

# Postgraduate Catalog

ACADEMIC YEAR 2023 - 2024



جامعة محمد بن راشد  
للطب والعلوم الصحية  
Mohammed Bin Rashid University  
of Medicine and Health Sciences

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This catalog applies to the academic year 2023-24 and provides information about postgraduate programs, resources, support, organization and services at the Mohammed Bin Rashid University for Medicine and Health Sciences (MBRU) for the benefit of graduate students, faculty, administrative staff of the University, prospective students, parents, sponsors and other stakeholders. The catalog of the student's entering year will govern the general program and will serve as a contract between the University and the student to ensure that the rules, regulations, and program completion requirements in effect at the time of a student's initial enrollment remain consistent throughout a student's program of study.

MBRU reserves the right to modify, without prior notice, the contents of its catalog, including but not limited to, programs, policies, regulations, procedures, courses of study, course offerings, academic requirements, and teaching staff as deemed necessary. The student should, therefore, become well acquainted with this catalog and keep it as a reference for monitoring and measuring progress toward a degree. Failure of students to comply with the stated University, college and program regulations could result in other ramifications and penalties.

This catalog has been drafted to conform to the related UAE laws and Ministry of Education (MOE) rules and regulations.

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# **Institutional Information**



## Institutional History

His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai announced the establishment of Mohammed Bin Rashid University of Medicine and Health Sciences (MBRU) in 2014 and signed Decree number 7 for the formal establishment of the University in June 2016. Currently, the University offers one accredited undergraduate and nine postgraduate degrees through its three colleges: Hamdan Bin Mohammed College of Dental Medicine, the College of Medicine, and the College of Nursing and Midwifery. From these Colleges, MBRU has produced more than 1000 peer-reviewed publications, more than 200 graduates, and hosts a diverse student body of more than 40 nationalities. All programs offered by MBRU are accredited by the UAE's Ministry of Education, and the university is affiliated with a plethora of clinical and academic partnerships with reputable regional and global organizations.

Other academic departments include the Institute of Learning (IoL), the Deanship of Postgraduate Medical Education (PgME), and the Deanship of Research and Graduate Studies. IoL is an innovative and comprehensive department that provides support to healthcare professional educators with pedagogical skills, assists practicing healthcare professionals to maintain and improve on their as well as offers programs and research in the science of healthcare profession education. PgME offers specialized clinical training programs tailored to meet the increasing demand for highly skilled physicians and health professionals within the region. All PgME programs hold national or regional accreditation and are designed to prioritize competency-based clinical training. Through a meticulously structured curriculum, learners are empowered through research activities, medical simulation, and the development of essential soft skills. In parallel, the Deanship of Research and Graduate Studies fosters an environment conducive to innovation and intellectual growth, fuelling advancements in healthcare both locally in the UAE and on a global scale by developing a robust research governance structure. This Deanship is committed to delivering high-impact translational research underpinned by a clear objective to elevate clinical practice, influence health policy, and ultimately improve the well-being of our community. By synergizing expertise, resources, and knowledge, learning at MBRU stands as a beacon of progress, dedicated to the betterment of healthcare education, research, and ultimately, the health of individuals and societies.

MBRU is the academic arm of Dubai Academic Health Corporation, Dubai's first integrated academic health system. The Corporation strives to advance health for humanity through its mission to impact lives and shape the future of health through the integration of care, learning, and discovery. By living its core value of Patient First, the Corporation aims to set a global standard of patient outcomes for generations to come.

The highly experienced faculty and world-class facilities provide medical students with early clinical exposure from year one, and extensive clinical training to postgraduate dentists, in line with the UAE Centennial 2071 to develop education with a focus on advanced technologies.

All programs offered by MBRU are benchmarked against international standards to ensure high-quality education which allows its graduates to be competitive globally, both in the job market and in securing advanced specialist training positions. MBRU's academic partner is

Queen’s University Belfast in the United Kingdom. This partnership aims at enhancing the quality of all aspects of the medical program and supporting the university on strategic and operational issues.

## Vision, Mission, Value and Goals

### Vision

Together we advance health for humanity.

### Mission

We serve to impact lives and shape the future of health through the integration of care, learning and discovery.

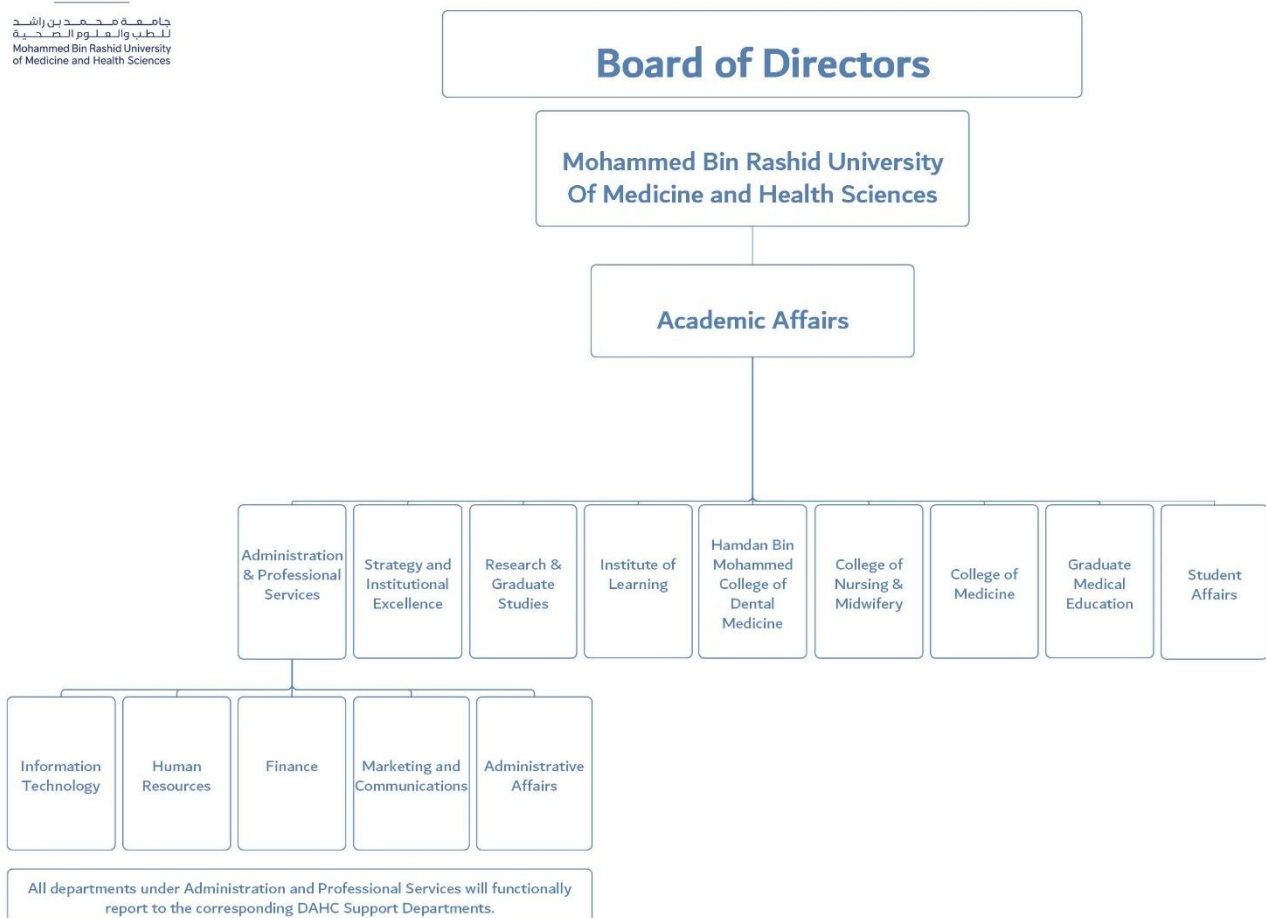
### Values

Patient First, Respect, Excellence, Teamwork, Integrity, Empathy

## Organizational Structure



### Mohammed Bin Rashid University Of Medicine and Health Sciences Organization Structure



## Statement of Licensure

Mohammed Bin Rashid University of Medicine and Health Sciences located in Dubai Healthcare City - Dubai, UAE has been licensed by the Ministry of Education of the United Arab Emirates, since 15 December 2014 to award degrees and qualifications in higher education. Through its Commission for Academic Accreditation (CAA), the Ministry has accredited all MBRU graduate and undergraduate degree programs.

All Programs are developed in alignment with international quality standards and based on principles of continuous quality enhancement.

\*The Hamdan Bin Mohammed College of Dental Medicine Programs:

- Master of Science in Periodontology, accredited since August 2013 and the first cohort was admitted in September 2013
- Master of Science in Endodontics, accredited since December 2012 and the first cohort was admitted in February 2014
- Master of Science in Orthodontics, accredited since December 2012 and the first cohort was admitted in January 2013
- Master of Science in Pediatric Dentistry, accredited since December 2012 and the first cohort was admitted in January 2013
- Master of Science in Prosthodontics, accredited since August 2013 and the first cohort was admitted in September 2013

\*The Hamdan Bin Mohammed College of Dental Medicine antedated MBRU as Dubai School of Dental Medicine and was absorbed into MBRU in 2014

The College of Medicine Programs:

- Bachelor of Medicine and Bachelor of Surgery, accredited since January 2016 and the first cohort was admitted in August 2016
- Master of Science in Biomedical Sciences, accredited since July 2019 and the first cohort was admitted in August 2020
- Doctor of Philosophy in Biomedical Sciences, accredited since April 2021 and the first cohort was admitted in August 2021

The College of Nursing and Midwifery Programs:

- Master of Science in Cardiovascular Nursing, accredited since September 2019 and the first cohort was admitted in August 2020
- Master of Science in Pediatric Nursing, accredited since September 2019 and the first cohort was admitted in August 2020

## Statement on Research

MBRU aspires to become a leading research-focused medical academic institution and to create an innovative and enriching research environment that will support the advancement of healthcare in the UAE and globally. MBRU aims to deliver high impact translational research with a clear objective to ultimately enhance clinical practice, health policy and the health of the community.

To achieve this, we:

- Incorporate early research exposure in our undergraduate and graduate programs, hence developing the next generation of scholars who will drive the progress of medical knowledge and discovery.
- Support faculty and staff in pursuing their research interests and building productive collaborations.
- Provide supportive policies, infrastructure and resources to assist researchers to achieve maximum impact for their research.

## Financial Policies

Student Admissions and Registration (SAR) in collaboration with the Finance Department and Partnerships and Community Engagement Department supports students with completion of financial status and can advise on issues relating to tuition fees and scholarships. For details, please refer to the Student Handbook (Section 4.2).

MBRU reserves the right to revise all tuition and related fees. Any change will be communicated to students at least six months before taking effect. The maximum increase in fees will not exceed 20% over the duration of the program. The approved tuition fees and fee schedule will be published annually. The yearly tuition covers all educational expenses, recreational, library, insurance and laboratory activities. It does not cover the cost of clinical electives taken inside or outside the country.

Tuition charges are due and payable in full at the specified deadlines of each academic term as per the Schedule of Tuition and Fees. The final responsibility for payment of tuition and fees charged rests with the individual student and their sponsors.

Students facing financial hardships may request from Student Admissions and Registration Department to reschedule payments on agreed terms. Students with external scholarships for tuition fees must provide written confirmation of the scholarship as specified in the Schedule of Tuition and Fees before the payment deadline. Sponsored students who do not submit the required confirmation of sponsorship and continue in enrolment will assume personal responsibility for all tuition charges and applicable fees.

Students who fail to pay all applicable tuition charges by the established payment deadline(s) or are late in paying their fees may be subject to denial of academic services or cancellation of current and/or future registration.

Unless otherwise specified, fees are due and payable within 15 days of the invoice date.

Payments of tuition and fees may be made by means specified in the published Schedule of Tuition and Fees, and notification of tuition and fee charges by the Finance Department via the student’s university email address constitutes official notice of financial liability. Additional policies on tuition fee refunds are detailed in the Student Handbook (Section 4.2).

## Library Resources

The Al Maktoum Medical Library (AMML) supports MBRU’s students, medical and academic staff as well as the wider medical community, by providing access to quality and authoritative information resources in the field of medicine and research. Located on the first and second floors of the Mohammed Bin Rashid Academic Medical Centre, the state-of-the-art library offers a collection of point-of-care resources and medical education databases and provides spaces for individual quiet study as well as group and collaborative study for members. In addition, its facilities include a reading room, study lounges and pods, meeting rooms and an Information Commons.

Library Operating hours	
Monday - Thursday	8:00 am – 9:30 pm
Friday	8:00 am – 4:00 pm
Saturday	8:00 am – 4:00 pm
Sunday and Public Holidays	Closed

The library is a modern 30,000 square feet facility. It houses over 3000 print books, more than 250 print journals titles and holds subscription to a range of electronic resources including e-Journals and eBooks covering a wide field of medicine and allied health topics, bringing a wealth of up-to-date and reliable information to users. The library also has multiple copies of course core textbooks to support the curriculum at MBRU. Library electronic resources can be accessed remotely using the student’s university email ID and password. The electronic resources include more than 30 databases covering 11,000 electronic journals titles, and more than 10,000 electronic books. The library has developed an extensive network for sharing educational resources and journals with other libraries in the region. New students will receive an induction into using the library and its online services as part of orientation, and librarians are available throughout the year to help students locate and use the materials and facilities they require. The regulations for use of the library facilities are available in the Student Handbook (Section 4.7). Library services include reference and information services, information literacy sessions, research support, interlibrary loans and document delivery, remote access, technology hub and wellness services.

