Medicine
College of
Officers of the College
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Accreditation
The College of Medicine has received Full Accreditation from the Commission for Academic Accreditation (CAA), Ministry of Higher Education and Scientific Research (MOHESR), U.A.E in September 2013.

Vision
The University of Sharjah, College of Medicine will strive for national and international prominence by differentiating itself through excellence, in the full spectrum of medical education at the undergraduate, postgraduate and continuing professional development levels.

Mission
The mission of the College of Medicine is to provide the education of medical students and medical professionals through the creation of a scholarly environment that fosters excellence in the lifelong goals of education, research activity and compassionate patient care.

The mission and vision statements has been developed in consultation with wide spectrum of stakeholders including parents, Ministry of Health, WHO representative, patients support groups, etc.

Our Mandate
1. Providing innovating educational opportunities for medical students, preparing them to successfully pursue postgraduate training and continuous professional development.
2. Advancing scientific knowledge with important research discoveries.
3. Improving primary to quaternary health care for this growing region.
4. Emphasizing the college’s social responsibility in providing and promoting effective health care for different sectors of the community.
Values
The faculty and staff of the University of Sharjah, College of Medicine committed to the cultural values as guides for our decisions and behaviors.

High Standards – in upholding the highest standards we will:
• Demonstrate ethical leadership by example
• Conduct ourselves with integrity, avoiding conflict of interest
• Hold our work to the highest academic standards

Respect for individuals – In valuing respect for individuals, we pledge to:
• Treat others with respect and dignity, honoring individual differences
• Promote open communication and list pro-actively
• Create a collegial environment based on loyalty to our co-workers

Advancing Knowledge – In expressing our passion for learning, we encourage:
• Exploration of new ideas in our teaching and research
• The courage to meet challenges and assume risk
• Diverse learning opportunities where creativity thrives
• Interdisciplinary teamwork

Personal Development and Leadership – Recognizing that exceptional quality begins with people, we create:
• A culture of personal development and professional fulfillment
• A workplace where expectations are matched by our reward system
• An atmosphere where people value the balance between work and family
• A mentor-rich culture where faculty staff and students can enhance their leadership skills

Commitment to Health – Supporting our fundamental belief in the doctor/ patient relationship, we are committed to:
• The highest quality medical care for our patients
• Training the next generation of physicians and healthcare professionals to be capable and compassionate
• Promoting good health and well-being in response to the needs of our community

Our community partners who help us achieve excellence in all that we do.

Academic Programs
The College of Medicine offers:
1. Bachelor of Medicine and Bachelor of Surgery (MBBS)
2. Dual Master of Leadership in Health Professions Education – University of Sharjah and Leadership Institute, Royal College of Surgeons of Ireland
3. Dual Master in Molecular Medicine and Translational Research, University of Sharjah and University Paris Diderot, France

Dual Doctor of Philosophy in Molecular Medicine and Translational Research, University of Sharjah and University Paris Diderot, France
Admission Requirements
Applicants to the College of Medicine should refer to the Admission section of the bulletin for details on the admission requirements to the University. Admission to the Foundation Year of the MBBS Program is subject to satisfying the English proficiency requirement and the necessary academic preparation as described in the Admission section.

Curriculum outcome Competencies
Medical Graduate Profile
The Medical Graduate Profile (MGP) describes the goals as outcome competencies which graduates should have acquired by the end of the six-year medical program. It was reassuring that the goals and competencies of the MBBS program were in alignment with the National Qualification Frame Work (NQFW) introduced in 2012. The generic strands of the NQFW were in alignment with the competencies and measurable learning objectives.

Outcome Competencies and Corresponding Curriculum Objectives
The competencies are structured around six domains. similar to the Accreditation Council of Graduate Medical Education, USA

A. Patient and Population Care
B. Knowledge
C. Evidence-Based Practice and Lifelong Learning
D. Interpersonal and Communication Skills
E. Ethics and Professionalism
F. Health Care Systems and Cost Effective Practice

A: Patient and Population Care
Competencies
1. Communicate effectively with patients, families and groups.
2. Gather essential and accurate information about their patients, for the purposes of problem identification and characterisation.
3. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
4. Develop and carry out (patient) management plans, with the engagement of patients as partners.
5. Perform competently medical procedures considered essential for the management of common health problems.
6. Counsel and educate patients and their families.
7. Use information technology to support patient care decisions and patient education.
8. Provide and advocate for health care services aimed at preventing health problems or maintaining health.
9. Work with health care professionals, including those from other disciplines and professions, to provide patient, family and community care.

Curriculum Objectives
1. The ability to obtain an accurate holistic medical history that covers all essential aspects of a patient and his/her problem, including issues related to age, gender and socio-economic status.
2. The ability to reason deductively in solving clinical problems.
3. The ability to perform both a complete and a focused organ system specific examination, including a mental status examination.
4. The ability to perform routine technical procedures at a level suitable to medical students.
5. The ability to construct appropriate management strategies (both diagnostic and therapeutic) for patients with common conditions related to different age groups and genders, both acute and chronic, including medical, psychiatric, and surgical conditions, and those requiring short- and long-term rehabilitation.
6. Formulate a treatment plan, demonstrating the ability to take action by balancing the relative risks and benefits of outcomes and treatment options.
7. The ability to recognise patients with immediately life threatening cardiac, pulmonary, or neurological conditions regardless of etiology, and to institute appropriate initial therapy applying Basic Life Support and Advanced Life Support principles.
8. The ability to recognise and outline an initial course of management for patients with serious conditions requiring critical care.
9. The ability to identify factors that place individuals at risk for disease or injury, to select appropriate tests for detecting patients at risk for specific diseases or in the early stage of disease, and to determine strategies for responding appropriately (screening).
10. Interpret laboratory tests, demonstrating knowledge of the limitations of standard laboratory measurements and integrate clinical and laboratory findings in the diagnosis and management of a patient problem.
11. Document and share patient-specific information, demonstrating the ability to record in information systems specific findings about a patient and orders directing the further care of the patient.
12. The ability to define and describe a population, to include its demography, cultural and socioeconomic constitution, circumstances of living, and health status, and to understand the relevance of these factors to the health and health care of individuals, families and administrators.

B: Knowledge

Competencies

1. Acquire a core of basic and clinical supportive sciences which are appropriate to the care of a patient and the community.
2. Demonstrate a reasoning and analytic thinking approach to clinical situations and applying medical knowledge in patient problem solving.

Curriculum Objectives

1. Knowledge of the normal structure and function of the body (as an intact organism) and of each of its major organ systems.
2. Knowledge of the molecular, biochemical, and cellular mechanisms that are important in maintaining the body’s homeostasis.
3. Knowledge of the various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and the ways in which they operate on the body (pathogenesis).
4. Knowledge of the altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions.
5. Knowledge of the most frequent clinical, laboratory, radiological, and pathologic manifestations of common maladies.
6. An understanding of the power of the scientific method in establishing the causation of disease and efficacy of traditional and non-traditional therapies.
7. An understanding of the principles of disease prevention and behaviour change appropriate for specific populations
8. Knowledge of the important non-biological determinants of (poor) health and of the economic, psychological, social, and cultural factors that contribute to the development and/or continuation of maladies.
9. Knowledge of the epidemiology of common diseases within a defined population, and the systematic approaches useful in reducing the incidence and prevalence of those diseases.
C: Evidence-Based Practice and Lifelong Learning

Competencies

1. Exhibit good “information habits”, making decisions based on evidence, when such is available, rather than opinion.
2. Locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems.
3. Apply knowledge of research designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
4. Demonstrate knowledge of the information resources and tools available to support life-long learning.
5. Understand information technology’s impact on basic clinical and biomedical research.

Curriculum Objectives

1. Determine what data exist relative to a clinical question or formal hypothesis, demonstrating knowledge of data sources (including medical records, and online data) at one’s own institution by identifying how these might be used to address a specific clinical question.
2. Execute a plan for data collection and organize data for analysis, demonstrating the ability to properly represent data from a study in a form that is useful and supports computer-based analysis.
3. Plan, analyse, interpret and report findings, demonstrating the ability to select the appropriate computer software tool for analysis of data.
4. Demonstrate knowledge of the information resources and tools available to support life-long learning. Knowledge includes awareness of these resources, their content, and the information needs that they can address. Relevant resources include MEDLINE and other bibliographic databases, textbooks and reference sources, diagnostic expert systems, and medical internet resources.
5. Retrieve information, demonstrating the ability to refine search strategies to improve relevance and completeness of retrieved items.
6. Filter, evaluate, and reconcile information, demonstrating the ability to discriminate between types of information sources in terms of their currency, format (for example a review vs and original article), authority, relevance and availability.

