning interventions, mainly in Wednesdays and Thursdays of almost every week:

- Hajj and Umrah.
- Research and Evidence.
- Clinical Skills.
- Professional Development.

The learning outcomes of these VM are presented alongside the learning outcomes of the horizontal modules (HM) or the year learning outcomes. VM learning assessment is fully integrated into the formative and summative assessments of that module/year.

Hajj and Umrah

Introduction to the Module

This is an integrated vertical module. It is designed to address a range of learning outcomes required by graduates of UQUMED and many of the national SaudiMED framework competencies. UQUMED holds a unique



How the VMs are important in the Curriculum ?



position in the Arab world and this vertical module builds on the special opportunities available to students who chose to study medicine at UQU. The major focus of this module is on mass gathering medicine as it applies in the holy city of Makkah. There are a range of different activities, programs, projects and placements included in this module that utilize the unique learning environments in the Holy city of Makkah and the Holy Places around it.

There are 4 domains addressed in this module:

- Hajj culture and ethics
- Health promotion
- Clinical field placements
- Underserved Minority groups and clinical care

Main Themes:

- **Cultural Diversity:** This session will be carried out mainly by active participation of the students in medium-sized groups guided by specific learning objectives. The students will be asked to use their talent and creativity to deliver proper information about the various cultures that inhabit in Makkah during Hajj and Umrah seasons including; food, traditional costume, herbal medicine, and languages. The students need also to illustrate the important geographical places of Makkah and demonstrate the various health services providers during Hajj and Umrah seasons.
- **Social Determinants of Health:** During big gathering events, it is very important for medical students to understand and describe the principle of social determinants of health with their different categories and impacts on health status and health care of individuals and population. A two-hour session with various activities, started by a large-group introductory lecture, followed by workshop and then students' presentation, and wrapped up by keynote information.
- **Mass Gathering and Disaster Medicine:** A medium-sized group workshop aims to provide a solid understanding of the Triage and the concept of mass gathering health and principle of (Red-, Yellow-, and Green-code colour) that needs a great knowledge and experience.
- **Prevention of Common infectious diseases** during H&U se
- **Common Medical/Surgical Conditions** during Hajj Seasons
- **Heat Exhaustion and Heat Stroke Event** during Hajj and Umrah Seasons

Learning Outcomes for Year 2:

By completing Hajj and Umrah VM in Year 2, students will be able to:

- Recognize the diversity of the Makkah community and related cultural and ethical issues that arise during Hajj and Umrah seasons
- Understand the principles of mass gathering medicine and pilgrims' welfare
- Identify international health issues



- Demonstrate and understanding of disease emergence in Hajj and Umrah
- Appreciate the role of health professions in pilgrims' welfare
- Demonstrate an understanding of cultural diversity, and recognize any possible cultural biases in healthcare
- Apply infection control measure during seasons of Hajj and Umrah
- Promote preventive health measures during Hajj and Umrah
- Demonstrate Basic Life Support (BLS), Nursing care and first aid skills.
- Participate in the pilgrims and underserved minority groups' welfare as health advocate: developing health promotion projects, educational materials, or fieldwork (for example, participating in Hajj campaign, Haram rescuers program, research activities during Hajj and Umrah)

Research and Evidences

Introduction to the Module

This is a vertical module that is concerned with learning about research and finding and using evidence in clinical care.

Main Themes:

- **Introduction to sources of evidence**, their role in medicine and how "finding the evidence" will be of relevance throughout the curriculum. The work covers the limitations of Google and Wikipedia when searching for high-quality, reliable evidence and introduce sources such as PubMed Evidence Search.
- **Principles of Scientific Thinking:** It is crucial to understand the difference between raw data with simple information, and the "scientific knowledge". To produce scientific knowledge, we need to organize our thinking in ways to produce sound evidence. For this matter we may divide our thinking into: simple thinking, and critical thinking. This theme is organized to enable students to reach the level of critical thinking, and to enable them to produce "scientific knowledge".
- **Research Methodology and Evidence:** Evidence-Based Medicine is a term describing that the practice of medicine must follow "evidence". There are different levels of evidence produced through "scientific research". This theme will enable students to understand research methodology and to organize steps to conduct research. This theme will also address the critical appraisal of published evidence: encouraging students to become 'literate' in the use of evidence to shape their practice.