## Physical Teaching Resource and Facilities

### Classrooms

The Mohammed Bin Rashid Academic Medical Center (MBR-AMC), Building 14, is the home base for MBRU. Currently, it houses a wide range of meeting rooms, lecture halls, and

flexible learning spaces that can accommodate up to 100 students each depending on the setup of the room. There is also the Ahmed Siddiqui Conference Center which is a state-of-the-art auditorium with fixed theatre-style seating designed to accommodate 337 students. In addition, there are 9 tutorial rooms, each able to accommodate 8-10 students and are ideal for conducting small group learning. In addition to the home base, there is Al Jalila Foundation, (building 12); with 8 flexible lecture halls which can hold 16-32 students depending on the set up of the room. There is also a flexible large lecture hall which can accommodate 88-176 students.

## Case Method Halls

MBRU houses two state-of-the-art case method halls, ideal for large classes that can accommodate up to 80 students.

## Teaching Laboratories

MBRU has four teaching laboratories that accommodate up to 50 students at a time:

### **Multidisciplinary Laboratory**

This 'wet' teaching laboratory is for practical sessions in subjects that involve wet preparations such as Microbiology and Hematology.

### **Physiology Teaching Laboratory**

This innovative facility has twelve state-of-the-art workstations with professionally designed lessons and labs dedicated to exploring physiological processes including Electrocardiography, Blood Pressure, Spirometry, and Electromyography.

### **Computer Laboratory and Examination Hall**

There are 70 stations in the computer laboratory, ideal for conducting computer-based classes and examinations.

### **Anatomy Laboratory**

MBRU has an Anatomy Lab ideal for teaching Anatomy and related subjects. It has 12 dissecting tables and 1 master table, a morgue, a storage facility, student lockers, and technician offices.

## Clinical Teaching Facilities

### **The Dubai Academic Health Corporation (DAHC)**

MBRU is the academic arm of DAHC, which is the major public sector healthcare provider in Dubai. It belongs to the government of Dubai. The healthcare system includes six hospitals – Rashid Hospital, Dubai Hospital, Latifa Women's and Children's Hospital, Al Jalila

Children's Specialty Hospital and Hatta Hospital, Dubai Dental Hospital - and fourteen Primary Healthcare Centers supported by a full range of ancillary services. Service is provided in all the core specialties and sub-specialties. All these facilities support clinical training and research.

**Rashid Hospital** currently has 762 beds serving all specialties. The hospital has been ranked as the largest emergency and casualty hospital in the Emirate of Dubai and the region. The hospital includes surgical units, internal medicine, highly specialized intensive care units, operating rooms and clinical support.

**Dubai Hospital** has 610 beds, including 424 inpatient beds and 186 beds for one-day treatments, to serve more than 26 specialties. The hospital includes several highly specialized surgical, medical and intensive care departments, emergency department, operating rooms and clinical support of all kinds. It also provides outpatient services.

**Latifa Hospital for Women and Children** (formerly Al Wasl) is the first specialized hospital for obstetrics, gynecology and children in the country. with a capacity of 253 beds. The hospital provides laparoscopic surgery for gynecological diseases, including the gynecological system and tumors, and is accredited as a center of excellence for gynecological endoscopy.

**Al Jalila Children's Specialty Hospital** aims to foster clinical innovations, astute learning and development program and cutting-edge research facilities. Al Jalila Children's comprises 200 beds in a child and family friendly environment.

**Hatta Hospital** is a 69-bed multi-specialty hospital located in the heart of Hatta town, situated 80 kms from Dubai. This health facility aims to strengthen the health sector and provide services that meet the growing needs of the rural population.

**Dubai Dental Hospital (DDH)** was launched in 2008. DDH is the largest specialized dental hospital in Dubai and provides the highest standards of dental care for the community and serves as a secondary referral center for complex dental cases and oral mucosal disease. The hospital is a state-of-the-art facility, with eight specialty dental departments, 63 dental chairs equipped with modern technology tools and microscopes for the Endodontic clinics, advanced dental laboratory, and an in-house Imaging Department. The Dubai Dental Hospital offers, under one roof, integrated dental services including general dentistry, pediatric dentistry, cosmetic dentistry, orthodontics, periodontal treatment, and inhalation and intravenous sedation for anxiety control. DDH achieved Joint Commission International's Gold Seal of Approval® for Ambulatory Care Accreditation by demonstrating continuous compliance with its internationally recognized standards in 2018.

Thirteen **Primary Healthcare Centers** are spread across the Emirate of Dubai, each health center providing care to about 30,000 people based on the geographical location. Health centers are established with all necessary medical facilities and qualified healthcare staff to work in this field.

In addition to the above, specialized care is provided through the following **Specialized Care Centers:**

Dubai Genetics Center



Dubai Diabetes Center  
Dubai Center for Complementary Medicine  
Dubai Blood Donation Center  
Dubai Cord Blood and Research Center  
Dubai Center for Physiotherapy and Rehabilitation  
Dubai Fertility Center  
Senior Citizens Happiness Center  
Dubai Thalassemia Center

### **Affiliated Healthcare Providers and Clinical Facilities**

MBRU has agreements and partnerships with several key public and private healthcare providers in Dubai and the UAE to collaborate in areas of medical education, research and service provision. Through such collaborations, MBRU aims to advance health in the region through an innovative and integrated academic health system. Specialized training programs and partnerships strengthen the journey of medical students and healthcare professionals by providing them with opportunities starting from undergraduate education to specialization and continuing education.

### **Private healthcare Hospitals with MBRU Partnerships**

**Mediclinic Middle East** operates seven hospitals in the UAE with over 950+ inpatient beds, including the City Hospital, Parkview Hospital, Welcare Hospital and Dubai Mall Clinic in Dubai.

**Moorfields Eye Hospital** is a world-class teaching facility in Dubai Healthcare City and offers a series of courses covering the spectrum of subspecialties within ophthalmology. These two private hospitals have developed collaborative agreement with MBRU and participate in joint health profession training, and research.

### **Simulation and Clinical Skills Training Center**

The Khalaf Ahmad Al Habtoor Medical Simulation Center (KHMSC) is a training facility located in Building 14 in DHCC where healthcare professionals receive training to improve quality of care and teamwork in a simulated environment with no risk to patients. KHMSC is accredited by the Society of Simulation in Healthcare (SSH) and hosts an American Heart Association (AHA) International Training Center.

The Simulation Center, a 19,500 sq. ft. facility, has all the elements of a virtual hospital. It has two fully functioning operation rooms; four ICU bays - including a pediatric bay; and a wardroom, three debriefing rooms, a small meeting room and a large training room on the second floor. There is a large skills training and competency testing room (e.g., intravenous cannulation, endotracheal intubation, lumbar puncture). In the basement is a complete Emergency Room with facilities for imaging.

### **Center for Advanced Surgical Education (CASE)**



CASE is accredited by the American College of Surgeons - Accredited Education Institute (ACS-AEI) and provides high standards of education and training for surgical teams. Faculty at CASE deliver surgical education to undergraduate medical students. The Center also offers a Fellowship in Advanced Surgical Education.

## Digital Learning Lab

The Digital Learning Lab, located on the 3rd Floor in Building 12, is a collaborative space that allows for creation of engaging digital content that will provide transformative learning experience to learners in equitable learning environments. This space includes the Re-imagine laboratory, a video recording laboratory, a podcast recording laboratory, and a production laboratory, each of which support development of digital content from ideation to production.

## Research Laboratories

### **The MBRU Biomedical Research Center (MBRU-BRC) supported by the Al Jalila Foundation**

The MBRU-BRC on the 7th floor of the Al Jalila Foundation building, spans 950 SqM. The layout includes a large (320 m<sup>2</sup>) open laboratory fully equipped with state-of-the-art instruments. It is fitted with 10 large island benches which can each accommodate 6 researchers. Entry to the research facilities is regulated by an access control system.

The center houses 3 tissue culture laboratories, an equipment room, a chemical store, a service room, a cold room, a tissue bank, a microscopy room, and dedicated laboratories for histopathology, and genetics. A basement facility incorporates a space for a general store.

As part of its amenities, the center has 3 meeting rooms, 5 faculty offices, and an extensive write-up area with desks and computer terminals to accommodate 60 researchers including: graduate students, post-doctoral fellows, and laboratory assistants, as well as a collaborative area.

### **Microbiology Laboratory**

The Microbiology Laboratories on the 4th floor of MBR-AMC allow for a wide range of molecular and applied microbiology research.

These containment laboratories are fitted with large benches which can accommodate up to 12 researchers. The laboratory is equipped with the latest instruments and two biosafety cabinets that enable investigation of a wide range of prokaryotic cells. Users also have access to a service room, chemical store, and a cold room.

### **Genome Laboratory**

The Genome Laboratory on the 4th floor of MBR-AMC can accommodate up to 30 researchers including faculty, scientists, bioinformaticians, genetic counselors, postdoctoral fellows, research assistants, and graduate students.

It is home to state-of-the-art long read sequencers, mass spectrometry and a large data analytic center. The long read sequencers include the latest instruments from prominent sequencing companies and feature the REVI0 and PromithION platforms from Pacific Bioscience and Oxford Nanopore Technologies, respectively. The center conducts mass scale DNA/RNA sequencing and is one of the largest academic genomic laboratories in the country. Apart from the sequencing facilities, there is also a general laboratory, two tissue culture suites, and facilities to store samples at -80oC.

The data center is equipped with high performance analytical CPU and GPU clusters that enable scientists to interrogate large data sets and produce indigenous analytical solutions for in-depth OMICs analysis. Numerous artificial intelligence-based software packages are also used for precision analysis.

### **Space and Aviation Research Laboratory**

The Space and Aviation Research Laboratory is the first-of-its-kind in the UAE. Its aim is to promote research in the fields of spaceflight, aviation, and geriatrics in the UAE.

The research is focused on the development of innovative screening/diagnostic methods to assess the risk of cardiovascular diseases, orthostatic intolerance, vascular (dys-) function and will enable new therapeutic countermeasures for maintenance of health, both in spaceflight and aviation as well as the general population.

Researchers from this laboratory closely collaborate with the MBRSC, as well as other agencies including ESA (Europe), (DLR) (Germany), IBMP (Russia), NASA (USA), CSA (Canada), JAXA (Japan) and the European Astronaut Centre (Cologne).

In the laboratory on the third floor of the left wing of MBRU, tests related to the assessment of hemodynamic and autonomic parameters (Task Force Monitor® ), cerebral blood flow (Transcranial Doppler Ultrasound), end tidal CO<sub>2</sub> (Capnograph), postural sway assessment (Force plate), skeletal muscle activity (8-channel EMG system), blood flow in calf (Near Infrared Spectroscopy), cognitive function (Virtual reality headsets), lower body negative pressure (LBNP) are regularly performed.

## **Educational Technology**

### **Registration and enrolment**

All student management records will be on an electronic platform called 'PowerCampus'.

### **Learning Management Systems**

- E-Learning Management System (LMS): The University has subscribed to 'Desire2Learn' as the platform for the LMS.
- ExamSoft platform is used for conducting electronic examinations, archiving question banks, and analyzing results.
- Microsoft Office 365 tools such as Microsoft Teams are used for synchronous delivery of teaching and learning.

## Specialized Software Packages

- PathXL software provides virtual microscopic teaching in histology, anatomic pathology and hematology.
- LAMS - a web-based software that supports in class, blended and online student-centered activities.

Students at MBRU receive IT training and orientation to different IT systems and applications during the initial orientation and throughout the duration of the program and studies; they also have full access to support that is available via the University helpdesk (Student Orientation Schedule).

It is the responsibility of the student to understand and be aware of hardware and software requirements for the different modes of learning.

## Partnerships

MBRU has a few collaborative agreements and partnerships with educational, research and service institutions both within and outside the UAE. Such partnerships aim at enhancing the quality of MBRU's educational programs, widening the University network, and expanding the University's outreach, thus progressing on the University's mission to advance health in the region through an innovative and integrated academic health system. Specialized training programs and partnerships strengthen the journey of medical students and healthcare professionals by providing them with opportunities starting from undergraduate education to specialization and continuing education.