D: Interpersonal and Communication Skills

Competencies

1. Create and sustain effective, ethically sound, caring and respectful relationships with patients and families.
2. Work effectively with others as a member or leader of a health care team, or other professional group.

Curriculum Objectives

1. Use effective communication skills to elicit and provide information using values and attitudes and effective verbal, nonverbal (explanatory, questioning) writing skills.
2. Use effective writing skills to transmit information, express concerns, help etc.
3. Listen to and respect the view of patients and their supporters
4. Listen to and respect the view of other members of the team involved in the patient’s care
5. Recognise and respect the varying needs of patients for information and explanation
6. Encourage patients to discuss the proposed treatment with their supporter
7. Fully inform the patient, and their supporter of progress during treatment
8. Explain any complications of treatment as they occur and explain the possible solution
9. Act immediately when patients have suffered harm and apologize when appropriate
10. Work effectively as an individual, in inter-professional groups, and as a member of a complex health care system, demonstrating knowledge of online resources for legislation, political advocacy and local health care policy setting.

E: Ethics and Professionalism

Competencies
1. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
2. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
3. Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities

Curriculum Objectives
1. Knowledge of the theories and principles that govern ethical decision making, and of the major ethical dilemmas in medicine, particularly those that arise at the beginning and end of life and those that arise from the rapid expansion of knowledge of genetics.
2. Compassionate treatment of patients, and respect for their privacy and dignity.
3. Honesty and integrity in all interactions with patients’ families, colleagues, and others with whom physicians must interact in their professional lives.
4. An understanding of, and respect for, the roles of other health care professionals, and of the need to collaborate with others in caring for individual patients and in promoting the health of defined populations.
5. A commitment to advocate at all times the interest of one’s patients over one’s own interests.
6. An understanding of the threats to medical professionalism posed by the conflicts of interest inherent in various financial and organizational arrangements for the practice of medicine.
7. The capacity to recognise and accept limitations in one’s knowledge and clinical skills, and a commitment to continuously improve one’s knowledge and ability.
8. Respect patient (and physician) confidentiality, demonstrating knowledge of the legal, ethical, and medical issues surrounding patient documentation, including confidentiality and data security

F: Health Care Systems and Cost-Effective Practice

Competencies
1. Advocate for quality patient care and assist patients in dealing with healthcare system complexities.
2. Practice cost-effective health care and resource allocation that does not compromise quality of care.
3. Understand how their patient care and other professional practices affect the health care organization and the larger society and how these elements of the system affect their own practice.
Curriculum Objectives

1. Formulate and make decisions for individuals and groups, demonstrating knowledge of cost/benefit issues in health care.
2. Knowledge about how local health care systems deliver patient care to different kinds of patients.

Rationale and Key Attributes of the Curriculum

- **Continuum of Medical Education**: The curriculum will provide an educational experience that ensures continuing development from undergraduate to internship and further postgraduate training.

- **Outcome competency based curriculum**: Core competencies essential for good medical practice guide the curriculum structure, organization, learning and teaching approaches, student assessment outcome and program evaluation.

- **Integrated curriculum**: The thematic organization of the curriculum allows maximum degree of horizontal integration across the themes and vertical spiral integration within the themes.

- **Systems-based curriculum**: A systems-based approach will replace the traditional discipline-based curriculum.

- **Early introduction of clinical sciences and skills**: This is coordinated with the Organ System organization in the first two years emphasizing the relevance and application of knowledge learned from the Basic Medical Sciences domains.

- **Self-directed learning**: The curriculum and timetable is structured so that students have time to learn through self-reflection, self-evaluation, clinical reasoning and critical thinking to be lifelong independent learners.

- **Student-centered flexible learning**: The learning environment will be structured to allow more flexibility and choice in time, place and style of learning.

- **Diversity of learning contexts**: The course will be delivered in different settings that provide wide experience in community based contexts.

- **Learning basic medical sciences in the clinical environment.**

- **Introducing research as integral part of the PBL sessions to inculcate research culture.**

- **Introducing Ultrasound training** starting from Year 1 to supplement radiological anatomy and clinical skills.

- **Generic attributes for effective medical practice**: The new curriculum will promote a culture that recognizes service, teamwork, scientific enquiry and lifelong learning as essential elements in the effective practice of medicine.

- **Medical Humanities**: The two courses “History of Medical and Health Sciences” and “Arts and Medicine” are two unique features of the curriculum contributing to the general make up of cultured medical graduate at UOS.

- **Students’ assessment**: Designed to recognize the development of key attributes and qualities rather than to reward short-term superficial learning. Formative, continuous and summative assessments are used to monitor student progress and review curriculum implementation and outcomes.

- **Time and length**: Following the successful completion of the Foundation year, the course will be of five years duration and have around 20-25 contact hours per week. This provides ample opportunity for students to learn through self-directed study.

- **Yearly Assessment System**: As it is an integrated curriculum, the assessment in the curriculum is a continuous process. Scores are reported on a **yearly basis** and the Pass / Fail decisions are made at the end of each year.
Thematic Organization of the Curriculum

Curriculum competencies and related objectives are organized around four themes/strands.

- Theme I - Personal and Professional Development
- Theme II - Population Health
- Theme III - Foundations of Medicine
- Theme IV - Clinical Skills

Theme I: Personal and Professional Development

Students focus on personal ethics, healthy lifestyle, group support and introduction to communication skills. This will be followed up with a Health Enhancement Program concentrating on self-care (stress management, relaxation training, and coping skills), other aspects of healthy lifestyle and group support, and an introduction to the science of Mind-Body Medicine. This theme will also include an introduction to ethics and medical law. Supporting students in maximizing their learning opportunities in clinical environments is crucial to the success of the curriculum. Key components of Theme I content include medico-legal issues, ethics and health enhancement. Opportunities for inter-professional teaching and learning are also encouraged.

Objectives

By the time of graduation, the Sharjah medical graduate will be able to:

- Develop strategies for maintaining mental, physical, and emotional health status and identify ongoing strategies for their own health enhancement.
- Develop skills to become a successful student and lifelong learner.
- Describe strategies for developing personal and professional resilience
- Appraise personal and professional strengths and weaknesses and articulate self-limitations and recognize the need to continuously improve one’s knowledge and ability.
- Demonstrate ability to work in multi-professional teams understanding and respecting the roles of other health care professionals, and appreciating the need to collaborate with others in caring for individual patients and in promoting the health of defined populations.
- Develop and use learning strategies appropriate to clinical contexts
- Demonstrate how to access ‘networks’ in order to meet professional and personal needs.
- Articulate professional rights and responsibilities.
- Identify and use strategies for dealing with competing demands in personal and professional life and identify and use strategies for effective time management in both personal life and clinical settings.
- Recognize the similarities and differences between ethical issues in personal and professional life.
- Appreciate the legal framework within which medical practice operates and the legal basis of the doctor-patient relationship and describe ethical and legal issues pertinent to clinical contexts. This includes, but is not limited to: medical power of attorney, role of guardians and agents in the context of refusal of treatment, transplantation, infertility and medical research.
- Understand concepts of professional responsibility and public accountability with reference to the role of the courts and common law statutes and professional self-regulation.
- Describe concepts of responsibility and advocacy in relation to patients and their families and be committed to advocate at all times the interest of one’s patients over one’s own interests.
- Understand the theories, principles and cultural and religious context that govern ethical decision making, and of the major ethical dilemmas in medicine, particularly those that arise at the beginning and end of life and those that arise from the rapid expansion of knowledge of genetics.
• Respect patient (and physician) confidentiality, demonstrating knowledge of the legal, ethical, and medical issues surrounding patient documentation, including confidentiality and data security

**Theme II: Population Health**

The main purpose of this theme is to provide the structure to develop students’ abilities in dealing with society and population issues, as compared with issues concerning the individual. Students will learn about the history and philosophy of the scientific approach to medicine, and extend this to a consideration of approaches to knowledge and information, and an understanding of evidence-based medicine.

Students will explore the various roles of the medical practitioner in society. They will learn to consider the social, environmental and behavioral contexts of illness and the practice of medicine. Other elements of this theme will be built around health promotion, epistemology, epidemiology, public health, community diversity, population and a global view of health.

**Objectives**

Although this theme has its own learning objectives, it is intended that some of the implementation of the theme will involve building on specific learning experiences that students have in the other themes.

By the time of graduation, the Sharjah medical graduate will be able to:

**a) Demonstrate the following professional attitudes:**

- A concern for disadvantaged groups in society.
- Recognition of the beliefs and contributions of health consumers to their care.
- A cost-effective approach to the provision of medical care.
- Awareness of the contribution of population-based health strategies to the care of individuals.
- Awareness of the contributions of research to effective health care practice.
- A capacity to deal with uncertainty.
- Awareness of him/herself as a knowledge worker.