Learning Outcomes for Year 2:

By completing Research and Evidence VM in Year 2, students will be able to:

- Apply effective searching of research engines
- Use various search engines to identify research evidence
- Develop their scientific and critical thinking skills
- Describe fundamental statistical principles
- Describe epidemiological principles.
- Describe the principles of Evidence-Based Medicine (EBM)

Clinical Skills

Introduction to the Module

Clinical skills, the key elements of any MBBS program, and the proven competency in a wide range of skills and practical procedures are part of achieving the competencies in the *Saudi MEDs* framework for undergraduates.

The Clinical skills VM ensures that students have grounding in many of these skills but also relies on teaching in the horizontal modules and clinical exposures (placements) to reinforce the learning by building on the foundations provided by the vertical module' teaching.

Aims:

The aims of the Clinical Skills VM are to:

- Ensure all of our graduates are competent and confident to perform the skills and procedures listed in *Saudi MEDs*
- Introduce these skills and procedures at an appropriate point in the program and to increase these skills every year
- Ensure that the student has the skills to be a valuable team member as early as possible in their clinical placement.

Learning outcomes for Year 2:

By completing the Clinical Skills VM in Year 2, students will be able to:

- Identify and apply infection control measures:
 - Use of personal protective measures (using gloves, gowns, and masks)
 - Sterilization of equipment and solutions preparation
 - Safe disposal of clinical waste
- Measure vital signs: cardiac/radial pulse, arterial blood pressure, respiration rate, O₂ saturation, and body temperature
- Measure height, weight, head circumference and evaluating on a percentile scale
- Calculate and evaluate Body Mass Index
- Perform basic clinical procedures including, PEFR recording, urinalysis; first aid, and Basic Life Support (BLS)
- Carry out basic history taking and information gathering exercises



- Apply general physical examination techniques including inspection, palpation, percussion, auscultation
- Perform basic physical examination of the main body systems, including cardiovascular, respiratory and abdominal examination

The teaching of clinical skills in the second year will be mainly in our WORLD CLASS Simulation Centre. Moreover, there are several visits to hospitals and primary care centres to ensure early exposure of clinical practice.

Professional Development

Introduction to the Module

This is a vertical module that is aimed to develop the professional skills of medical students. This is to prepare you for studying and practicing medicine. Being in a medical college is not about just attending lectures and passing exams. Medical students should be aware of the wide dimensions of becoming a medical doctor. This implies a huge range of skills, orientations, attitudes and behaviours, a successful doctor should exhibit. Each medical student should be encouraged to think about herself/ himself as a doctor in training!

Aim:

- Understanding of professional practice as a medical student and a doctor
- Monitoring self-progress and development
- Development of effective communication with patients, colleagues and other health professionals
- Understanding the principles of teamwork and inter-professional collaboration
- Understanding of Islamic, legal and ethical principles of professional practice
- Understanding of medical informatics in health care systems

Main Themes:

- Professional behaviour towards others (communication and transferable skills).
- Professional behaviour towards practice (ethical and other issues related to the practice).
- Professional behaviour towards oneself (self-development).

Learning Outcomes for Year 2:

By completing the Professional Development VM in Year 2, students will be able to:

- Develop and apply adult and life-long learning skills
- Develop teamwork and leadership skills
- Manage time effectively
- Identify the challenge of learning in medical schools



- Describe the principles of medical professionalism
- Identify the basic principles of effective clinical communication
- Identify the principles of medical ethics
- Develop self-awareness towards patient's safety and confidentiality

Anatomy and Imaging

Introduction to the Module

This is a vertical module concerned with how to apply "science" in clinical practice. Recent and rapid advances in medical imaging mean that the clinician increasingly needs to understand anatomy as it is visualised through medical imaging at gross, microscopic and molecular levels. For this reason this module integrates "anatomy and imaging" in clinical context and to teach them for application level in clinical context. This module is designed to focus on clinical applied anatomy and imaging. Anatomy and imaging include: Gross anatomy, Neuroanatomy, Histology, Embryology and Radiology.