Al Emarat Al Youm Newspaper

Al Jaber Optical

Al Mahameed

Almadallah Healthcare Management

American Heart Association

American University of Sharjah

Association of American Medical Colleges (AAMC)

Awqaf Dubai

Cardiff University

Casanova - AAMC

Cleveland Clinic Abu Dhabi

DP World

Dubai Corporation for Ambulance Services

Dubai Government Human Resources Department

Dubai Health Authority

Dubai Healthcare City - Khalaf Ahmad Al Habtoor Medical Simulation Center and Portsmouth Hospital NHS of Queen Alexandra Hospital

Dubai Healthcare city FZ-LLC and Duke Global Support Corporation

Dubai Institute of Design and Innovation LLC

Dubai Police

Dubai Science Park (DSP)

Dubai Tourism  
Easa Saleh Al Gurg Charity Foundation  
ECG Management Consultants  
Emirates Health Services University of Birmingham  
Emirates Islamic Bank  
Fakeeh University Hospital - Dubai  
GE Healthcare  
Geistlich Pharma AG  
Green Coast Enterprises LLC  
Islamic Affairs and Charitable Activities Department  
KHDA  
Kuwait Institute for Medical Specialization  
Mayo Clinic College of Medicine and Science  
Mayo Foundation for Medical Education and Research  
Mediclinic Middle East Management Services FZ LLC  
Medtronic Meta FZ LLC  
Ministry of Education  
Ministry of Foreign Affairs and International Corporation  
Ministry of Health and Prevention (MOHAP)  
Ministry of Presidential Affairs Scholarship Office  
Mohammed bin Rashid Space Centre (MBRSC)  
Moorfields Eye Hospital – Dubai  
Pfizer Inc.  
Queen's University Belfast  
Research Collaboration Agreement - Bio Fire  
Royal College International - Canada  
Royal College of Surgeons - Ireland (RCSI)  
Sandoq Al Watan  
Saudi Commission for Health Specialties (SCFHS)  
Seoul National University  
Social Security Fund Ministry of Interior  
SRG Holding Limited  
The Association of Academic Health Centers International  
The Princess Grace Hospital  
The Royal Australasian College of Dental Surgeons  
The Royal College of Pathologists  
The Sheikh Hamdan Bin Rashid Award for Medical Sciences  
UAE Red Crescent  
Unilabs Middle East LLC  
United Eastern Medical Services (UE Medical)  
University of Cambridge  
University of Oxford  
University of Palermo  
Wasl Club

[Queen's University Belfast](#)

MBRU has an academic partnership with Queen's University Belfast (QUB) in the United Kingdom. QUB was founded as Queen's College in 1845, before becoming a university on its own right in 1908. It is the ninth oldest university in the United Kingdom and is a member of the UK's Russell Group of leading research-intensive universities.

The goal of the partnership is to provide quality assurance through offering advice on strategic planning, organization and governance of the University and its colleges, as well as infrastructure and educational resources development, development of curriculum, faculty recruitment, senior staff recruitment, student recruitment and faculty development programs.

## Mediclinic Middle East

Mediclinic Middle East is part of Mediclinic International, one of the top ten listed private healthcare groups in the world. Mediclinic operates 74 hospitals and 30 clinics across four countries, including 51 hospitals in South Africa and Namibia, 17 hospitals in Switzerland (under the name Hirslanden) and seven hospitals with over 900 inpatient beds, as well as more than 20 clinics in Dubai, Abu Dhabi, Al Ain and Al Dhafra, UAE.

MBRU has an academic affiliation agreement with Mediclinic Middle East to advance mutual passion for medical education. Under this agreement, students will be able to train at the Mediclinic Middle East's excellent healthcare facilities by their highly trained specialist physicians. Mediclinic Middle East has assigned trained adjunct faculty members as supervisors for students who are embedded in healthcare teams and participate in healthcare delivery under supervision with graded responsibilities according to skills and experience. The training is based on a jointly developed program with clearly defined learning outcomes.

Under this partnership, the clinical academic faculty at MBRU will be granted clinical privileges to treat patients at Mediclinic facilities. Mediclinic Middle East offers students the opportunity to learn in the setting of a large multispecialty private sector healthcare provider.

## Moorfields Eye Hospital – Dubai

Moorfields Eye Hospital – Dubai is the first overseas branch of Moorfields London, the oldest eye hospital in the world. Its world-class facilities and very experienced eye care consultants and specialists ensure that Moorfields Dubai provides the highest and exceptional quality standards of diagnosis and treatment of eye diseases as Moorfields London, while setting the highest benchmark for eye care in the Middle East.

MBRU has a service agreement with Moorfields Eye Hospital – Dubai to collaborate and provide educational activities related to ophthalmology as part of the core curriculum for the students of MBRU.

## Saudi Commission for Health Specialties

The Saudi Commission for Health Specialties (SCFHS) is an independent scientific professional body, established in 1992, with the goal of being a healthy society through qualified health practitioners. They are tasked with the training health care professionals by supervising the scientific and professional training programs represented in the Saudi Specialty Certificate and Diplomas. SCFHS is responsible for supervising and evaluating training programs, as well as setting controls and standards for the practice of health professions. SCFHS develops, approves, and supervises professional health-related and medical education programs, and supervises and approves results of specialized examinations.

In 2018, MBRU signed an agreement with SCFHS to collaborate on postgraduate medical education. In 2020, MBRU received a four-year Institutional Accreditation from SCFHS after meeting all the institutional accreditation standards. This accreditation affirms that MBRU provides all the required educational and clinical resources for the postgraduate professional healthcare programs supervised by SCFHS.

## Research Collaborations

MBRU has established research collaborations for funding laboratory and non-laboratory research projects to support outstanding research proposals in health, medical and biomedical sciences through competitive peer-evaluation processes. The University expects to expand further to identify new and continued collaborations with public and private partners in the field, nationally, regionally, and internationally. These collaborations include joint research projects, sponsored research, consultation and expert assistance, participation at leading conferences and seminars, applicable to students and faculty. Of all research publications to date, more than 80% are in collaboration with international entities.

Research is supported through both internal and external grants and many MBRU researchers have been successful in securing awards from various funding bodies and industry.

MBRU faculty members serve on multiple national entities devoted to high-quality research such as the Mohammed bin Rashid Academy of Scientists, and Emirates Scientists Council.



# **Academic Departments and Graduate Programs**

## **College of Medicine**

- [Doctor of Philosophy in Biomedical Sciences \(PhD\)](#)
- [Master of Science in Biomedical Sciences \(MSc\)](#)

## **Hamdan Bin Mohammed College of Dental Medicine**

- [Master of Science in Endodontics](#)
- [Master of Science in Orthodontics](#)
- [Master of Science in Pediatric Dentistry](#)
- [Master of Science in Periodontology](#)
- [Master of Science in Prosthodontics](#)

## **College of Nursing and Midwifery**

- [Master of Science in Cardiovascular Nursing](#)
- [Master of Science in Pediatric Nursing](#)



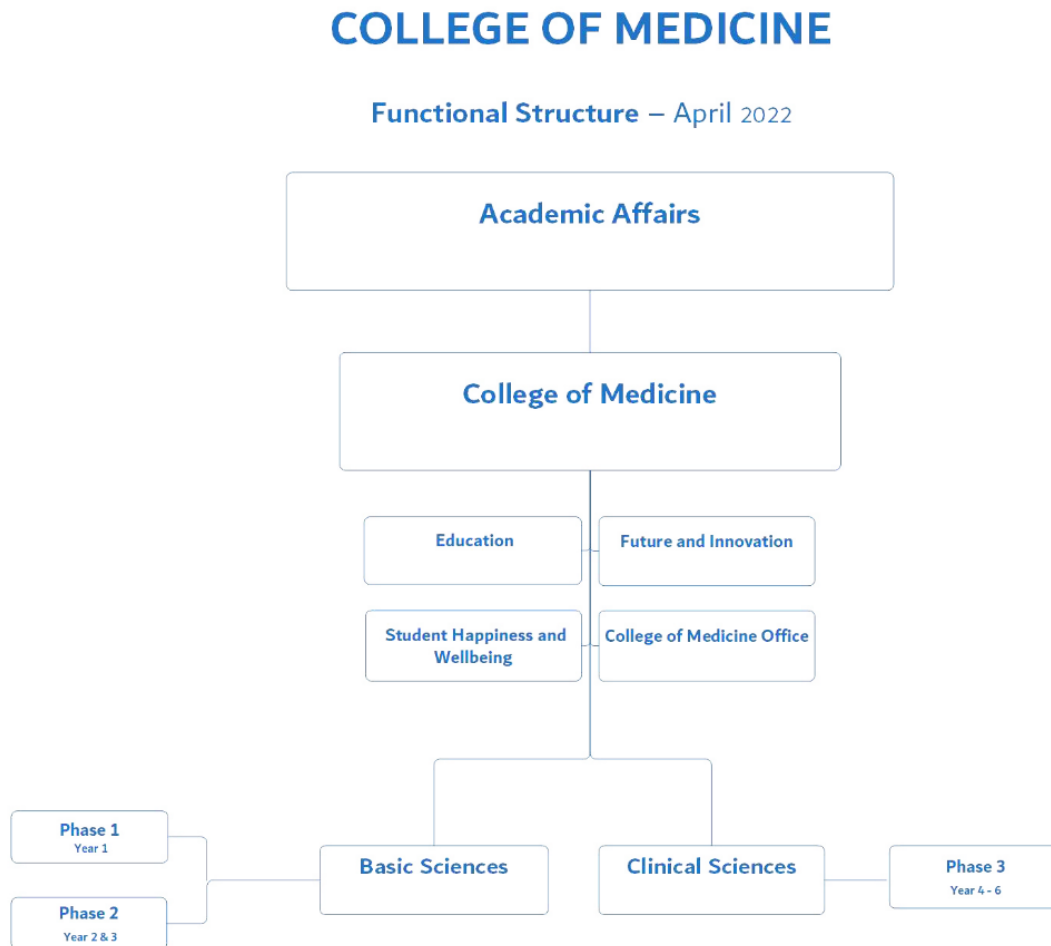


**College of Medicine**

## Organizational structure of College

The College of Medicine aims to provide integrated medical education and research, that is nationally responsive and globally connected, serving individuals and communities.

The organizational chart below provides an overview of its structure:



## College Goals and Outcomes

Goal 1	The College of Medicine will graduate highly skilled and competent medical professionals who practice compassionately and ethically and maintain a high level of professionalism.
Outcome 1A	Graduates secure and complete competitive postgraduate training.
Outcome 1B	Graduates pursue successful careers in medicine.
Goal 2	The College of Medicine will create an environment conducive for impactful and innovative medical research.
Outcome 2A	Faculty, students and graduates secure internal and external funding for scholarly activities.
Outcome 2B	Faculty and students disseminate research findings through peer-reviewed publications and presentations in professional meetings.
Goal 3	The College of Medicine will actively engage with the community to preserve and promote health.
Outcome 3A	Faculty, staff and students organize and participate in health-related community activities.
Outcome 3B	Engagement in community activities results in positive change in the health of the community.

## International accreditations

MBRU has been licensed by the Ministry of Education of the United Arab Emirates since 2014 to award degrees and qualifications in higher education. Through its Commission for Academic Accreditation (CAA), the Ministry has accredited all MBRU graduate and undergraduate degree programs.

The Bachelor of Medicine and Bachelor of Surgery program has been Accredited by CAA since Jan 2016. MBRU is listed in the World Directory of Medical Schools. It is also recognized by the Educational Commission for Foreign Medical Graduates (ECFMG). (<https://search.wdoms.org/home/SchoolDetail/F0004132>). Also, MBBS graduates are eligible to apply to General Medical Council (United Kingdom) for the registration examination. Medical degrees obtained from MBRU are acceptable to the provincial/territorial medical regulatory authorities in Canada, and therefore accepted at all medical organizations in Canada.

## Academic Calendar

### Doctor of Philosophy in Biomedical Sciences

Week #	Semester 1	Dates
	New Student Orientation	Tuesday, 29 August 2023
1 -15	Semester 1	Monday, 28 August –Friday, 15 December 2023
16-17	Semester 1 – Final Exams	Monday, 11- Friday, 15 December 2023

	WINTER BREAK – 3 weeks	Monday, 18 December 2023 – Friday, 5 January 2024
	<b>Semester 2</b>	<b>Dates</b>
1 - 15	Semester 2	Monday, 8 January – Thursday, 30 May 2024
16-18	Semester 2 – Final Exams	Monday, 22 April– Friday, 10 May 2024
21	SUMMER BREAK Start	Wednesday May 29, 2024

Teaching will continue through the University spring break, so do not plan to take vacation during the spring break. During winter and summer breaks, no classes will be held, however, students may be required to work in the lab during these breaks. PhD students are eligible for 30 working days of leave annually, to be taken during summer when it is convenient to do so, and with the agreement of their Academic Supervisor.

### Master of Science in Biomedical Sciences

Week #	Semester 1	Dates
	New Student Orientation	Tuesday, 29 August 2023
1 -15	Semester 1	Monday, 28 August –Friday, 15 December 2023
16-17	Semester 1 – Final Exams	Monday, 11- Friday, 15 December 2023
	WINTER BREAK – 3 weeks	Monday, 18 December 2023 – Friday, 5 January 2024
	<b>Semester 2</b>	<b>Dates</b>
1 - 15	Semester 2	Monday, 8 January – Thursday, 30 May 2024
16-18	Semester 2 – Final Exams	Monday, 22 April– Friday, 10 May 2024
17	Last date for submission of thesis (2nd year students)	Wednesday, 1 May 2024
21	SUMMER BREAK Start	Wednesday, 29 May 2024

Teaching will continue through the University spring break, so do not plan to take vacation during the spring break. During winter and summer breaks, no classes will be held, however, students are required to work in the lab during these breaks.