**b) Demonstrate the following professional abilities:**

- Understand the role of medicine in society from a range of different perspectives:
  - The influences of factors such as age, gender, culture, ethnicity and spiritual beliefs.
  - The relationship between “traditional” and other models of health care practice.
- Understand the factors that influence the organisation and delivery of health care to populations including how local health care systems deliver patient care to different kinds of patients.
- Understand the contribution of the scientific method to medicine and the nature of evidence.
- Demonstrate the practice of evidence-based medicine with respect to:
  - Determining what data exist relative to a clinical question or formal hypothesis, demonstrating knowledge of data sources (including medical records, and online data) at one’s own institution by identifying how these might be used to address a specific clinical question.
  - Executing a plan for data collection and organizing data for analysis, demonstrating the ability to properly represent data from a study in a form that is useful and supports computer-based analysis.
  - Demonstrating knowledge of the information resources and tools available to support life-long learning.
  - Retrieving information, demonstrating the ability to refine search strategies to improve relevance and completeness of retrieved items.
- Filtering, evaluating, and reconciling information, demonstrating the ability to discriminate between types of information sources in terms of their currency, format (for example a review vs. and original article), authority, relevance and availability.
- Life-long continuing medical education.
  - Demonstrate the ability to interpret statistical information presented in medical publications.
  - Understand the strengths and weaknesses of different research study designs.
  - Understand a range of strategies to promote health and prevent disease.

**Theme III: Foundations of Medicine**

This theme will encompass much of the system-based teaching in phase II (years 1, 2, 3) of the course and the core clinical clerkships in the fourth and fifth years. Theme III will represent more than half of the overall course. As the term ‘Foundations’ implies, much of the knowledge and concepts that underpin medicine, both in the basic medical sciences and in the clinical sciences, will be delivered within this theme. Each of the subjects in this theme is organized as an integrated subject with inputs from all relevant departments. In the early semesters, a system-based structure has been adopted, in which the anatomy, biochemistry, microbiology, pathology, pharmacology and physiology of each system will be taught in an integrated manner. Several systems have been combined to be taught either side by side or in a system-integrated approach. Basic medical sciences will be revisited in the latter phase of the curriculum “clerkships” emphasizing the application of knowledge in clinical practice.

**Objectives**

By the time of completing basic medical education, the Sharjah medical graduate will have knowledge and understanding of:

- The normal structure and function of mind and of the body (as an intact organism) and of each of its major organ systems at all stages of life and the interactions between body and mind, and the factors which may disturb these.
- The molecular, biochemical, and cellular mechanisms that are important in maintaining the body’s homeostasis.
- The various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neo-plastic, degenerative, and traumatic) of illness/disease and the ways in which they operate on the body (pathogenesis).
- Symptoms, signs, natural history, and prognosis of common mental and physical ailments in children, adolescents, adults and the aged. A more detailed knowledge is required of those conditions which require urgent assessment and treatment.
- The most frequent laboratory and radiological manifestations of common maladies, different diagnostic procedures, their uses and limitations.
- Management of common conditions including pharmacological, physical, nutritional and psychological therapies.
- Principles of health education and behaviour change appropriate in specific populations.
- Principles of disease prevention, amelioration of suffering and disability, rehabilitation, and the care of the dying.
- Factors affecting human relationships, the psychological well-being of patients and their families, and the interactions between humans and their social and physical environment.
- Scientific method relevant to biological, behavioural and social sciences at a level adequate to provide a rational basis for present medical practice, and to assimilate the advances in knowledge which will occur over their working life.
- Important non-biological determinants of (poor) health and of the economic, psychological, social, and cultural factors that contribute to the development and/or continuation of maladies.
- The processes by which non-biological determinants influence health, and vice versa.
- Epidemiology of common diseases within a defined population, and the systematic approaches useful in reducing the incidence and prevalence of those diseases.
Theme IV: Clinical Skills

This theme will encompass the whole range of clinical skills, and will be present in all years of the course. Clinical and procedural skills will be introduced early and practiced often. The approach in clinical skills development will be to develop defined clinical competencies. This will begin with clinical aspects of communication skills and move through history taking and physical examinations to the more advanced clinical and procedural skills. Included also within this theme will be an introduction to the medical work place in all its diversity, and to the healthcare system.

Multi-professional education will be promoted by exploring the possibilities for educational interactions with nurses, paramedics, radiographers and other health care professionals. Elective experience in diverse medical work places, both within and outside the hospital environment will be provided.

Objectives

By the time of graduation, the Sharjah medical graduate will be able to:

• Obtain an accurate holistic and focused medical history that covers all essential aspects of a patient and his/her problem, including issues related to age, gender and socio-economic status.
• Perform an accurate physical and mental state examination.
• Choose, from the repertoire of clinical skills, those which are appropriate and practical to apply in a given situation.
• Interpret and integrate the history and physical examination findings to arrive at an appropriate diagnosis or differential diagnosis.
• Formulate a treatment plan, demonstrating the ability to take action by balancing the relative risks and benefits of outcomes and treatment options.
• Perform routine technical procedures at a level suitable to medical students.
• Recognize serious illness and perform common emergency and life-saving procedures such as caring for the unconscious patient and cardiopulmonary resuscitation.
• Identify factors that place individuals at risk for disease or injury, to select appropriate tests for detecting patients at risk for specific diseases or in the early stage of disease, and to determine strategies for responding appropriately (screening).
• Create and sustain effective, ethically sound, caring and respectful relationships with patients and families.
• Communicate clearly, considerately and sensitively with patients, relatives, doctors, nurses, and other health professionals and the general public.
• Counsel sensitively and effectively and provide information in a manner that ensures patients and families can be truly informed when consenting to any procedure.
• Work in a multi-disciplinary team using both leadership skills and collaboration skills.
• Work as a patient advocate in the health care system.
• Use computer systems for medical information, patient monitoring and for communication between health care professionals at different sites.
• Use clinical skills in primary, secondary and tertiary care settings.
**Convergence of Themes**

Our graduates will emerge from the MBBS program with a synthesis of clinical skills, knowledge base and personal attitudes and qualities, which will combine to form the basis of their developing professional abilities. To reach this stage, the graduate will need to have made a successful transition from learning in the four separate themes of the course, to a single model of professional practice. The convergence of themes will accelerate over the last two years of the program, and careful attention to integration between the themes during the early years of the course will assist the process. In addition, expanded use of mentoring and role models in professional practice will allow students to appreciate how the synthesis of knowledge, skills and attitudes is central to effective and rewarding medical practice.

**Curriculum Structure and Organization**

The medical curriculum is for five years preceded by one year of Foundation Year and followed by one year of internship.

**Phase I: “Foundation Year”**

**Phase II: Year 1, 2, 3 “Pre-clerkship Phase”**

**Phase III: Year 4 and 5 “Clerkship Phase”**

**Phase I - “Foundation Year”**

is an interface between the high school education and the medical program. It introduces the students to a scientific foundation in Human Biology, Chemistry and Biochemistry, Physics relevant to medical sciences, Information Technology and Medical English.

An important characteristic of the Foundation Year is to introduce the students to modern trends in medical education, problem based learning, small groups learning and study skills encouraging deep and life-long learning. This is provided through the course of “Medical Education.”

Students should demonstrate academic performance which will allow them to progress to the second phase of the medical program (see assessment).