Aims:

The aims of Anatomy and Imaging module are to:

- Ensure students acquire a sound working knowledge of normal human structure and function
- Ensure students become fluent at reading and interpreting normal and abnormal human structure and function via a broad range of modern medical imaging techniques
- Provide a seamless program of integrated teaching that shifts over the years from core human structure and function towards anatomy and imaging being part of the integrated basis of clinical diagnosis and treatment

Main Themes:

- Anatomy as a basic medical knowledge:
- The Doctor as a scientist:
- The Doctor as a practitioner:

Learning Outcomes for Year 2:

By completing Anatomy and Imaging VM in Year 2, students will be able to:

- Outline the principles of anatomy, histology, embryology and imaging in health and their implication to medical practice
- Use anatomical terminology and describe the grand plan of the major systems
- Describe and illustrate the anatomy of the thorax, abdomen and pelvis, including the principles of routine medical imaging techniques
- Describe and identify the histology and embryology of respiratory, cardiovascular, gastrointestinal, and urinary systems



Pathological Sciences

Introduction to the Module

This module is designed to focus on activities, such as investigations and management that clinicians do that are related to pathological sciences. Pathological sciences include: biochemistry, microbiology (including virology and parasitology), haematology, immunology and histopathology.

Main Themes:

- Concepts and Principles of Pathological Sciences
- From Health to Disease, Subcellular Level
- Clinical Investigation and Management

Learning Outcomes for Year 2:

By completing Pathological Sciences VM in Year 2, students will be able to:

- Outline the principles and roles of biochemistry, haematology, microbiology, immunology and histopathology in health and disease.
- Describe the essential molecular and biochemical reactions in cellular and subcellular level
- Describe defence mechanisms in disease and illness
- Describe the common infections in Saudi Arabia and the mechanisms of prevention and control
- Describe the effect of environment and nutrition on human health

Use of Medicine

Introduction to the Module

The use of medicines is integral to medical practice. This module is designed to focus on a sound understanding of the principles of therapeutics and the practical use of medicines in order to improve the competency of future doctors to prescribe a medicine effectively and safely.

Aim of the vertical module:

The aim of this module is for students to acquire knowledge and understanding of the basic principles, metabolism, and clinical applications of drugs. This will give the student a scientific foundation necessary for learning clinical pharmacology and therapeutics and thus enable the student to prescribe drugs rationally and safely, and to evaluate and adopt new therapies throughout their career.

Main Themes:

- Pharmacology as a basic medical knowledge (2nd & 3rd year)
- The Doctor as a Scientist (4th & 5th year)
- The Doctor as a Practitioner (6th year)



Learning Outcomes for Year 2:

By completing Use of Medicine VM in Year 2, students will be able to:

- Explain the main principles of pharmacology: pharmacokinetics, pharmacodynamics, drug interactions and toxicology
- Describe sympathetic and parasympathetic drugs and their effects on the human body
- Explain the principles of antimicrobial, antibiotic, anti-tuberculous, anti-fungal and antiviral therapies
- Describe the role of diuretics and antihypertensive drugs in patients with hypertension
- Describe the role of bronchodilators in patients with bronchial asthma
- Describe the role biological agents as a therapy

VM Teaching methodologies:

The majority of VMs sessions are delivered in small group format:

- Small Group discussion or workshops
- Practical sessions
- Computer-assessed learning.
- Self-direct learning (SDL) materials.
- Clinical skills tutorials
- Hajj Camp

VM Assessment:

The teaching and assessment of these vertical modules are integrated within the horizontal modules. This module will be assessed in the structure of the year assessment in form of MCQs, OSCEs, practical and portfolio tasks.