### UAE Public Holidays (2023-24) Subject to official confirmation

Occasion	Dates
Islamic New Year	Wednesday – July 19, 2023
Prophets Birthday	Thursday - September 28, 2023
Martyr's Day	Friday – December 1, 2023
UAE National Day	Saturday December 2 - Sunday December 3, 2023
New Year's Day	Monday - January 1, 2024
Ramadan Begins	Wednesday – March 11, 2024

End of Ramadan & Eid Al Fitr	Tuesday April 9 – Friday 12 April 2024
Arafat & Eid Al Adha	Sunday June 16 – Wednesday June 19 2024
Islamic New Year	Sunday, July 7 2024

## Tuition fees

### Doctor of Philosophy in Biomedical Sciences

August 2022 Entry		Annual Fee
Seat reservation fee (non-refundable)	AED 10,000	AED 10,000
AY 2021-22	3,450 per credit	AED 59,000
AY 2022-23	3,450 per credit	AED 69,000
AY 2023-24	3,450 per credit	AED 69,000
AY 2024-25	3,450 per credit	AED 55,200
Total annual tuition fee	76 Credits	AED 262,200

### Master of Science in Biomedical Sciences

2023-24	Amount	Payment Schedule
Seat reservation fee (non-refundable)	AED 10,000	At time of acceptance of offer
Tuition fees	AED 107,300	July 26, 2023
Total annual tuition fee	AED 117,300	

## Research policies

MBRU is committed to support research activities and has budgeted approximately 26% of the total operational expenditure to support faculty research, innovation, creative, and scholarly activities annually to maintain and expand ongoing research capacity. This is through competitive Internal Research Grant Awards to faculty members in all Colleges. In addition, MBRU absorbs salary costs of Principal Investigators, Postdoctoral fellows and some Research Assistants and provides research bench spaces, consumables, research equipment, making the financial support to research far in excess of the mandatory 5%. To support its efforts to enhance research, the university has continuously sought to identify new external funding opportunities for faculty research.

The MBRU College of Medicine promotes an environment where research is supported, the incoming faculty nurtured, and the necessary infrastructure and resources are provided, so that its investigators can flourish. The College of Medicine has developed a research strategy that is aligned with MBRU Vision, Mission and Goals. The strategic goals, initiatives, and specific activities of the University focus on encouraging the research output and impact from MBRU faculty members and fulfilling this vision to become a world-class

university. The integration of all research activities at Dubai Healthcare City and the establishment of an Integrated Academic Health System was an important strategic step in this direction.

In order to attract top quality scientists and researchers, MBRU is committed to establishing state-of-the-art research facilities. A cutting-edge research infrastructure will serve as a platform for initiating highly competitive research projects. In addition, it will help faculty researchers to build and oversee strong research groups in their areas of expertise. Towards this, MBRU has developed core facilities and research laboratories that will hold the necessary equipment and technologies for its researchers. In addition, MBRU has collaborated with the Al Jalila Foundation to develop a modern research facility that can accommodate upwards of 70 researchers with access to high tech research equipment that allow research into a broad range of specialties. Moreover, MBRU will also allocate regular funds to upgrade research equipment and bring new technologies to the University. In support of research endeavors, MBRU underwrites the salaries of research faculty, some research assistants, post-doctoral fellows, laboratory technicians and graduate students have access to scholarships.

Faculty members are highly qualified and have a strong footing in research capability in addition to other requirements. The Al Maktoum Medical Library houses updated printed and electronic resources that will support faculty in research and teaching. The research opportunities and training available to MBRU students creates the next generation of scholars well-prepared to advance knowledge and discovery.

MBRU encourages innovative work and supports its faculty researchers and students to capture the social and financial benefits of their inventions by offering them legal protection of Intellectual Property.

According to the current policy on Intellectual Property and Technology Transfer, MBRU shall be the sole owner of all Intellectual Property created through the use of University resources or facilities supported directly or indirectly by funds administered by the University and this includes research work by students.

However, MBRU believes that the benefits from such commercialization of its IP should be shared between the University and the Inventors(s).

## General Information - Graduate Programs (Biomedical Sciences)

MBRU aspires to become a leading research-focused medical academic institution and to create an innovative and enriching research environment that will support the advancement of healthcare in the UAE and globally. To achieve this, we:

- Incorporate early research exposure in our undergraduate and graduate programs, hence developing the next generation of scholars who will drive the progress of medical knowledge and discovery.
- Support faculty and staff in pursuing their research interests and building productive collaborations.

- Provide supportive policies, infrastructure, and resources to assist researchers to achieve maximum impact for their research.
- MBRU aims to deliver high impact translational research with a clear objective to ultimately enhance clinical practice, health policy and the health of the community.



Doctor of Philosophy in Biomedical Sciences (PhD)



## Program learning outcomes and completion requirements

The overall goal of the graduate programs at MBRU is to advance the science agenda within UAE.

### PhD in Biomedical Sciences Goals

The graduates of the MBRU PhD program are expected to have competencies in the following domains:

Professionalism and Ethics

Biomedical Knowledge

Scholarly Research

Communication Skills, Research Grant Writing and Research Paper Writing Skills

Leadership and Innovation

### PhD in Biomedical Sciences Learning Outcomes

The PhD in Biomedical Sciences is set at QF Emirates level 10. Learning outcomes of the PhD in Biomedical Sciences indicate a systematic understanding of the field that is comprehensive, deep and overarching and at the frontier of the professional field of work and discipline, with the capacity for critical analysis, evaluation and synthesis of new and complex ideas. [Page 114, QF Emirates; 2012]. They include:

After completing the program, the students should be able:

#### A. Knowledge:

- K1: conceptualize, design, implement and adapt substantial research processes in cell biology, biochemistry, microbiology, physiology, genomics etc., using living organisms, cultured human or animal cells, small animals or directly on human specimens.
- K2: analyze and critique the state of learning in a specialized area of biomedical sciences and contribute to its advancement.
- K3: lead contributions to professional knowledge and practice including in unfamiliar and unpredictable learning contexts in biomedical sciences.

#### B. Skills:

- S1: employ highly developed cognitive and creative skills in solving problems in biomedical sciences.
- S2: employ highly developed practical skills in solving problems in biomedical sciences.
- S3: devise and implement a research plan to test a novel hypothesis.

## C. Competence:

### C1. Autonomy and Responsibility:

- Respond with substantial authority and autonomy to the development of new ideas or processes or systems in challenging and novel work or learning contexts.
- Exercise responsibility for governance of a process or a system, in biomedical sciences, he/she leads
- Lead contributions to professional knowledge, ethics and practice including in unfamiliar and unpredictable learning contexts in biomedical sciences.

### C2. Self-Development:

- Self-evaluate.
- Develop intellectual independence.

### C3. Role in Context:

- Demonstrate leadership, experience, and expertise in the development of new and creative approaches to biomedical sciences that extend or redefine existing knowledge or professional practice.
- Consistently and sensitively manage highly complex and diverse ethical issues in biomedical sciences, leading to informed, fair, and valid judgements.
- Lead and manage complex professional processes in an area of biomedical sciences.

The program meets international expectations and/or the criteria as per the benchmarking:

1. The PhD program meets the criteria for similar programs in the European Community as well as the UK Quality Assurance Agency:
  - a. Framework for Qualifications of the European Higher Education Area [The Bologna Group].
  - b. Quality Assurance Agency UK.
2. It is also in line with what most international university guidelines for appointment of academic staff at the starting level of Assistant Professor.
3. It is also in line with what most international research institutions for appointment of independent researchers at the starting level of Assistant Research Professor.
4. It is also in line with what most international and national bodies guidelines for appointment of leading specialist or an expert in a specific field.

## Program Completion Requirements

### Didactic Courses

For the didactic courses, including courses required for all students and 3 elective courses, students are required to pass all courses with a minimum cumulative GPA of 3.0 on a scale of 0 – 4.0. Any course with a grade below 'C' must be remediated by retake of examination or repeating the course when next it is offered.

## Advancement to Candidacy

For advancement to candidacy, students will be assessed in three ways, by the Dissertation Advisory Committee. Firstly, the written research proposal will be graded for background information, content, appropriateness of research questions, methodology, and likelihood of a successful outcome. Secondly, the oral defense of the proposal and the ability of the student to answer questions arising from the presentation will be assessed. Finally, the student will undergo a comprehensive written examination. To advance into the dissertation research phase of the program the student must pass all three components of the advancement to candidacy. All 3 steps of the advancement to candidacy will be assessed by the members of the assessment sub-committee of the Biomedical Sciences Graduate Steering Committee (BMS GSSC). Students are required to pass all three steps with a minimum cumulative GPA of 3.0 on a scale of 0 – 4.0. The advancement to candidacy will usually be completed by the end of the fall semester, but with permission from the Dissertation Advisory Committee and the Program Director, this can be delayed, but not beyond the end of the fifth semester. At the discretion of the Dissertation Advisory Committee, the student may be given the opportunity to rewrite the proposal if necessary, or to retake the comprehensive examination; but this must be undertaken and completed within the following 6 weeks.

## Dissertation Defense

The final part of assessment will be the dissertation itself and its public defense and the ability of the student to adequately address questions arising from the document or its public presentation in the presence of an external examiner. This assessment of the dissertation will be on a pass/fail basis by the dissertation examination committee. In the event of a split decision, the external examiner will have the final say on the outcome. Prior to the defense of the dissertation work the student must have had at least one research paper published or accepted for publication in a Scopus or PubMed indexed journal.

## Course information

### Required Courses

Courses to be taken by every student:

PHD701: Advanced Research Methods and Ethics

This is a compulsory course in MBRU's PhD in Biomedical Science (BMS) program that runs prior to the Biostatistics course. Graduate students on MBRU's PhD in BMS will come from a variety of academic and research backgrounds. Therefore, the course syllabus is

designed to build upon the foundation research skills and knowledge that were developed during a student's Master's degree program and ensure that all graduate students develop the advanced research skills during their first semester. The overall aim of the course is to ensure that students develop the required advanced knowledge, skills, and competencies to conduct their doctoral research projects in biomedical science. The course will focus on developing the research method, designing appropriate research methodology, and considering the ethical implications of conducting animal and human biomedical research. The course will employ a range of interactive and flipped lecture sessions coupled with peer-led teaching specifically designed for advanced graduate learners.

## PHD702: Biostatistics

This course on Biostatistics is one of the required courses designed purposely for the PhD in Biomedical Sciences and focus on developing the theoretical knowledge, and practical skills and habits that are needed across differing health-related fields, with emphasis on: biomedical sciences. The objective of the program is to provide the students with rigorous learning and development opportunities in the areas of modern biostatistics related to the application of statistical science to address problems in biomedical research. Having a background in statistics and computational skills is recommended and will add value to the learning experience as part of this course.

The course includes thorough investigations of concepts of biostatistics around the analyses of differing kinds of data (i.e., categorical and continuous). The emphasis of this course is on developing the ability to select the appropriate statistical test for differing research questions and designs, and the required knowledge and skills to effectively interpret the findings. In addition, the students will learn how to use the R-Language platforms to run the entailed computations.

The scientific journey that the students will undergo, as part of this course, will be characterized by emphasis on fostering analytical skills and critical thinking. Towards the end of this course, candidates will have acquired the necessary knowledge and skills to undergo the statistical requirements of their own research projects. Upon successfully completing this course, students will have acquired the knowledge and skills in topics including but not limited to statistical inference, analysis of effectiveness, reliability and validity, Regression and clustering and analysis of laboratory studies.

## PHD703: Advancement to Candidacy

After completion of the coursework in the first year of the program, the student will undertake a comprehensive examination covering the entire content of the coursework taken in year one. This examination would be comprised of short answer questions designed to probe the understanding of the major concepts of the course material, together with an oral examination also covering major points. The written questions will be set to cover broad concepts as outlined in the individual course objectives. The answers will be recommended to be approximately 100 words (50-200) and could be supplemented by diagrams or drawings. The questions will cover the content of all coursework in equal proportion to the credit hours of the respective courses. The examination will be graded as excellent (A, or A-); satisfactory (B+, or B, or B-) or unsatisfactory (C). Students will have

one opportunity to retake the examination if performance is unsatisfactory, but this must be completed before the end of the fourth semester.

During the first year, and throughout the first semester of the second year of the PhD Program, the student will be expected to develop a plan of their research project with a testable hypothesis. During the second half of the fourth semester, this will be developed into a written dissertation research proposal which the student will defend to their Dissertation Advisory Committee (Comprised of the Academic Supervisor (Chair) and at least two other faculty members). The dissertation research proposal will be written in the format of a full MBRU-style internal grant application. Following questioning regarding the content of the research proposal, this committee will then conduct an oral comprehensive examination to investigate the knowledge and ability to demonstrate independent thinking and formulate advanced research questions, and most importantly, how to deal with unexpected problems that might be encountered during the research project. The student will be expected to see possible pitfalls in their experimental approach and to provide alternative approaches should problems be encountered.

### **PHD711-714: Journal Club Presentations**

In the first sessions, students will learn how to critically evaluate papers selected by faculty members for novelty, content, methodology, application of statistical methods, interpretation, and validity. By the second half of the first semester, students in turn will present and critically evaluate papers selected with their research supervisor with input from the other students and the faculty coordinator of the session.

### **Elective Courses**

Student must choose three courses, ONE of which appropriate for their research topic.