The core courses to be studied in Foundation Year are:

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<tr>
<th>Course</th>
<th>Title</th>
<th>CrHrs</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>1427107</td>
<td>General Chemistry (I) for Medical Science</td>
<td>3</td>
<td></td>
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<tr>
<td>0900104</td>
<td>Intro to Anatomy and Physiology (1)</td>
<td>3</td>
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<tr>
<td>1430113</td>
<td>Physics for Medical Sciences</td>
<td>3</td>
<td></td>
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<tr>
<td>1430114</td>
<td>Physics Lab for Medical Science</td>
<td>1</td>
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<tr>
<td>0900103</td>
<td>Medical Education</td>
<td>3</td>
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<tr>
<td>0202122</td>
<td>English for Medicine</td>
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<th>Course</th>
<th>Title</th>
<th>CrHrs</th>
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<tr>
<td>1427108</td>
<td>Chemistry II (Biochemistry) for Medical Science</td>
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<tr>
<td>0900108</td>
<td>Introduction to Anatomy and Physiology II</td>
<td>4</td>
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<tr>
<td>0215118</td>
<td>Chemistry II (Biochemistry) for Medical Science Lab.</td>
<td>1</td>
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<tr>
<td>0710109</td>
<td>Arts and Medicine</td>
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<tr>
<td>0900107</td>
<td>History of Medical and Health Sciences</td>
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### Descriptions of Phase I Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1427107</td>
<td>General Chemistry for Medical Sciences</td>
<td>(0-3:3)</td>
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<tr>
<td></td>
<td>This course describes general concepts of general chemistry</td>
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<td></td>
<td>such as principles of measurement, solutions, radiation,</td>
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<td></td>
<td>laws of heat and energy transfer and reactions equilibria.</td>
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<tr>
<td></td>
<td>The chemical structure of macromolecules such as</td>
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<td></td>
<td>carbohydrate, lipid, proteins and nucleic acids are</td>
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<tr>
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<td>discussed.</td>
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<tr>
<td></td>
<td>Prerequisite: None.</td>
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<tr>
<td>0900104</td>
<td>Introduction to Anatomy and Physiology (1)</td>
<td>(0-3:3)</td>
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<tr>
<td></td>
<td>This basic course covers the normal structure and function</td>
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<td>of the cell, basic genetics, basic histology and</td>
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<td>embryology.</td>
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<td>Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>1430113</td>
<td>Physics for Medical Sciences</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>This course covers atomic spectra, nuclear physics, x-ray</td>
<td></td>
</tr>
<tr>
<td></td>
<td>applications in biology and medicine, fluids, electricity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and magnetism, geometrical optics and waves and sounds.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>1430114</td>
<td>Physics Laboratory for Medical Science</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>Various experiments covering the topics studied in lectures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>are performed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>0900103</td>
<td>Medical Education</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>This course is offered to students in the Foundation Year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of the Medical Colleges (Medicine and Dentistry).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It introduces them to the knowledge, skills and attitude</td>
<td></td>
</tr>
<tr>
<td></td>
<td>needed in order to be a self-directed life-long learner.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Study skills which encourage deep learning should be</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inculcated and developed at an early stage of their</td>
<td></td>
</tr>
<tr>
<td></td>
<td>education. Students will explore through active learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the broad scope of health and related medical sciences,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>their future job responsibilities and competencies they</td>
<td></td>
</tr>
<tr>
<td></td>
<td>should acquire in order to respond to societal needs and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>expectations. The context of health and wellness will</td>
<td></td>
</tr>
<tr>
<td></td>
<td>be used in training the students to apply study skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>which support critical thinking and life-long learning.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The two content domains of the course “Health and Wellness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Medical Education” are interwoven through a problem-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>based learning strategy. It also sets the stage to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>enable the students to be successful when studying</td>
<td></td>
</tr>
<tr>
<td></td>
<td>medical sciences in an era where scientific knowledge is</td>
<td></td>
</tr>
<tr>
<td></td>
<td>rapidly growing.</td>
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</tr>
<tr>
<td></td>
<td>The main strategy of learning will emphasize self-directed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>problem-based learning. Students will learn in small</td>
<td></td>
</tr>
<tr>
<td></td>
<td>groups (7 – 8 students in each group) encouraging team</td>
<td></td>
</tr>
<tr>
<td></td>
<td>work and multi-professional education (Medicine and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dentistry students). Faculty will play a facilitatory role</td>
<td></td>
</tr>
<tr>
<td></td>
<td>rather than an information giver. Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>0202122</td>
<td>English for Medical Sciences</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>This course concentrates on building the skills and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>medical terminology knowledge. Students understand and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>write medical documents; read and understand medical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>records, reports and diagnostic test results, improve</td>
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</tr>
<tr>
<td></td>
<td>accurate oral communication and research skills.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>1427108</td>
<td>Chemistry II ( Biochemistry) for Medical Sciences</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>This course describes the main basic biochemical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pathways such as glycolysis, TCA cycles, electron</td>
<td></td>
</tr>
<tr>
<td></td>
<td>transport chain, glycogenlysis and glycogenesis,</td>
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</tr>
<tr>
<td></td>
<td>ketogenesis, lipogenesis and lipolysis and urea cycle.</td>
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</tr>
<tr>
<td></td>
<td>It also describes the synthesis of nucleic acids including</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNA and RNA.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prerequisite: None.</td>
<td></td>
</tr>
<tr>
<td>0900108</td>
<td>Introduction to Anatomy and Physiology II</td>
<td>(0-3:3)</td>
</tr>
<tr>
<td></td>
<td>This course describes the general principles of human</td>
<td></td>
</tr>
<tr>
<td></td>
<td>physiology. It focuses on the physiology of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cardiovascular system, blood function and composition.</td>
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<tr>
<td></td>
<td>This course introduces students to the players of the</td>
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<tr>
<td></td>
<td>immune system, endocrine, renal and respiratory and</td>
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</tr>
<tr>
<td></td>
<td>digestive systems. Special emphasis is placed on</td>
<td></td>
</tr>
<tr>
<td></td>
<td>diseases related to homeostasis imbalances related to the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>above systems. Prerequisite: None.</td>
<td></td>
</tr>
</tbody>
</table>
0215118  Chemistry II (Biochemistry) for Medical Sciences Lab  (0-3:3)
The laboratory procedures cover methods of identifications, chromatography, synthesis of biochemical molecules as well as qualitative and quantitative analysis. Prerequisite: None.

0710109  Arts and Medicine  (0-3:3)
Arts and Medicine is an Elective University course (3 credit hours) assigned for undergraduate health care-related students (Colleges of Medicine, Health Sciences, Dentistry and Pharmacy) as well as Students of College of fine arts Distinguishing itself by raising questions about the specific role of medicine in visual and other arts (painting, sculpture, performance and drama), particularly emphasizing and exploring its relevance to modern medical practice and common issues met by all health professionals, as well as the key position art hold within the medical humanities. The course is offered by College of Medicine and College of Fine Arts. The course coordinators are from both colleges. The course pedagogical philosophy is to stimulate team based learning and to provoke students to interaction, engagement and dialogue.
The course is given over a full semester, two sessions, two hours each. To increase student participation in the learning process and active discussion, team based learning is usually applied, dividing the students into 5 to 6 groups, 5 students per group. Great extent of the learning outcomes depend on the students' activities as small group's class presentations, discussions, mid-term and final exams, and submission of a term papers, artistic project or posters. Prerequisite: None.

0900107  History of Medical and Health Sciences  (0-3:3)
History of Medical and Health Sciences is an Elective University course (3 credit hours) assigned for undergraduate health care-related students (Colleges of Medicine, Health Sciences, Dentistry and Pharmacy). The course was successfully launched in the fall semester, 2008-2009. It runs in 15 weeks duration (overall 45-48 hours) covering the essential topics of the history of medicine in both a chronological as well as in a thematic manner. Classes are based on guiding lectures delivered by different guest lecturers from different medical specialties but with interest in the History of Medicine. However, a great extent of the outcome depends on the students' activities as small group's class presentations, discussions, mid-term and final exams, and submission of a term papers or posters. Feedback from students is encouraging as revealed from their Course Evaluation Forms. Moreover, immediate and continuous feedback from students showed that the course is interesting, informative and providing knowledge useful in their career. Prerequisite: None.

Phase II – Years 1, 2, and 3 “Pre-clerkship”
This phase integrates the four curriculum themes, mainly organ systems structured around 9 units which vary in their duration between 8 – 16 weeks. Problem Based Learning (PBL) using written scenarios, simulated and real patients' problems constitute the main strategy of learning and teaching in this phase. Core knowledge related to different Basic Medical Sciences “Anatomy, Physiology, Pathology, Microbiology, Pharmacology, Immunology” are integrated throughout the studied health problems. Clinical skills, population and community educational activities, ethics and professional development are coordinated with the PBL and run horizontally and vertically through the 3 years of Phase II.
In year three, students learn in different training sites (hospital, primary health care clinics, and community health). Integrated medical and surgical problems drive student learning. The experiences prepare the students to be more responsible towards their learning and patients when moving to the clerkship phase. The contents of each semester are organized and structured around the four curriculum themes.

Course Coding System
The Pre-clerkship and Clerkship phase courses are designated the code 09CDEFG where:

| 09 | College of Medicine |
| CD | Department |
| E  | Year |
| FG | Units |

For example, Endocrine and Reproductive unit is the third unit in Year 2, Medicine and is coded as 0900303.
Descriptions of Phase II Courses

Year One

0900201 - Life Cycle Unit

Description: This 8 week course introduces students to the four themes upon which the five-year curriculum is based, which comprises the following:

- **Theme 1:** An orientation program focuses on transition, ethics, healthy lifestyle, group support and communication skills. Health Enhancement builds on this, with an introduction to Mind-Body Medicine, Ethics and Medical Law.