### **PHD721: Molecular Genomics**

This course provides advanced knowledge of the key molecular genetics' aspects of modern biology. This series of lectures, tutorials, and simulations will provide an in-depth understanding of molecular biology and genetics and how these disciplines are used to solve scientific problems and address post-genomic challenges across the life sciences and medicine. This course will provide an in-depth overview of OMICs technologies (including genomics, epigenomics, transcriptomics, and metabolomics) methods and data analysis, computational algorithms and pipelines for applied bioinformatics, single-cell genomics, genome editing techniques, and molecular therapeutics for precision medicine. Throughout the course, emphasis will be placed on the review and critical evaluation of recently published peer-reviewed experimental evidence; journal-club discussion groups will complement lectures. The expectation is that students will develop advanced knowledge and critical thinking abilities regarding the applications of molecular genetics and genomics in biological research and healthcare delivery. Using a diverse set of teaching modalities such as lectures, critical appraisal of research articles, hands-on bioinformatics computer practicals, and simulations, this course will give Ph.D. students the foundation that they will need to conduct productive research, with tools of the post-genomic era, during and after their graduate training.

## PHD722: Concepts in Pharmacology

This is a 2-credit hour elective course in the PhD program intended to provide the students with a background in pharmacological concepts, especially for those who have not studied pharmacology in their undergraduate or masters' programs. The course will introduce pharmacodynamics and pharmacokinetics principles and an overview of autonomic pharmacology, followed by drug discovery-related topics such as identification of drug targets, structure-activity relationship, computer-aided drug design, in vitro and in vivo pre-clinical research methods for determining safety and efficacy of novel drug molecules, clinical research methodology, and drug approval process. In addition, the students will also be introduced to the basic concepts of pharmacotherapeutics, focusing on a few major organ systems, so that the students will get to understand the application of basic pharmacology concepts in therapeutics. Special emphasis will be placed on the importance of translational relevance in drug discovery research.

## PHD723: Cancer Biology

This is an elective course in the PhD program. After introducing the concepts of cancer, its causes, epidemiology, this course will focus on molecular and cellular mechanisms underlying cancer development, progression, invasion, metastases, and consequences of cancer. In addition, it will cover the host-organ microenvironment and the role of hormones and cytokines, molecular pathology, tumor staging and differentiation and cancer metabolism and cachexia, Particular focus on the control pathways will provide students the background to the cutting edge of drug design for targeted cancer therapy.

## PHD724: Systems Biology

This course provides advanced knowledge of the Systems Biology approach for a comprehensive understanding of living systems through bioinformatics, mathematical, and computational techniques to model diverse high-throughput molecular, cellular, and physiologic profiling of healthy and diseased populations to define biological processes. Throughout the course, emphasis will be placed on the review and critical evaluation of recently published peer-reviewed experimental evidence; presentation discussion groups will complement tutorials.

This course will provide an in-depth overview of how a multifactorial diseases systems biology approach can be used as a strategy to extract new insights from complex, quantitative, massive clinical and biological data to understand the underlying mechanisms of diseases and aid early detection and treatment. This will be achieved using a diverse set of teaching modalities such as lectures, critical appraisal of research articles, computer practicals, and simulations.

In this course, students are expected to use computational and systems biology to generate ideas to mimic or simulate real-life biological problems and to develop advanced knowledge and critical thinking abilities regarding the applications of systems biology in

biological research and healthcare delivery. Students will be trained to use systems modeling and design based on engineering concepts through multidisciplinary teams skilled with principles and tools to solve problems in biology and medicine.

Graduates of the program after completing such a course will be prepared to make novel discoveries and develop new methods, where this field is becoming increasingly important. The main topics covered will be Computational Biology, Regulatory Genomics, Proteomics, Metabolomics and Epigenomics, Biological Networks and Machine Learning, Cancer Systems Biology and Precision Medicine.

### **PHD725: Microbiology and Immunology**

This course aims to introduce students to in-depth knowledge of advances in microbiology and immunology disciplines. This will build upon their prior knowledge in these domains and prepare them to undertake related research work. Therefore, this course will seek to emphasize on approaches for generating experimental evidence used to define paradigms in immunology and microbiology. Students will gain an advanced understanding of the interactions between the immune system, the human microbiome, and microbial agents. They will be introduced to key research approaches specific to addressing immunological and microbiological questions. The basis of how concepts related to microbes and immunological principles are utilized as research tools will be addressed. The approaches for generation, interpreting and utilizing microbial “omics” data as well as mathematical modelling in infectious disease will be covered.

This course will be delivered via lectures by renowned researchers, small group discussions and seminars and critical appraisal of literature and laboratory sessions. Drawing on the literature on emerging and re-emerging infectious agents, these will be used to illustrate the close interface of microbiology and immunology, the cutting-edge research frontiers in these disciplines and the translational impact of generated evidence. A cross-disciplinary approach will be used in the delivery and discussion of the microbiology and immunology topics to be covered.

Throughout the course, emphasis will be placed on the review and critical evaluation of emerging scientific literature. It is expected that in addition to gaining advanced knowledge, students will also develop critical thinking skills as well as an in-depth appreciation of the research applications of microbiology and immunology concepts. This course will give the Ph.D. students the background that they will need to conduct productive research during their graduate training.

### **PHD726: Protein Biochemistry**

This is an elective course in the PhD program. Proteins are the major class of macromolecules that carry out essential life functions. This course will cover fundamental concepts underlying protein folding, structure, and dynamics, and relate it to protein functions as enzymes, receptors, channels, transporters, signaling molecules, and cytoskeletal components. Later in the course, students will be introduced to the principles and practical aspects of cutting-edge methods used to study proteins and protein networks, including structural, spectroscopic, biophysical, computational, and proteomic methods.



## PHD727: Cell Biology

This is an elective course in the PhD program focusing on the introductory concepts of cell biology, molecular and cellular mechanisms upon which the cell cycle is based, cell differentiation and development. In addition, it will also elaborate on the relationship between chromatin structure and genomics, cytoskeletal elements, cell motility and adhesion, signal transduction, and protein sorting and transport. Focus on the control pathways of the cell cycle will equip students with the required background on the practical aspects of both stem cell biology and cancer development.

## PHD728: Stem Cell Biology and Tissue Engineering

This is an elective course in the PhD program intended to provide students with cutting-edge knowledge in the field of stem cell biology and tissue engineering. The teaching is based on lectures and practical workshops during which the students will learn how to culture adult pluripotent stem cells, construct scaffolds and develop 3D tissue models. Topics to be covered include fundamentals of stem cell biology, adult and pluripotent stem cells, pluripotency and reprogramming, disease modeling using stem cells, principles of tissue engineering and regenerative medicine, biocompatible scaffold materials for hard and soft tissue engineering and 3D tissue models.

### The Research Requirements

Dissertation Doctoral Research (52 CH)

Year 1, Semester 1 – 2 CH

Year 1, Semester 2 – 2 CH

Year 2, Semester 1 – 4 CH

Year 2, Semester 2 – 8 CH

Year 3, Semester 1 – 10 CH

Year 3, Semester 2 – 10 CH

Year 4, Semester 1 – 10 CH

Year 4, Semester 2 – 6 CH + Writing of the Dissertation and Defense (0 CH)

## PHD731-PHD738 Research Project Component

The research project is a major component of the MBRU PhD Program and is essential for students to achieve a satisfactory grade overall for this component. This course provides students with an opportunity to register for research credit hours as they carry out their dissertation research in the laboratory of their supervisors, as they acquire skills and gain research experience, and develop their research projects.

Students will learn the existing methodologies employed in the supervisors' laboratory and likely develop new ones. Overall, this will introduce them to a wide range of research tools that will help them be equipped to plan and organize their research, as well as to communicate their findings. The students will practice scientific thinking and learn scientific processes, which will be valuable in advancing the students in their educational and career goals.



### Required Laboratory Hours:

The contact hours for the dissertation research project are calculated based on 4 laboratory contact hours per course credit hour as shown in the following table:

Year	Semester	Research Credit Hours	Required Laboratory Hours
1	1	2	8
1	2	2	8
2	1	4	16
2	2	8	32
3	1	10	40
3	2	10	40
4	1	10	40
4	2	6	24

Furthermore, it is expected that the research project will continue out of the regular semester timing. The PhD students will have an entitlement of 6 weeks (30 working days) of holiday/year and will be expected to work on their dissertation research projects at other times.

### Research Period

The normal requirement for the PhD in Biomedical Sciences will be four years. Under exceptional circumstances it may be possible for a student to complete all requirements in less time. However, in addition to all other requirements for graduation a minimum of 42 hours of research credit must be fulfilled for a student to graduate in less than 4 years. Under normal circumstances a student must complete the entire program within six years. However, under exceptional circumstances (such as illness or maternity leave) this period may be extended at the discretion of the program director.

## Sequencing of courses

### Summary of Proposed Program Structure and Courses

The curriculum of the PhD in Medical Sciences consists of 24 CH of coursework beyond the Master’s degree in addition to 52 CH of Dissertation Research. Students must also complete the program qualification and research requirements. The program structure and courses are summarized in the following Study Plan.

### Study Plan

Year 1				
Semester 1		Credits	Semester 2	Credits
Advanced Research Methods and Ethics PHD701		4	Biostatistics PHD702	2

One Elective (Selected from List)	2	Two Electives (Selected from List)	4
Journal Club and Research Presentation Course I PHD711	2	Journal Club and Research Presentation Course II PHD712	2
Research Project PHD731	2	Research Project PHD732	2
<b>Year 2</b>			
<b>Semester 1</b>	<b>Credits</b>	<b>Semester 2</b>	<b>Credits</b>
		Advancement to Candidacy PHD703*	4
Journal Club and Research Presentation Course III PHD713	2	Journal Club and Research Presentation Course IV PHD714	2
Research Project PHD733	4	Research Project PHD734	8
<b>Year 3</b>			
<b>Semester 1</b>	<b>Credits</b>	<b>Semester 2</b>	<b>Credits</b>
Research Project PHD735	10	Research Project PHD736	10
<b>Year 4</b>			
<b>Semester 1</b>	<b>Credits</b>	<b>Semester 2</b>	<b>Credits</b>
Research Project PHD737	10	Research Project PHD738	6
		Dissertation Writing and Defense	

\* Including the Comprehensive Examination as well as Preparation and Defense of Written Proposal for Research Project.

### The Course Work

The course work is divided into two components as follows:  
 1- Required Courses (18 CH) - Year 1 (10 CH); Year 2 (8 CH)  
 2- Electives (6 CH) – Year 1 (6 CH)

### Required Courses

These courses are required by all students in the program.

Course Code	Course Title	Credits	Coordinators
PHD701	Advanced Research Methods and Ethics	4	Fahad Ali/ Tom Loney
PHD702	Biostatistics	2	Amer Omer/ Jeyaseelan Lakshmanan
PHD703	Advancement to Candidacy Includes Preparation and Oral Defense of Written Proposal for Research as well as the Comprehensive Examination	4	Thomas Adrian/Mahmood Al Mashhadani
PHD711-714	Journal Club and Research Presentation Course I – IV	8	Thomas Adrian/ Reem Jan

The Journal Club and Research Presentation Courses are as follows:

Course Code	Course Title	Year and Semester	Coordinator
PHD711	Journal Presentation I	Year 1 Semester 1	Thomas Adrian
PHD712	Journal Presentation II	Year 1 Semester 2	Thomas Adrian
PHD713	Journal Presentation III	Year 2 Semester 1	Thomas Adrian
PHD714	Journal Presentation IV	Year 2 Semester 2	Thomas Adrian

## Elective Courses

Elective Requirements: Three of the following (2 credit) relevant graduate level elective courses approved by the student's PhD Advisory Committee.

Course Code	Course Title	Credits	Coordinator
PHD721	Molecular Genomics	2	Mohammed Uddin/ Bakhrom Berdiev
PHD722	Concepts in Pharmacology	2	Rajan Radhakrishnan/Reem Jan
PHD723	Cancer Biology	2	Thomas Adrian/ Fahad Ali
PHD724	Systems Biology	2	Mahmood Al Mashhadani
PHD725	Microbiology and Immunology	2	Abiola Senok
PHD726	Protein Biochemistry	2	Saif Alqassim
PHD727	Cell Biology	2	Riad Bayoumi
PHD728	Stem Cell Biology and Tissue Engineering	2	Mohamed Jamal/ Keyvan Moharamzadeh

## Admission, withdrawal and enrolment policies

Admission into the PhD in Biomedical Sciences at MBRU will follow the requirements that are established by the Standards for Licensure and Accreditation 2019 (Commission for Academic Accreditations (CAA), Ministry of Education, UAE) as well as the College of Medicine at MBRU. Candidates require for admission require the following:

A Master of Science in a related subject with a GPA of 3.0 out of 4.0.

In exceptional circumstances, a student with an appropriate bachelor's degree in a related subject with a GPA of 3.7 out of 4.0, but without an MSc may be considered for admission. English Proficiency of Academic IELTS 6 with no skill less than 5.5 or TOEFL iBT 80. The certificate should not be more than two years old and original must be submitted. Best scores from multiple certificates are not accepted. (Applicants who are native English

speakers and have completed their most recent degree in an English-medium institution or a Master's degree taught in English that required an IELTS (Academic) with overall 6 and no skill less than 5.5 or equivalent may be exempted from the English proficiency requirement subject to approval of the relevant Admissions Committee.