- **Theme 2:** Health, Knowledge and Society involves a series of ‘hypothetical’ scenarios to provide an analysis of the social aspects of medicine.

- **Theme 3:** Provides students with a foundation in genomics, cell biology, embryology and physiology. *Case studies or Problem Based Learning sessions* integrate material presented in all themes throughout the week.

- **Theme 4:** Introduces students to practical clinical skills. An introduction to communicative and medical interviewing, history taking skills and basic ethical concepts.

0900202 - Man and his environment Unit

Description: This 8 week course introduces students to the four themes upon which the five-year curriculum is based, which comprise:

- Theme 1: An orientation program focuses on transition, ethics, healthy lifestyle, group support and communication skills. Health Enhancement builds on this, with an introduction to Mind-Body Medicine, Ethics and Medical Law.

- Theme 2: Health, Knowledge and Society involves a series of ‘hypothetical’ scenarios to provide an analysis of the social aspects of medicine.

- Theme 3: Introduces concepts related to how we protect ourselves, body reaction to external risk factors, the internal milieu and homeostasis. It integrates through 6 patient-centered problems and 13 mini problems, basic concepts from Pharmacology, Biochemistry, Genetics, Physiology, Anatomy, Immunology, Psychology, Pathology and Microbiology.

- Theme 4: Introduces students to practical clinical skills. An introduction to communicative and medical interviewing, history taking skills and basic ethical concepts.

0900203 - Musculoskeletal and Neuroscience I Unit

- Description: This 12 week course will build on the four themes introduced in MED1011 while introducing new concepts within these themes with emphasis on:

  - Theme 1: Personal and Professional Development - develops strategies for personal health enhancement and ethical/legal issues relevant to professional responsibility, the doctor-patient relationship and public accountability.

  - Theme 2: Population Health and Epidemiology - develops an understanding of epidemiological research, study designs, interpretation of statistical information and introduction to critical appraisal of medical publications.

  - Theme 3: Foundations of Medicine - Musculoskeletal, peripheral nerves and human behavior. Examines major concepts within the areas of muscles and innervation. It integrates through 9 PBL important concepts and 20 mini problems in Basic Medical Sciences.

  - Theme 4: Clinical Skills - comprehensive medical history taking skills and awareness of key ethical issues involved in communication with patients, family members, carers and health professionals.
**0900203 - Hematopoietic unit**

**Description:** This 3 week course will build on the four themes introduced in MED1011 while introducing new concepts within these themes with emphasis on:

- Theme 1: Personal and Professional Development - develops strategies for personal health enhancement and ethical/legal issues relevant to professional responsibility, the doctor-patient relationship and public accountability.
- Theme 2: Population Health and Epidemiology
- Defining a Questionnaire and discuss some tips for developing a new questionnaire
- To know about the Ethical Issues in Research
- To know how to write a Research Consent Form and writing a Research Proposal.
- Theme 3: Foundations of Medicine - process of hematopoiesis, types of anemia and the pathophysiology of symptoms, blood cell malignancies and coagulation disorders. It integrates through 3 PBL important concepts and 6 mini problems in Basic Medical Sciences.
- Theme 4: Clinical Skills - to identify common signs in cardiovascular, respiratory and hematology (Image and video interpretation).
  - To take history related to common hematological presentation
  - To apply clinical reasoning in order to reach the correct diagnosis
- To know how to interpret common hematological investigations.

**Year Two**

**0900301 - Cardiovascular and Respiratory unit**

**Description:** This course introduces major concepts related to the Cardiovascular (6 weeks), Respiratory (4 weeks) systems of the human body and the concepts behind Information Management and Health promotion. These concepts are introduced through:

- Theme 1: Through Community-Based Programs, the student develops an awareness of the sector’s relevance to the practice of medicine and the socio-economic context of health and illness.
- Theme 2: Information Management and Health Promotion, the student develops skills in data management and critical appraisal of evidence and knowledge to assist in clinical decision-making.
- Theme 3: Maintaining the internal environment enables the student to study the cardiovascular and respiratory systems, from normal structure and function to pathology of common health problems and their clinical presentations and management.
- Theme 4: Clinical Skills assists the student to develop clinical reasoning and focused history taking based on common presentations of diseases related to these systems.

**0900302 - Gastrointestinal Tract unit**

**Description:** This course introduces students to major concepts and principles of Gastrointestinal / Nutrition / Metabolism (7 weeks)

- Theme 1: Through a Community Partnership, the student develops an awareness of the health sector’s relevance to the practice of medicine and the socio-economic context of health and illness.
- Theme 2: Information Management and Health Promotion: the student develops skills in data management and critical appraisal of evidence and knowledge to assist in clinical decision-making. The student will develop and implement a Health Promotion project.
- Theme 3: Gastrointestinal, Nutrition and Metabolism enable the student to examine the gastrointestinal system from normal structure and function to pathology and management of common GI presentations.
- **Theme 4:** Clinical Skills assists the student to develop clinical reasoning and focused history taking related to GIT.
0900303 - Endocrine unit

Description: This course introduces students to major concepts and principles of the Endocrine system (4 weeks).

• Theme 1: The student will identify complex ethical issues related to confidentiality, notification and treatment choices that may arise in serious diseases.
• Theme 2: The student will be able to outline the approaches to preventive medical care and screening of chronic illnesses and will also identify important social factors which have impact on health, illness and healthcare services.
• Theme 3: Study of the endocrine system will enable students to identify major anatomical features of the hypothalamus, pituitary, thyroid gland and adrenal glands and to understand the functions of each gland, its hormonal regulation and the principles and clinical relevance of hormone assay. They will appreciate the anatomical and clinical consequences of aberrations in endocrine tissues and understand the link between clinical presentation and the underlying pathophysiology.
• Theme 4: Clinical Skills assist the student to develop communication skills.

0900304 - Renal and Reproductive unit

Description: This course provides students with a foundation in Renal (4 weeks) and Reproductive (3 weeks) systems.

• Theme 1: Through a Community Partnership, the student develops an awareness of the health sector’s relevance to the practice of medicine and the socio-economic context of health and illness.
• Theme 2: Information Management and Health Promotion: the student develops skills in data management and critical appraisal of evidence and knowledge to assist in clinical decision-making. The student will develop and implement a Health Promotion project.
• Theme 3: Renal and Reproductive systems enable the student to study the necessary knowledge required to understand common health problems related to those systems.
• Theme 4: Clinical Skills assists the student to develop clinical reasoning and focused history taking related to these systems.

Year Three

Description: The courses in Year 3 run horizontally all through the year. Different learning settings are used for learning and teaching. This includes PBL Tutorials, Clinical Skills Lab., Hospitals, Primary Health Care Centers, Preventive, Occupational and different special needs services. The four curriculum themes i.e. Personal and Professional development; Population, Society, Health and Disease; Foundation of Medicine and Clinical Skills run through all the following units.

0900400- Neurosciences II and Multi-system (Integrated hospital-based Medicine and Surgery) (14 weeks)

Neuroscience Unit is part of Phase II of the College of Medicine curriculum at the University of Sharjah. As the student progresses through the different organ systems during year one and year two s/he appreciates that the human body functions as on unit, with all the systems working together to maintain a constant internal environment.

In this Unit (Neuroscience), we build on by introducing the fascinating world of the central nervous system – the fast and masterful system that controls all of that. How do we perceive the sensations triggered by our sense organs? How do we perform skilled movements (e.g. learning to write)? What is consciousness? Why and how do we do the things we do? What is intelligence? How do we learn? What things determine and shape our behavior?

The Neuroscience Unit is presented through 12 core problems which can be categorized into three main areas or sub-units: Subunit I (Problems 1-6 and 10): CNS structure and function – dealing with the organization and function of the nervous system – how we perceive, move, learn, remember and what happens when these functions are disturbed. Subunit II (Problems 7-9): Human behavior – based on the central concepts of modern neuroscience that behavior is a reflection of brain function which, when deranged manifests as mental illness. Subunit III (Problems 11 and 12): Special
senses – explores the peripheral structure and function of the special sense organs (vision, audition and the chemical senses) and how the complex information they convey is interpreted by the brain.

The General Objectives of the Neuroscience Unit are structure and functions of the central nervous system, higher functions of the nervous system involved in complex human behavior, and structure and function of the special sense organs.

Multi-system (Integrated hospital based Medicine and Surgery) Community Health (14 weeks)

Description: This course is a continuation of the Integrated Medicine and Surgery curriculum based on the four themes of the medical curriculum. Students will encounter patients in hospital and ambulatory care settings.

- Theme 1: Develops student’s awareness of legal and ethical issues, professional rights and responsibilities, patient advocacy, working in multi-disciplinary teams and identification and implementation of strategies used to meet personal and professional challenges.
- Theme 2: Develops the student’s ability to apply key principles in use and appraisal of evidence based medicine. Enables the student to acquire appropriate skills in environmental and occupational medicine.
- Theme 3: The student will apply the knowledge learnt in previous years to the identification, diagnosis and understanding of common and important illnesses, conditions and disorders, patho-physiology and pharmacology in Medicine and Surgery.
- Theme 4: By the end of the semester, students must be capable of undertaking history and clinical examinations of patients with straightforward conditions, and have an understanding of the relevant investigations and general management plans. Previous learning will be extended.

Phase III - Clerkship Phase

Years Four and Five

Description: The later years of the medical program focus upon learning in the clinical environments. Students are responsible for their learning. The program provides them with different opportunities to encounter patients in different clinical settings. They function as sub-interns responsible under supervision for their patients. Students are attached to a range of clinical settings allowing them to work continuously in the clinical environment and to consolidate their basic and clinical science knowledge. Personal and professional development and patient advocacy skills developed in the early years of the MBBS course will be further developed and extended within a clinical context.

Learning activities focuses upon providing a clerkship experience for students. Clinical skills, practical techniques and procedures and underpinning knowledge specific to each discipline area will be linked to the clinical settings. A particular focus will be given to integrating key knowledge, skills and techniques applicable across disciplines.

In these rotations, the students will be expected to function as members of the service teams and will be assessed according to their ability to contribute to the care of the unit’s patients.

- Theme 1: The student will demonstrate their abilities to work as an effective member of a multidisciplinary health care team, appropriate professional and ethical behavior, and communication skills with patients and colleagues.
- Theme 2: The student will demonstrate their understanding of the context of illness, their ability to apply evidence-based medicine to clinical decision making in practice and to access information via technology.
- Theme 3: The student will demonstrate their understanding of the patho-physiological basis of health and disease, appropriate critical thinking in all aspects of clinical care and a commitment to independent learning, continuing education and quality assurance activities.
- Theme 4: The student will demonstrate appropriate clinical history and examination skills at the standard of an intern, the ability to competently diagnose and appropriately manage emergency and non-emergency cases and their ability to perform relevant clinical procedures.
Year Four
Four clerkship rotations of 10 weeks each related to four main clinical disciplines, i.e., Surgery, Medicine, Pediatrics, and Obstetrician/Gynecology.

0900501: Obstetrician/Gynecology (10 weeks)
0900502: Pediatrics (10 weeks)
0900503: Medicine - I (10 weeks)
0900504: Surgery – I (10 weeks)
0900505: Electives “6 weeks”

All students are offered 6 weeks of electives allowing them to explore educational experiences which they found interesting. This could be Clinical, Basic Medical Sciences or Research. Report on their experience during the elective will be presented and constitutes part of their portfolio.

Year Five
Second rotation of clerkships surgical and medical sub-specialties, Family Medicine and Psychiatry.

0900601: Medicine - II (10 weeks): Cardiology - 3 weeks; Neurology - 3 weeks; ENT/Dermatology/opthalmology - 3 weeks.
0900602: Surgery - II (10 weeks): Orthopedics - 3 weeks (1 day Anesthesia on Sundays); Urology - 3 weeks (1 day Anesthesia on Mondays) and Accident and Emergency - 3 weeks (2 days Radiology for 2 hours)
0900603: Family Medicine (8 weeks): Family Medicine
0900604: Psychiatry (2 weeks): Psychiatry
GENERAL EDUCATION REQUIREMENTS
Every student is required to take 24 credit hours of general education courses distributed over six domains. Twelve (12) mandatory credit hours are selected from domains 1, 2, and 3, and twelve (12) elective credit hours selected from domains 4, 5 and 6 as indicated below. **Students are advised to finish these courses by the end of year 3 of their medical study.**

**Domain 1:** Islamic Studies, History and Culture (3 Credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>0104100</td>
<td>Islamic Culture</td>
<td>3</td>
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</table>

**Domain 2:** Languages (6 Credits)

Arabic Language, Literature and Culture: Take one of the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>0201102</td>
<td>Arabic Language (for native Arabic speakers)</td>
<td>3</td>
</tr>
<tr>
<td>0201105</td>
<td>Arabic Language (for non-native Arabic speakers)</td>
<td>3</td>
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</table>

English Language, Literature and Culture: Take one of the following courses

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>0202121</td>
<td>English for Medical Students</td>
<td>3</td>
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**Domain 3:** Information Technology (IT) (3 Credits)

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<th>Course Code</th>
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<tbody>
<tr>
<td></td>
<td>Introduction to IT</td>
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**Domain 4:** Literature and Humanities (3 Credits)

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>0602246</td>
<td>Human Rights in Islam and International Declarations</td>
<td>3</td>
</tr>
<tr>
<td>0203102</td>
<td>History of the Arabian Gulf</td>
<td>3</td>
</tr>
<tr>
<td>0900107</td>
<td>History of Medical and Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>0710109</td>
<td>Arts and Medicine</td>
<td>3</td>
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**Domain 5:** Applied Sciences, 3 Credits

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1430101</td>
<td>Astronomy and Space Sciences</td>
<td>3</td>
</tr>
<tr>
<td>0401142</td>
<td>Man and the Environment</td>
<td>3</td>
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**Domain 6:** Social Sciences and Education (3 Credits)

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>0204102</td>
<td>UAE society</td>
<td>3</td>
</tr>
<tr>
<td>0206103</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>0305110</td>
<td>Introduction to Economics</td>
<td>3</td>
</tr>
<tr>
<td>0302120</td>
<td>Introduction to Business Administration</td>
<td>3</td>
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**Domain 7:** one 3-credit hour course from Domain 4, 5, or 6
TEACHING and LEARNING STRATEGIES

Teaching and Learning Methods: “Blended Authentic Learning”, Problem Based Learning, Team Based Learning and Task Based Learning.

Problem Based Learning (PBL)

At the College of Medicine, University of Sharjah, UAE, the main strategy of learning is PBL. Each week, small group of students (approx. 8 – 10) discuss a problem, identify by the end of the first tutorial session their learning needs and objectives. The second tutorial session takes place at the end of the week during which students present their findings and new knowledge acquired from their collaborative work and self-directed learning. Each student develops, presents and shares with the group a concept map of his / her learning, explaining the knowledge concepts relation in the problem. In the two tutorial sessions, the tutor who is a faculty member facilitates the discussion. On the first day of the following week and before starting the next problem, a review session is offered to the students attended by more than one faculty usually from Basic Medical Sciences department and Clinicians (Figure – The Sharjah Model of PBL/TBL).

Between the first and second tutorial sessions, structured activities are offered by the college “resource sessions, clinical skills labs, anatomy labs, pathology labs etc”. PBL does not stop at the end of year 3. It extends to the clerkship phase as “Patient-centered students’ led tutorials”. The students in a clerkship are approx. 5 – 6, one student of the group selects one patient he / she was responsible for his / her workup. The student who is responsible for the patient acts as the group facilitator in the first tutorial session and discuss the patient’s presentation and management. Triggers in the history, physical examination, investigation and treatment leads to the generation of learning objectives. Tasks are distributed among the group. The students decide together on the date of the second tutorial session. During the second tutorial session, the students invite a faculty who is a specialist in the problem. His role is a resource person commenting and sharing his / her experience with the student. The tutorials are conducted by the students with contribution from the clinical faculty.

Team Based Learning (TBL)

Since 2009, Team Based Learning was introduced changing the resource sessions from a lecture format into a “TBL” format where the students, approx. 80 – 100, go through the typical “pre-class preparations” which is based on the problem’s objectives. When they come to the class, they are given the “Individual Readiness Assurance Test” (IRAT) followed by the “Group Readiness Assurance Test” (GRAT). The typical “Application phase” is part of the second PBL tutorial where additional mini problems are presented. The review session was also changed into a TBL format, integrated and multi-disciplinary.

Task Based Learning

Task Based Learning is practiced in the pre-clerkship phase through a program called “Learning basic medical sciences in the clinical environment”. In each organ system module, a number of tasks were identified e.g. in the respiratory system, one of the task is assessing the respiratory function of a patient. Students are provided with learning outcomes and competencies to be acquired when going through the task. One or more clinician takes responsibility of planning the students’ activities when they go to the hospital. After completing the task, students reflect on their experience, commenting on what they actually see, learnt, did, what went well and suggestions for improvement. This task based learning created a strong link between the Basic Medical Sciences and Clinical Sciences which demonstrates that a blend of authentic learning methods can be used in the same program. What is important is to ensure that the methods converge and complement each other. After the visit, students report and reflect on their experience (students’ feedback form).