Applicants who are graduates from MBRU's Master programs shall be exempted from the English requirement). Qualifications obtained outside UAE require authentications from the embassy, Foreign Affairs, and equivalency from the Ministry of Education.

Students having proven previous laboratory research experience will be given preference. Prospective students who are suitably qualified will be interviewed by senior members of the Graduate Faculty. This interview will assess the suitability of the candidate for MBRU and vice versa. In particular, the interview panel will look for fit, with regard to the chosen research area of the student with the research interests of members of the graduate faculty. The interview panel will also be looking for evidence of commitment to an arduous training program.

## **Transfer Admissions, Transfer Credit and Advanced Standing**

Transfer of admissions will not be permitted into the MBRU PhD program in biomedical sciences. Transfer of credits will not be permitted into the MBRU PhD program in biomedical sciences. Awarding of credit by Advanced Standing is not permitted for the PhD in Biomedical Sciences.

## **Registration, Withdrawal, Readmission, Probation and Dismissal Policies**

MBRU has a team of four employees who are responsible for the creation and maintenance of student records from time of application processing, admission, scheduling, registration up to graduation. Several enterprise tools are used to ensure the efficiency, accuracy, and safety of the data and this is done in collaboration with the MBRU Smart Services department. Policies are in place and are continuously being reviewed to outline the process of student records. Please refer to Student Services Policy Manual, Student Record Policy.

Readmission is not applicable to the PhD in Biomedical Sciences at MBRU, and two weeks of add/drop course does not apply. Early exit from the program will not lead to a degree qualification. Please refer to [probation and dismissal](#) for more information.

## **Student Assessment and Progression**

### **Assessment**

The didactic courses will be assessed in a variety of ways depending on course content. These methods will include short answer questions, essays, term papers and oral exams. In some courses, students will prepare and present PowerPoint presentations to the class.

For advancement to candidacy, students will be assessed as described in [PHD703: Advancement to Candidacy](#) in three ways, by the Dissertation Advisory Committee. Firstly, the written research proposal will be graded for background information, content, appropriateness of research questions, methodology, and likelihood of a successful outcome. Secondly, the oral defense of the proposal and the ability of the student to answer questions arising from the presentation will be assessed. Finally, the student will undergo a comprehensive examination.

The comprehensive examination will cover all aspects of the coursework taken in year one. This examination could be taken in the first semester of year 2. This examination would be comprised of short answer questions designed to probe the understanding of the major concepts of the course material. The written examination will be supplemented by an oral examination, by faculty delivering the PhD courses. The questions will be set to cover broad concepts as outlined in the individual course objectives. The answers will be recommended to be approximately 100 words (50-200) and could be supplemented by diagrams or drawings. The questions will cover the content of all coursework in equal proportion to the credit hours of the respective courses. The examination will be graded as excellent (A, or A-); very good (B+); good (B); satisfactory (B-, C+, C) or unsatisfactory (C-, D+, D) or fail (F), according to the Grading Scheme provided under section "2.1. Grading". Students will have one opportunity to retake the examination if performance is unsatisfactory, but this must be completed before the end of the fourth semester (second semester of the second year).

The final part of assessment will be the dissertation itself and its public defense and the ability of the student to adequately address questions arising from the document or its public presentation. This assessment of the dissertation will be on a pass/fail basis by the dissertation examination committee. In the event of a split decision, the external examiner will have the final say on the outcome.

A graduate course is a course whose contents require a higher level of cognitive processing, critical evaluation, and problem solving as compared to undergraduate courses. In addition, a graduate course contains a significant communication, writing, and speaking requirement with the ultimate objective being to prepare the student to perform, critically evaluate, and communicate original research and scholarly activity, and/or obtain comprehensive professional understanding and expertise in a particular field.

## Grading

Graduate courses will follow a standard numbering classification (see the Graduate Studies Policies for detail) and will have the below general guidelines in terms of grading and grade requirements.

- At the end of every semester, courses will be graded using letter grades to show student performance.
- For evaluation of the research courses the Dissertation Advisory Committee will grade the student on the research performance at the end of each semester using the ranking system as excellent (A, or A-); very good (B+); good (B); satisfactory (B-, C+, C) or unsatisfactory (C-, D+, D) according to the Research Evaluation Rubric. This

will contribute to the cumulative Grade Point Average (cGPA). Each assessment should take into consideration the stage at which the student is being evaluated and should also take into account other milestones the student has met, such as acceptance of an abstract of a scientific conference, presentation at a conference, and/or a publication in a peer-reviewed journal.

- Grade Point Average (GPA) is the student’s performance for a specific period of time. It is a numerical value of the student’s final grade on a 4.0 scale and is weighted to reflect the credit hours assigned to each course.
- Any didactic course listed on the student’s Program of Study in which a grade “C” is earned must be remediated. Students who qualify will be afforded the opportunity to retake only the failed assessment components of the failed course. The retake opportunity will be scheduled to take place at the beginning of the following semester.
- If a graduate student fails a course, he/she would be required to repeat the course during the next iteration. The student may not repeat the course more than once.
- An Incomplete (I) grade for a course means that the grade for that course has been deferred. It is given to a student who is unable to complete the assigned work on time. The “I” grade for a graduate-level course will be changed to an “F” if the work is not completed within two semesters following the semester in which the “I” grade was assigned. The student may not repeat the course to remove an incomplete grade. Graduate students may not graduate with an “I” grade on their transcript.
- Students on a scholarship or graduate assistantship may not carry an Incomplete (I) grade longer than one semester. In such a case, the student will lose the scholarship or assistantship.

%	Grade	Point Grade	Performance
≥90	A	4.0	Excellent
87-89	A-	3.7	Excellent
84-86	B+	3.3	Very Good
80-83	B	3.0	Good
77-79	B-	2.7	Satisfactory
74-76	C+	2.3	Satisfactory
70-73	C	2.0	Satisfactory
67-69	C-	1.7	Unsatisfactory

64-66	D+	1.3	Unsatisfactory
60-63	D	1.0	Unsatisfactory
Below 60	F	0	Fail
NA	P	NA	Pass
NA	NP	NA	Not Pass
NA	W	NA	Withdrawal
NA	I	NA	Incomplete
NA	CC	NA	Continuing Course
NA	AU	NA	Audited Course

### Probation and Dismissal

For a student to maintain good academic standing in the MBRU PhD BMS program, a minimum cGPA of 3.0 (out of a 4.0 scale) is required. Regularly admitted graduate students who earns a GPA of less than 3.0 in any semester will be placed on probation.

A course where the student has earned a grade of “B” cannot be repeated for a higher grade. A course where the student has earned a grade of lower than a “B” may be repeated once to achieve a higher grade. All graded courses contribute to the cGPA, except for the original grade of a course that has been repeated.

The student is expected to earn a Satisfactory (S) grade for all research credits. One Unsatisfactory (U) grade for research credits indicates that the student is not making satisfactory progress and will be placed on probation. The student will be subject to dismissal from the program if he/she earns an Unsatisfactory (U) grade for research credit for two semesters.

The enrollment of a graduate student will be terminated under any one of the following conditions:

- If student has a GPA below 2.0 at the end of the first semester of study.
- If student fails to establish and maintain a cGPA of 3.0 or above after more than one semester of study.
- If student fails to maintain cGPA of 3.0, they are on academic probation. Two consecutive probations would lead to dismissal.
- If student has earned a grade of “F” for two courses during his/her studies.
- If student has earned an Unsatisfactory (U) grade for research credits for two semesters.
- If student has failed a qualifying/comprehensive exam or a dissertation defense for a second time.



- Other reasons for termination might include failure to maintain continuous enrollment and/or make normal progress toward degree completion, and other issues related to academic integrity or student conduct, etc.

## Maximum Time Limits for Completion of Degree

It is important that PhD students work closely with their supervisor/advisor, Dissertation Advisory Committee members, and their program Director to develop a timeline for completion of the program requirements. The normal requirement for the PhD in Biomedical Sciences will be four years. Under exceptional circumstances it may be possible for a student who had met all the requirements in less time to graduate and this will be considered on individual bases. Under normal circumstances a student must complete the entire program within six years. However, under exceptional circumstances (such as illness or maternity leave) this period may be extended at the discretion of the Program Director.

## Degree Requirements

In order to be awarded the PhD in Biomedical Sciences, the student must pass all compulsory didactic courses, including the electives with an average cGPA of at least 3.0 on a scale of 1-4.0; pass each of the three steps in the advancement to candidacy; receive satisfactory grades in each of the research credit (segments) publish at least one paper from their research project (or have one paper accepted for publication); successfully defend their dissertation in public; and have the dissertation approved by the Dissertation Examination Committee. To allow time for the Dissertation Examination Committee to read and evaluate the document, the dissertation must be completed and submitted at least 4 weeks prior to the date of the examination.

## Graduation and Submitting the Final Dissertation to the Dean

Students who wish to graduate must file an “Application for Degree/Graduation” by the deadline of the semester in which they wish to graduate. The Biomedical Sciences Graduate Studies Steering Committee (BMS-GSCC) will develop guidelines and forms towards the students’ completion of the degree and submission of the final dissertation. After passing the final dissertation defense, electronic copies and/or hard copy of the corrected dissertation must be submitted to the University.

## PhD Examination Outcome

The candidate shall “pass” the dissertation defense if majority of the Dissertation Examining Committee (TEC) vote that they are satisfied with students’ research work and his/her defense. In the case of a split vote the vote of the external examiner will prevail. In the dissertation defense, the student is assessed on the breadth of knowledge acquired and whether or not he/she is able to successfully defend the document in public forum.

Below are the possible outcomes for the final examination or the dissertation defense:

- Pass: a successful candidate must receive affirmative votes from a majority of the members of the committee to pass the final examination or the dissertation defense.



- Pass with minor or major modifications: The Dissertation Examination Committee or the examiners may also choose to recommend passing the student following either minor or major modifications to the dissertation or the project. In these cases, the student is given adequate time to implement the corrections to the dissertation based on the guidelines of the Office of Graduate Studies. If minor modifications are required, the dissertation examination committee may leave it to the supervisor to ensure that the changes are incorporated into the dissertation. If major modifications are required, the dissertation examination committee may request that the student to resubmit the revised document to the committee to ensure that the modifications (or additional experiments) are to their satisfaction.
- Fail: if a student fails to demonstrate a sufficient understanding of the literature in his/her core research area or fails to articulate the motivation and design of the research in either the written part (project or dissertation) or during the oral examination, he/she will be allowed to retake the exam only one more time after at least three months.

As stated above, the Graduate Studies Office Program Director will appoint a liaison for the re-examination. A student who fails two final examinations will be dismissed from the PhD program at MBRU. However, should there be procedural irregularities or extenuating circumstance during the first or the second examination, the student has the right to appeal to the College of Medicine.

After passing the final oral examination the PhD student must submit an electronic copy of the dissertation to the College of Medicine for final acceptance. Details for submitting the dissertation will be provided by the College of Medicine. Following approval, the final dissertation would need to be handed to the College of Medicine for distribution to the MBRU/AI Maktoum Medical Library, the student's college/program, Deanship of Research and Graduate Studies, and a copy for each of the Dissertation Examination Committee members, etc. Following this, the student will be recommended for PhD degree by the Office of Graduate Studies.

## **Dispute / Conflict Resolution**

An MBRU graduate student who believes that his/her rights as a graduate student have been violated by a member of the academic community can contact the College of Medicine to file a formal complaint, in writing. The nature of the complaint will determine the level of involvement of the University and the College of Medicine. In general, MBRU would like to resolve all disputes professionally with the highest standards of integrity.

Regardless of the best intentions of all involved, conflict can arise in the course of graduate studies, even between the student and the advisor simply because of differences in personality, communication style, or unspoken expectations. In many cases, such conflict can be resolved through improved communication, but occasionally the situation deteriorates to the point where external mediation is required.

The proposed dispute resolution mechanism is consistent with other University policies, emphasizing action first at the local level. The initial complaint should be brought to the attention of the Program Director, but if that individual is unable to resolve the dispute then it shall be raised to the Dean of College of Medicine. If the latter cannot resolve the matter or has a conflict of interest, then should inform the Provost who will provide mediation.

If mediation is not possible, an official committee established by the Provost will resolve the dispute or approve a recommendation to the Provost. The decision made by the Provost is final.

## **Examination Regulations**

The examination regulations, progress and graduation of the students will be guided by Examination committee, chaired by Program Director and including the involved course coordinators.

## **Responsibilities of the Examination Committee**

The Examination committee is responsible for scrutinizing and monitoring of examination quality by:

1. Ensuring University and College regulations are adhered to.
2. Reviewing reports from Course Coordinators.
3. Reviewing external examiners' reports (if applicable) in matters related to the examination.
4. Verifying with Course Coordinators that examination papers are vetted.
5. Reviewing a sample of examination question papers.
6. Confirming that appropriate standard-setting procedures are adopted.
7. Reviewing examination 'item' performance.
8. Reviewing the distribution of grades.
9. Recommending improvements and ratifying changes to examination process.
10. Approval of timetables and invigilation guidelines of final examinations.
11. Receipt and consideration of final examinations results.
12. Recommendation, in consultation with Course Coordinators, of supplementary examinations and/or re-sits.
13. Handling misconduct in examinations.
14. Liaising with appropriate bodies in cases of student appeals that relate to examinations.
15. Recommending amendments to the examinations' policy.
16. Any other duties that may, from time to time, be assigned to the Committee.