Various innovative learning modalities have been adopted during the clinical skills training at the pre-clerkship phase (see Clinical Skills program). The emphasis is on learning by doing, utilizing the standard skills training stages supplemented by simulated patients, mannequins, video-based learning and continuous feedback. The Anatomy teaching and learning is supplemented by cadaveric models, 3-dimensions online models, plastic as well as plastinated specimens. Imaging, surface and functional Anatomy are integral to all teaching and learning activities of this important discipline. It continues to the clerkship phase as Surgical Anatomy (spiral approach).
ASSESSMENT SYSTEM

- Assessment system is developed in order to match the integrated, Problem Based Learning curriculum.
- Assessment in Phase I “Foundation Year” is semester based.
- Assessment in Phase II (years 1, 2 and 3), and Phase III (years 4 and 5) are based on annual assessment system.
- Pass/Fail decisions are made at the end of each year/phase.
- Continuous Assessment takes place at the end of units/semester in Phase II and at the end of each clerkship in Phase III.
- Summative comprehensive assessments checking the acquisition of intended learning outcomes of each phase takes place at the end of Foundation Year, Year Three and end of Year Five.
- Test blueprints are used to guide the identification of what should be assessed, level of expected performance and best testing instruments to be used. This insures adequate sampling and increases the reliability and validity of the examination. Test blueprints are then prepared and super-imposed on curriculum blueprint.
- Student Assessment instruments.
  a. Assessment of knowledge at the know ‘recall’ level and the “knows how” ‘application of knowledge’ levels is based on context rich of MCQs (A-type questions, one best answer) and Extended Matching Questions – R-type.
    - Constructed response questions
    - Key Feature Questions
    - Short Answer Questions (SAQ) and Modified Essay Questions (MEQ).
  b. Assessment of skills ‘shows how’ level is assessed using Objective Structured Practical Examination (OSPE) and Objective Structured Clinical Examination (OSCE).
  c. Assessment of clinical and pathological signs is assessed by using computer based Clinical Image and Video Assessment (CIVA) in each year.
  d. Portfolios, log books and supervisors’ evaluation of student performance are used in assessing students’ population / community based activities and performance in the clerkship. Reflective diary is an important component of the portfolio.
  e. Peers and facilitators evaluations are used in assessing student performance in the PBL tutorials and other small group activities including research groups. This student assessment system provides valid and reliable information about the student.
  f. Direct Observation Clinical Encounter Examination (DOCEE, Hamdy, 2003), using real patients and mini CEX examinations are used during the clerkship phase, at the end of each clerkship rotation and also at the Final Exit MBBS examination
- External Examiners
  Senior professors working in various medical colleges within UAE and outside are invited as External Examiners to conduct the clinical part of Final MBBS examination. These examiners are also provided with the details of

OSCE and written examinations. The following are the extracts from few reports:

a. “I appreciate the method of assessment. The system of assessing students through DOCEE and OSCE is very comprehensive and excellent. There are excellent students” Prof D. Behera, India
b. “The clinical examination is very comprehensive and good selection of real patients. I examined 36 students. The highest mark obtained was 95%. History taking was of a high standard. Clinical reasoning and analysis was impressive” Prof Afif Hadj, Australia.
c. “The examination was organized in a perfect manner. The overall students’ performance was very good and an increasing percentage of excellent students. The exposure to clinical practice, to some extent, has been potentiated with training in role models, video sessions and simulation. It seems to have worked well” Prof Rolf Hartung, UAE.

Assessment of Phase I - Foundation Year
a. Assessment in the Foundation Year is discipline (i.e. course and semester) based.

b. Mid and End-semester examinations are conducted.

c. Results are presented as course GPA and cumulative GPAs.

d. Scores and GPA in (Foundation Year) do not contribute to scores in Phase II and Phase III. Scores and grades reflecting performance in each phase are ‘stand-alone’.

Conditions for proceeding to Phase II
Regulations for Promotion of Foundation Year students to the medical program:

Due to the nature of study in the College of Medicine which is linked to the space available for clinical training in the hospitals and in reference to the University regulation for promotion of student to the First year of Medicine, students must pass all core subjects in the Foundation Year which are: Biology 1 and 2, Chemistry 1 and 2, Physics and their laboratories, Medical English and English. The following specific rules shall apply:

a. Attaining a cumulative GPA > 2.5 in the subject of Chemistry 1 and 2 and Biology 1 and 2, Physics and their labs and Medical Education in addition to cumulative GPA 2.5 in all subjects studied by student.

b. Priority in ranking will be according to student GPA in Chemistry, biology, Physics and their labs and Medical Education. Then the cumulative GPA in all subjects studied.

c. Students who successfully score that above GPAs are subject to competition for seats available in these colleges.

d. The number of available seats for the College of Medicine are decided to availability of clinical training in the hospitals.

e. Student can repeat the Foundation Year only once whether he / she joins the Foundation Year in the fall or spring semester of the same academic year.

f. A student repeating the Foundation Year and still unable to achieve the required GPA will leave the program. He / she can transfer to another program in the University.

g. University regulations will apply to all other cases not included in the above student categories.

h. GPAs of year one “Foundation Year” and GPAs of University Compulsory and Elective courses will be reported as GPAs following standard university regulations. They do not add to the score and grades of the medical program but they could be transferred to other programs in the University.
Assessment in Phase II (Pre-clerkship Phase)

There are a maximum of three assessments during the years 2 and 3. Each examination is structured to include two to three systems. The examination tools include written, OSPE, OSCE, project/portfolio and continuous PBL assessment. At the end of the year, the comprehensive result from all examinations have the following weightage.

**Years 1 and 2 examinations:** End-year results are based on the aggregate scores accumulated from the end-of-units assessments during each year (1 and 2). Scores are reported as percentage.

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written: MCQ, SAQ and MEQ</td>
<td>Year 1: 50% Year 2: 45%</td>
</tr>
<tr>
<td>OSPE</td>
<td>Year 1: 20% Year 2: 15%</td>
</tr>
<tr>
<td>OSCE (Clinical Skills)</td>
<td>Year 1: 15% Year 2: 15%</td>
</tr>
<tr>
<td>Portfolios (consisting of Research activities and population/community-based activities)</td>
<td>Year 1: 5% Year 2: 15%</td>
</tr>
<tr>
<td>PBL Continuous Assessment and Portfolio</td>
<td>Year 1: 10% Year 2: 10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Year 1: 100% Year 2: 100%</td>
</tr>
</tbody>
</table>

Passing score: In order to proceed from year 1 to year 2 and year 2 to year 3, a student must have a cumulative score of a **minimum of 70%** in the respective year.

**Re-sit examination:** Students scoring less than 70% are eligible to sit for a re-sit examination in August of the same academic year. This examination is a comprehensive written examination covering all units of the corresponding year and OSCE and OSPE.

Re-sit examination is also given to students who did not appear in any examination due to medical reasons approved by the Dean of the College. In all cases, the re-sit examination is counted as an attempt. The re-sit examination for medical reasons is only in the examination missed. Marks obtained in re-sit examination for all except medically excused students, the minimum pass mark of 70% is given. For medically excused students, the actual score is counted.

**Repeat:** Students scoring less than 70% in the re-sit examination repeat the year. Students are allowed to repeat a given year only twice. If not passed, advised change of majors.

**Year 3 Examinations**

Consisting of continuous assessment of Multi-system unit, Integrated Medicine and Surgery, Community and Population based activities, Tutorial assessment, Evidence Based Medicine). The following two examinations are given:

1. **End of first semester of year 3 exam.** It consists of the following components:

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written: MCQ, SAQ and MEQ</td>
<td>50%</td>
</tr>
<tr>
<td>OSCE (Clinical Skills)</td>
<td>20%</td>
</tr>
<tr>
<td>OSPE</td>
<td>20%</td>
</tr>
<tr>
<td>PBL (Continuous Assessment)</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

Scores derived from end of years 1, 2 and assessments in year 3 contribute **60%** “Continuous assessment of Phase II”.
1. **End of Year 3 Comprehensive Exam**: Students are assessed on the different competencies acquired during phase II (years 1, 2 and 3). The examination contributes 40% to the final aggregate scores for Phase II. The 40% accruing from the comprehensive examination is distributed as follows:

<table>
<thead>
<tr>
<th>Written: MCQ, SAQ and MEQ</th>
<th>50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSCE</td>
<td>20%</td>
</tr>
<tr>
<td>OSPE</td>
<td>10%</td>
</tr>
<tr>
<td>Hospital rotation (50% of marks from case reports and 50% from 2 clinical examinations)</td>
<td>10%</td>
</tr>
<tr>
<td>Community Medicine (Family Health program 4%; Maternal and Child Health 4%; Preventive Medicine 4%; and comprehensive 3 case write-ups and performance Procedures of Aged Care 3%)</td>
<td>15%</td>
</tr>
<tr>
<td>PBL (Continuous Assessment)</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Total** 100%

The 60% contribution from aggregate assessment scores in years 1, 2 and 3 is derived as follows: 20% on year 1, 25% on year 2 and 15% on Year 3.

**Passing score**: In order to proceed to the clerkship phase, a student must score a minimum of 70% on the aggregate of Phase II Continuous Assessment and end of Year 3 assessments.

**Re-sit examination**: Students scoring less than 70% are eligible to sit for a re-sit examination in August of the same academic year. This examination is a comprehensive written examination covering all units of the corresponding years (years 1, 2 and 3), OSCE and OSPE.

**Repeat**: Students scoring less than 70% in the re-sit examination shall repeat year 3. A student is allowed to repeat the year only once, if not passed after 2 years, advised change of major.

**Withdrawal**: Students failing to attain a pass (70%) at the end of the repeated year are given, on the recommendation of the College Council, a fourth attempt to re-sit the examination in August. If a student fails to achieve the expected pass score (70%), after this final attempt, they will have to withdraw from the medical program. He/she is given the option to transfer to another program in the University.

**Assessment in the Clerkship Phase III (Years 4 and 5)**

**General Regulations**

1. The minimum cumulative pass mark to pass clerkship examinations is 70 %, provided that a student scores a minimum pass mark (70%) in the DOCEE + OSCE.

2. On the 9th week of rotation, the coordinators of the clerkship report to the College the suitability of any student to appear/not to appear for the clinical examination on the basis of his/her continuous assessment. Unsatisfactory performance does not allow students to take the end of clerkship examination.

3. If a student fails in the clerkship examination and this failure is due to a low score on clinical examination, s/he is given a re-sit clinical exam within 15 days of the first examination.

4. Students failing the re-sit examination are allowed to continue his 5th year; however, they have a re-sit examination with a next batch of students during the 1st end-clerkship rotation examination. They also have to repeat 4 weeks of training in the clerkship in which they have failed, before taking the re-sit examination.

5. **In order to sit for the EXIT examination at the end of year 5, all students must pass all end-clerkship rotation examinations.**

6. Any student failing in more than **TWO** clerkship examinations in Year-4 **have to repeat the year.**
Student’s Assessment

Year 4

Clerkship performance evaluation is based on:

- Continuous assessment - 20%
  1. Attendance
  2. Active participation in the clerkship activities (supervisory reports)
  3. Portfolios (contents in clerkship guide)

- End of clerkship examinations - 80%
  1. Written - 35%
  2. OSCE - 15%
  3. Direct Observation Clinical Examination (DOCEE) - 30%

Year 5

1. At the end of year 5, the exit exam has 50% weightage and 50% from the aggregate scores of the seven clerkships in year four and five.

2. There are three major clerkship rotations of 10 weeks each e.g. Medicine II, Surgery II and Family Medicine and Psychiatry. The assessments at the end of each of these rotations consist of:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Assessment (attendance and portfolio)</td>
<td>20</td>
</tr>
<tr>
<td>Written paper at the end of 10 weeks</td>
<td>50</td>
</tr>
<tr>
<td>OSCE / DOCEE</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Final Integrated MBBS Examination

This is the final hurdle students have to pass it in order to graduate. At the final gate, we ensure that the outcome competencies have been acquired.

Successful completion and passing of all the Clerkship rotations is a requirement for taking the final Summative Integrated MBBS examination.

The final EXIT examination has a weight of 50%, consisting of the following components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written: MCQ, SAQ and MEQ</td>
<td>40%</td>
</tr>
<tr>
<td>OSCE (Clinical Skills)</td>
<td>20%</td>
</tr>
<tr>
<td>DOCEE</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The 50% contribution from aggregative assessment scores in year 4 and 5 examination are: Year 4 – 30% and Year 5 – 20%.
Pass score for completion of the Medical program
A minimum score of 70% on the aggregate scores of continuous clerkship assessment, from the seven clerkship rotation examinations, and final MBBS examination is required in order to pass. In addition, a student must get a pass score (70%) in the clinical components (OSCE + DOSEE) of the final MBB exit examination. Any student failing to achieve this is declared fail and has to repeat the examination in December of the same academic year.

Re-sit of the final exit examination at end of year five:
Students who fail to attain the passing score on the first attempt in May have a maximum of 3 more attempts, the following December, May and December, as long as the student does not exceed the number of years allowable to remain in the program, as per University regulations (currently 50% of the total duration of the program, i.e. 9 years (6 years + 3 years).

Graduation requirements
Successful completion of the medical program with a minimum score of 70%.
Satisfactory completion of the general and elective University requirements.
Faculty list 2014-2015

• Prof. Debadatta Panigrah, Professor and Acting Dean, Clinical Microbiology & Infectious Disease. Doctorate Post graduate Medical Institute, Chandigarh, India. (1977). Fellow Royal College of Pathologist, London (1998)

• Prof. Randa Mostafa, Professor, Human Physiology. Ph.D Cairo University, Egypt. (1992)


• Dr. Nahed Abdelkalek, Associate Professor, Family & Community Medicine. DrPH. (Doctor of Public Health). Alexandria University, Egypt (1989)

• Dr. Mohamed Al Homssi, Associate Professor, Pathology. American Board Certified Pathology. (1987)

• Dr. Essam Agamy, Associate Professor, Embryology. Reading University, UK

• Dr. Zein Mirghani, Associate Professor, Ph.D. Biochemistry, Wales University, UK. 1981

• Dr. Adel Moselhi, Associate Professor, Physiology. Ph.D. McMaster University, Canada. (1999)

• Dr. Nihar Dash, Assistant Professor, Clinical Microbiology. Doctorate All India. Institute of Medical Sciences, New Delhi – India (1997). Master Infectious Disease, London University, UK. (2005)

• Dr. Mohamed EL Hassan Abdalla, Assistant Professor, Medical Education. Ph.D. Al Jazerah University – Soudan (2012)

• Dr. Emad Nosair, Assistant Professor, Anatomy. Ph.D Ain Shams University, Cairo, Egypt (1997)

• Dr. Anu Vinod Ranade, Assistant Professor, Anatomy. Ph.D Manipal University (MAHE), India (2007)

• Dr. Nermine Samir, Assistant Professor, Anatomy. Ph.D Ain Shams University, Cairo, Egypt (2004)

• Dr. Mohamad Ahmad Eladl, Assistant Professor, Anatomy. Ph.D Suiz Canal University, Cairo, Egypt (2006)

• Dr. Maha Guimei, Assistant Professor, Pathology. Ph.D Alexandria University, Egypt (2011)

• Dr. Maha Saber, Assistant Professor, Pharmacology. Ph.D. Cairo University, Egypt (2006)

• Dr. Ahmed Elserafi, Assistant Professor, Genetics. Ph.D University of South Hampton, UK (2009)

• Dr. Samrein Ahmed, Assistant Professor, Biochemistry. MBBS. Khartoum, Sudan, M.Sc. University of Leicster. Ph.D. University of Leicester – UK (2013)

• Dr. Farhan Cyprian, Assistant Professor, Immunology. Ph.D. Ecole Normale Superieure de Lyon, France (2010)

• Dr. Sundos Al Omar, Visiting Faculty, Physiology. Ph.D. University of London, UK (1984)

• Dr. Saravanan Coumaravelou, Visiting Faculty, Clinical Psychology. Ph.D. International Islamic University, Malaysia. (2014)


• Ms. Hiba Barqawi, Lecturer, Microbiology. MPHARM - University of Bath – London, UK – (2006)

• MPHIL - Imperial College – London, UK – (2010)
• Dr. Azma Abdul Malek, Clinical Tutor. MBBS – Malaysia (1993)
• Dr. Ayad Moslih, Clinical Tutor. MBBS. Gulf Medical University, Ajman – UAE (2005). M.Sc. Maastricht University, Poland – (2013)
• Dr. Nuha Yousif Abdalla, Clinical Tutor. MBBS. Khartoum
• Dr. Maisoon Mairghani, Clinical Tutor. MBBS.
• Dr. Lamia Al Tayeb, Clinical Tutor. MBBS. Khartoum
• Dr. Hend Mabrouk Sadek, Clinical Tutor. MBBS. University of Sharjah – UAE (2011)
• Dr. Samiya Sharaf, Clinical Tutor. MBBS. Karachi University, Pakistan