## **Examination Guidelines**

Examinations should be both formative and summative. The methods of assessment used will be dictated by the purpose of the assessment.

Summative assessment is any form of assessment that will contribute to the final grade of a student. Guidelines for conducting summative assessments are as follows:

- a. Each course Coordinator, with input from the teaching faculty of the course will scrutinize and approve all exam instruments to be used to test the course objectives. Multiple methods are usually required to achieve blueprint objectives. The different examination instruments allow a balance of strengths and weaknesses of each method.
- b. Questions must assess higher order thinking and not just a simple recall of information.
- c. For skills/performance-based assessments, properly constructed checklists and/or rating scales should be used. Tasks should be as clinically authentic as possible.

## **Review of Examinations**

For all exams (in-course and final), exam questions/stations/cases should be reviewed and amended by the Examinations Committee before the examination takes place.

## **Standard Setting**

For each course, a defensible standard-setting method should be used by trained faculty whenever possible. Standard setting is not possible for term papers, class presentations, etc.

## **Grades and Grading**

Letter grades shall be used to describe the achievement level attained within a particular course. A final semester grade shall be based on continuous assessment throughout the semester as well as a final examination. A final examination is customary but may not be considered necessary in certain types of courses.

For additional details on grading, please refer to [Grading](#).

## **Item Analysis and Test Statistics**

Student performance on exam questions should be analyzed using appropriate item analysis software by the Coordinators whenever feasible. Results of these analyses should be discussed by the relevant committees to assist in making informed decisions about the assessment process. For all examinations used by instructors, reliability indices should be determined, and the data used to improve on the assessment process in the College.

## **Feedback (to students) on examinations**

Feedback will not be given for graduate programs.

## **Training of Students in Examination Methods**

Training will not be given for graduate programs.

## **Access to Old/Previous Exams**

Students will not have access to examination questions.

## **Absenteeism from Examinations**

Please refer to the attendance policy in the MBRU Student Handbook. Additionally, the following will apply to the College of Medicine:

Sick leave accompanied by detailed medical reports may be accepted as an excuse for absence from course examinations subject to confirmation by an expert panel set up by the College examinations committee.

Note: A student exempted due to bereavement (close relative), hospital admission, or in extreme ill health should be offered the option of sitting for the examination in accordance with the circumstance prevailing at the time and must be in-line with University regulations.

## **Misconduct in Examinations**

Misconduct in examinations should be reported to the Program Director by the senior invigilator of the examination during which the malpractice occurred. The Examinations Committee will deliberate on the report and propose a recommendation to the Provost. The Provost's decision will be final. Please refer to the policy in the MBRU Student Handbook.

## **Online Exams**

### **General Conduct of Students**

- a. Students must not indulge in any behavior or conduct that may disturb other candidates or disrupt the smooth progress of an examination.
- b. Students are not permitted to smoke in any part of the examination room.
- c. Students must obey the instructions of any invigilator and their attention is drawn to the regulations governing admission to and departure from the examination room.
- d. Students are not allowed to take into the examination room any unauthorized books, manuscripts, notes, bags, cases, or any means whereby they may improperly obtain assistance in their work. All such materials, including handbags, must be placed on a table outside the examination room.
- e. Students are not allowed to take into the examination room electronic transmission devices such as mobile phones, pagers, PDAs, or any digital storage media such as flash drives or CD.
- f. Students are not allowed to take into the examination hall paper of any sort. A Plain sheet of paper (or similar material) shall be provided in the examination hall should any student require it.

- g. Students must be at the venue of the examination at least 10 minutes before exam commencement.
- h. Before the commencement of the examination, the student must place on the top right-hand corner of the desk their ID card for inspection by one of the invigilators.
- i. Students must not use any means whatsoever to communicate or obtain, directly or indirectly, assistance in their work, or give or attempt to give, directly or indirectly, assistance to any other candidate.
- j. Students are permitted to use only personal non-programmable electronic calculators in an examination provided they are silent in operation and have an independent power supply.
- k. Any suspected breach of the foregoing regulations will be investigated by the College.

## Invigilation

Invigilation is part of the responsibilities of all faculty and biomedical scientists. Course Tutors and Course Coordinators do not normally invigilate their own course examinations. In any examination, the most senior and experienced faculty member will act as the senior invigilator with other academic and biomedical staff as members of the team. The ratio of invigilator to student should range from 1 to 20 to 1 to 30, depending on the examination venue.

The Course Coordinator must be available during the examination so that the senior invigilator may contact them for clarification. At the end of the examination, the senior invigilator should personally deliver the scripts to the Course Coordinator.

### Duties of the Senior Invigilator:

The Senior Invigilator shall be responsible for the entire proceedings of the examinations to which he/she is appointed. Specifically, the Senior Invigilator shall:

- On the date of the examination, personally and accompanied by a second invigilator, collect the prescribed examinations materials from the Examinations Office no later than one hour prior to the start of the examination and be at the venue at least 30 minutes before the commencement of the examination.
- Prior to the commencement of the examination, require each student to deposit, at a designated point, any textbooks, notebooks, papers, baggage, files, or mobile telephones, as they enter the examination room.
- At the appropriate time, start the examination. Remind students of the duration of the examination and to write their names and I.D. numbers clearly on the first page or cover page.
- Inform students when they have reached the following stages in the examination: half time, three-fourths of time, and 5 minutes remaining.
- Submit examination incident reports to the Program Director.

- Allow students who have completed the examination to leave the venue after confirming the submission on the e-platform.

## Faculty listing

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Abiola Senok	Microbiology	University of Ibadan Chinese University of Hong Kong	MBBS PhD FRCPPath	Supervisor: 10 MSc Graduated Co-supervisor: 1 PhD Current	Prog. Dir. MSc BMS, Infection Control, Teaching of multiple grad and post-grad courses
Ahmad Abou Tayoun	Genetics	American University of Beirut Dartmouth College	BSc MSc PhD	Supervisor: 4 Post-docs completed 3 Post-docs Current 1 PhD Current	None
Ahmed Ghoneima	Orthodontics	Al-Azhar University Indiana University	BSc MSc PhD MSD	Supervisor: 22 MSc Graduated 2 PhD Graduated. Co-Supervisor: Many MSc students	Coordinated 12 courses in MSc-Orthodontics Program
Aida J. Azar	Epidemiology	American University of Beirut Erasmus University of Rotterdam	BSc MPH PhD	None	Coordinated a course in Epidemiology
Alawi Al Sheik-Ali	Cardiology	Mass. Inst. of Technology Boston University Tufts University Medicine	BSc MSc MD MSc	Supervisor: 1 PhD Graduated Co-supervisor: 1 MSc Graduated	Instructor for Electrocardiogram and Clinical research courses

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Amar Omer	Biostatistics	University of Khartoum University of Paris XI Univ. Med. Aix Marseille	BSc Hons MBS PhD	Supervisor: 4 MSc Graduated 1 PhD Graduated	Coordinated graduate courses in Epidemiology and Biostatistics and research Methodology
Bakhrom Berdiev	Physiology	Central Asia Medical Pediatric Institute Institute of Physiology and Biophysics	MD PhD	Supervisor: 2 Post-docs Completed 1 Post-doc Current	None
Fahad Ali	Molecular Biology	University of Jordan Liverpool John Moores University University of Liverpool	BSc MSc PhD	Supervisor: 2 Post-docs Current 1 PhD Current	None
Homero Rivas	Surgery	Universidad Juarez del Estado de Durango Southern Methodist University	MD MBA	Supervisor: 2 PhD Graduated 16 Post-doc Completed 38 Fellows Completed	Co-Director of Fellowship Program in Digestive and Bariatric Surgery
Ibrahim Muhammed Inuwa	Anatomy	ABU Zaria Sheffield University Dundee University	MBBS MMSc PhD MMEd	Co-supervisor: 1 MSc Graduated 1 PhD Graduated	External PhD examiner
Jeyaseelan Lakshmanan	Biostatistics	Madras University	Dip Med Sci PhD MSc	Supervisor: 18 MSc Graduate 8 PhD Graduated	Organized Faculty and Researchers training workshops, 24 in 2 years.

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Keyvan Moharamzadeh	Endodontics	University of Sheffield  The Royal College of Surgeons of England	BSc DDS PhD FDSRCS	Supervisor: 5 MMedS Graduated 9 DClintDent students Graduated 5 PhD Graduated 1 PhD Current	Program director for postgraduate DClintDent prosthodontics and periodontics programs at the University of Sheffield.
Mahmood Al Mashhadani	Translational Medicine Systems Biology	Al Nahrain University Dundee Univ Universität zu Lübeck, Germany University of Sharjah, UAE	MBChB MSc MRes Dr.Med  PhD	1 PhD Current	Teaching graduate students in medical microbiology, immunology, and molecular medicine
Mawlood Kowash	Pediatric Dentistry	Garyounis University Leeds University	BDS MSc PhD	Supervisor: 27 MSc Graduated	Coordinator of basic science courses for MSc program Teaching of the multiple post-grad courses:
Mohamed Jamal Ahmed	Endodontics	Ajman University Boston University	DD MSD DScD	Supervisor: 3 MSc Graduated 6 MSc Current	Postgraduate teaching in Endodontics for 3 years
Mohammed Uddin	Genetics	Memorial University	BSc MSc PhD	Supervisor: 2 MSc Current 1 PhD Current 2 Post-doc Current	None
Momen Atieh	Periodontics	University of Jordan University of Manchester University of Otago	BSc MSc  PhD	Supervisor: 6 MSc Graduated 2 PhD Graduated 4 MSc Current	Postgraduate teaching in Periodontology and Oral health for 4 years
Nerissa Naidoo	Anatomy	University of KwaZulu-Natal	BMedSc PhD	Co-supervisor: 1 MSc Graduated 1 PhD Current	Delivered advanced lectures to students undertaking an



Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
					honors degree in Clinical Anatomy
Rajan Radhakrishnan	Pharmacology	University of Kerala Strathclyde University National University of Singapore	BS BPharm MSc PhD	Supervisor: 1 MSc Graduated 1 Post-Doc Current 1 PhD Current	Coordinated course in advanced pharmacology for masters in pharmaceutical sciences
Reem AlGurg	Public Health & Nutrition	University of Bradford Kings college London	PhD	None	Coordinated History of Medicine / post graduate course in Healthcare Leadership
Reem Jan	Pharmacology	University of Auckland	BPharm PhD	Co-supervisor: 2 MSc Graduated 1 PhD Graduated 1 PhD Current	None
Riad Bayoumi	Biochemistry & Cell Biology	Khartoum University London University Royal College Pathologists	MBBS PhD FRCPPath	Supervisor: 14 MSc Graduated 6 PhD Graduated 1 PhD Current	Coordinated six graduate courses
Saba Al Heialy	Immunology	Université du Québec McGill University	BSc PhD	Co-supervisor: 2 MSc Graduated 1 PhD Graduated	Taught graduate students in Molecular Biology and Journal Club
Saif Alqassim	Biochemistry	University of Michigan Johns Hopkins University	BSc PhD	None	Taught graduate students Structural Biochemistry, Biophysics and Organic chemistry
Samuel Ho	Gastroenterology	St. Olaf College	BSc MD	Supervisor:	Teaching post-graduate

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
		Mayo Medical School		2 PhD Graduated 17 Post-docs Completed	internal medicine residents and gastroenterology fellows
Stefan Du Plessis	Physiology	Stellenbosch University	BSc BSc Hon MSc Hons B&A MBA PhD	Supervisor: 15 MSc Graduated 5 MSc Current 9 PhD Graduated 3 Post-docs Completed 1 Post-doc Current	Postgraduate Committee Chair, Taught a PG course on Reproductive Physiology and lectures on "Research and Publishing"
Thomas Adrian	Physiology	Brunel University Royal Postgrad Medical School, London University Royal College Pathologists	MSc PhD  FRCPATH	Supervisor: 3 MSc Graduated 17 PhD Graduated 22 Post-docs Completed 1 Post-doc Current 1 PhD Current	Graduate program Director in two universities, Organized and coordinated several graduate level courses including Advanced Physiology, Cancer Biology and Advanced Cancer Biology, lectures and tutorials in multiple graduate courses.
Tom Loney	Public Health	University of Bath	BSc PhD	Supervisor: 34 MSc Graduated 3 PhD Graduated	Director of PhD and MPH program in Public Health 2013-2018; Supervised numerous courses.
Yajnavalka Banerjee	Biochemistry	University of Calcutta	BSc PhD	Supervisor:	Designed and Coordinated

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
		The National University of Singapore		11 MSc Graduated 1 Post-doc Current 1 PhD Current	the following courses: Biochemical Methods and Instrumentation; Environmental Toxicology



Master of Science in Biomedical Sciences

## Program learning outcomes and completion requirements

The overall goal of the graduate programs at MBRU is to advance the science agenda within UAE.

### MSc BMS Goals

The goals of the MSc BMS are to:

- PG-1. Develop ethical professionalism in students for activities in biomedical sciences by offering them an academic environment that promotes integrity and honesty.
- PG-2. Provide students with the experience, knowledge, and skills to be able to develop hypothesis-driven research projects, solve problems, and conduct innovative research.
- PG-3. Prepare graduates for professions in academia and/or the field with state-of-the-art biomedical knowledge.
- PG-4. Cultivate interpersonal and communication skills in students so that they can comprehend and communicate scientific findings clearly through presentations at meetings and write publications in peer-reviewed journals.
- PG-5. Prepare graduates for innovative thinking and leadership roles.

### MSc BMS Learning Outcomes

In line with the UAE Qualifications Framework (UAEQF) the focus of the Program learning outcomes, in terms of knowledge, skills and competency, is at Level 9. The Program and course learning outcomes have been derived with particular emphasis on the verbs used and the scope of the task, as per the UAEQF "Guide to Writing Learning Outcomes at Program and Course Level that Align with QF Emirates". The courses for the MSc BMS program have been designed so that emphasis is placed on self-learning and the acquisition of practical laboratory skills. Most of the courses include practical sessions and elements in the assessment that examine the ability to learn independently (literature reviews, term papers, and class presentations).

The graduates of the MSc BMS program are expected to have the ability to:

- PLO-1. Identify gaps in the current state of knowledge and outline directions to produce advance knowledge of research principles and methods at the frontiers of biomedical sciences.

- PLO-2. Develop communication skills to present, explain, and critique advancements in biomedical sciences to peers and colleagues.
- PLO-3. Demonstrate advanced proficiency in biomedical science research by functioning independently and taking responsibility towards developing and accomplishing their research projects.
- PLO-4. Produce and defend an original research work that advances the biomedical sciences field.
- PLO-5. Exhibit leadership qualities and innovative thinking to initiate and manage professional activities.

### Mapping of PLOs to QF Emirates

PLOs	QF Emirates								
	QF1 Advanced problem-solving skills	QF2 The integration of and formulation of judgments	QF3 Taking account of social and ethical issues and responsibilities and reflecting experience of managing change in a highly complex, unpredictable, and unfamiliar context that requires new strategic approaches and/or intervention or conceptual abstract solutions	QF4 Planning skills to develop and execute a major project/activity outcome with appropriately selected research methodologies to produce sound conclusions	QF5 Presenting, explaining and/or critiquing highly complex matters	QF6 Managing professional activities in such context	QF7 Self-evaluating and taking responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts	QF8 Developing and implementing further learning consistently and sensitively	QF9 Consistently and sensitively managing highly complex ethical issues leading to informed, fair, and valid decisions
PLO-1	X	X	X	X	X		X	X	
PLO-2					X				
PLO-3	X	X		X	X		X		
PLO-4	X	X		X	X		X	X	
PLO-5			X	X		X			X

### Program Completion Requirements

#### Didactic Courses

For the didactic courses, students are required to pass all courses with at least a 'C' grade and with a minimum cumulative GPA of 3.0 on a scale of 4.0.

## Thesis

The candidate shall “pass” the thesis defense if the majority of the Thesis Examining Committee (TEC) vote that they are satisfied with students’ research work and his/her defense. In the thesis defense, the student is assessed on the breadth of knowledge acquired and whether or not he/ she can defend her thesis.

Below are the possible outcomes for the final examination or the thesis defense:

- Pass: a successful candidate must receive affirmative votes from a majority of the members of the committee to pass the final examination or the thesis defense.
- Pass with minor or major modifications: The TEC or the examiners may also choose to recommend passing the student following either minor or major modifications to the thesis. In these cases, the student is given some time to implement the corrections to the thesis based on the guidelines of the College of Medicine. If minor modifications are required, the TEC may leave it to the supervisor to ensure that the changes are incorporated into the thesis. If major modifications are required, the TEC may request that the student make another presentation to the TEC to ensure that the modifications (or additional experiments) are to their satisfaction.
- Fail: if a student fails to demonstrate a sufficient understanding of the literature in his/her core research area or fails to articulate the motivation and design of the research in either the written part (thesis) or during the oral examination, he/she will be allowed to retake the exam only one more time after at least three months.

As stated above, the College of Medicine will appoint a liaison for the re-examination. A student who fails two final examinations will be withdrawn from the graduate program at MBRU. However, should there be procedural irregularities or extenuating circumstances during the first or the second examination, the student has the right to appeal to the College of Medicine.

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## Course Information

### Curriculum

The MSc BMS program takes a minimum of two years to complete. The program requires a total number of 32 credit hours (beyond the bachelor’s degree) for graduation. Out of these

credit hours, a minimum of 23 credit hours must be graduate-level courses. The remaining 9 credit hours constitute thesis research.

Students are expected to select a supervisor by the end of the first semester (following laboratory rotations) and develop a research project. Focusing on a specific area of biomedical sciences will facilitate formal laboratory training. The Program Director will aid MSc BMS students to identify a thesis supervisor following the laboratory rotations.

## Curriculum Structure

Students are required to successfully complete 8 credit hours (CH) of general courses, 15 credit hours of MSc BMS core courses and a 9-credit research thesis (Please see the table below). In addition, students will be required to undergo Laboratory Rotations prior to selecting their thesis supervisors.

### Structure of the MSc BMS

	Credit Hours
General Courses*	8 CH
Core Courses in Biomedical Sciences	15 CH
Thesis Research	9 CH
<b>TOTAL</b>	<b>32 Credit Hours</b>

\*Some of these courses may also serve as general courses for additional graduate programs that MBRU may undertake in the future.

## Sequencing of Courses for the MSc BMS

Year 1	Courses	Credit Hours
Semester 1	Research Methodology and Ethics*	4 CH
	Biostatistics*	2 CH
	Genomics	2 CH
	Advanced Molecular and Cellular Biology	3 CH
	Laboratory Rotations	Pre-requisite for Research in BMS course (non-credit)
	<b>Total</b>	<b>11 CH</b>
Selection of the supervisor and formation of the Thesis Advisory Committee (following Laboratory Rotations)		
Semester 2	Leadership in the Biomedical Sciences*	1CH
	Innovation and Entrepreneurship in Health Sciences*	1 CH



	Bioinformatics	2 CH
	Techniques in Biomedical Sciences	3 CH
	Special Topics in Biomedical Sciences	3 CH
	Total	10 CH
<b>Year 2</b>	<b>Coursework</b>	<b>Credit Hours</b>
Semester 3	Research in Biomedical Sciences	CC
	Biomedical Sciences Seminars & Journal Club	2 CH
	Total	2 CH
Semester 4	Research in Biomedical Sciences	9 CH
	Total	9 CH

\*General MBRU graduate courses

## Research Methodology and Ethics (MSBS7146)

Research Methodology and Ethics is a compulsory course in the Master of Science in Biomedical Science program in the College of Medicine that runs in parallel with the Biostatistics course (MSBS7123). Graduate students in the MSc BMS program come from a variety of academic and research backgrounds, therefore, the course syllabus is designed to build upon the foundation research skills and knowledge that were developed during the student’s undergraduate degree program and ensure that all graduate students develop advanced research skills during their first semester. The overall aim of the course is to ensure that students develop the required advanced knowledge, skills, and competencies to conduct their graduate research projects in biomedical sciences. The course will focus on developing a research question, designing an appropriate research methodology, and considering the ethical implications of conducting in-vitro, animal, and human biomedical research. Students will be required to write a research protocol that they will present and defend in front of their peers and program faculty. The course will employ a range of interactive and flipped lecture-based sessions coupled with peer-led tutorials and journal clubs specifically designed for advanced graduate learners.

## Biostatistics (MSBS7123)

This course of biostatistics will focus on developing the knowledge, and practical skills and habits that are needed across differing health-related fields, with emphasis on biomedical sciences and genomics. The objective of the program is to provide the students with rigorous learning and development opportunities in the areas of modern biostatistics related to the application of statistical science to address problems in public health, health services, and biomedical research. Having a background in statistics is recommended and will add value to the learning experience as part of this course but is not a requirement.

The course includes thorough investigations of concepts of biostatistics around the analyses of differing kinds of data (i.e., categorical and continuous). The emphasis of this course is on developing the ability to select the appropriate statistical test for differing research questions and designs, and the required knowledge and skills to effectively interpret the findings. In addition, the students will learn how to use the SPSS and R-Language platform to run the entailed computations.

The scientific journey that the students will undergo, as part of this course, will be characterized by emphasis on fostering analytical skills and critical thinking. Towards the end of this course, candidates will have acquired the necessary knowledge and skills to undergo the statistical requirements of their own research projects. Upon successfully completing this course, students will have acquired the knowledge and skills in topics including but not limited to statistical inference, linear regression, analysis of variance, and analysis of clinical trials and of epidemiological studies.

### **Innovation and Entrepreneurship in Health Sciences (MSBS7111)**

The last decade has seen the rise of biomedical start-ups and companies leveraging digital technologies, thereby offering new types of services. For instance, “23andMe” offers genetic testing that allows customers to access their ancestry and genetic predispositions by means of mobile devices to facilitate the testing process and connect with customers from the same family. “Pear Therapeutics” is another example of a company that uses mobile devices to provide customized treatment for patients suffering from mental health diseases. Biomedical companies are thus undergoing a paradigm shift: They are now directly facing customers, without intermediaries. This customer-centricity is a new approach that requires new methods, techniques and tools. For these reasons, more and more pharmaceutical companies now have innovation labs, which are semi-independent structures that allow for exploring new types of approaches and processes. How to understand customer needs? How to design a product or service that matches customer expectations? How to deliver this product or service on the market?

This course aims at answering these questions by exploring Design Thinking, a customer-centric approach to innovation. Working in groups, students will develop their own projects, step-by-step. We will then explore tools to support the commercialization of the project.

### **Leadership in the Biomedical Sciences (MSBS7211)**

It is increasingly important that health professionals and biomedical scientists, in addition to their technical competencies, develop the skills that enable them to contribute to the leadership of their organizations. However, primary degree programs in healthcare and biomedical sciences provide little training or development in this area. In healthcare and the biomedical sciences, professionals are usually promoted into management and leadership positions on the basis of their technical competence. Many find themselves ill-prepared for the complex multifaceted role of leading others. This module is designed to introduce participants to the basic principles of leadership with reference to healthcare organizations. In order to provide high-quality health services, managers and healthcare professionals need to have a thorough knowledge and understanding of how to lead others in the pursuit of the organization’s mission and vision.

### **Techniques in Biomedical Sciences (MSBS7134)**

This course aims to provide a fundamental foundation of biophysical techniques, which involves the study of biological systems and biological processes using physics-based

methods or techniques based on physical principles. The course will introduce students to different chromatographic techniques, employed in biomedical research for the isolation, purification and characterization of biomolecules. Further, the application of these chromatographic techniques in medicine will also be discussed.

The course will also elaborate on different electrophoretic techniques and their principle of operation in light of their application in biomedical research and forensic medicine. Moreover, the course will explore the application of different spectroscopical methods, employed for the structure-function characterization of biomolecules. The principle of operation of these methods will also be elucidated.

The course will also cover the principles of calorimetric and surface-plasmon resonance characterization of biomolecular interaction will be disseminated in light of their application in drug-discovery and protein-protein interaction studies. The course will also provide an introductory insight into mass-spectrometric methods, reflecting on the use of mass spectrometry in proteomics, lipidomics and toxinomics.

During the course, application of the different techniques will be explored through the discussion of research articles published in peer-reviewed journals of repute. Students will be required to pursue laboratory sessions where the hands-on application of selected techniques will be demonstrated. Students will also be required to address specific research questions applying the principles disseminated. These exercises will lead to take-home assignments and open-book assessments such that the student's innovative, meta-cognitive and critical-thinking aptitudes are enthused. The course will conclude with a summative assessment where both knowledge and application of knowledge pertaining to the different techniques will be assessed.

## Advanced Molecular and Cellular Biology (MSBS7135)

This course provides advanced knowledge of the molecular, cellular, and genomic aspects of modern biology, with an applied emphasis on human disease. These series of lectures will provide an in-depth understanding of molecular cell biology and molecular genetics, and how these disciplines are used to solve clinical-translational scientific problems. The course introduces the molecules that play a key role in biology, then goes on to describe their functions in the cell. The focus will be placed on discussing the role of cellular and molecular biology in modern genomic and clinical science, how biological processes can be manipulated for practical purposes, rather than how they operate in nature. To understand how those processes can be applied to biological problems such as therapies and experimental models used to study disease and how the use of advanced technologies is applied to biological problems. Throughout the course, emphasis will be placed on the review and critical evaluation of recently published experimental evidence; lectures will be complemented by practicals and discussion groups. Throughout the course, in practicals, students will be learning and practicing the latest bioinformatics and laboratory techniques in human molecular genomics.

## Genomics (MSBS7234)

This course will introduce a solid foundation of genomic landscape and its complexities. This course will provide an in-depth overview of DNA sequencing technologies, OMICs (transcriptomics/proteomics) data analysis, genome editing techniques, single-cell genomics, actionable pharmacogenetic tests, genetic counseling, and clinical application of bioinformatics resources. The expectation is that students will develop in-depth knowledge and critical thinking ability regarding the applications of genomics in healthcare delivery and research. Using a diverse set of teaching modalities such as lectures, critical appraisal of research articles and simulations, this course will allow students to conduct productive research in their graduate program.

The course will cover multiple specialized topics such as single-cell genomics, machine learning and genome editing technologies that are now impacting molecular research outcome and medicine. Single-cell genomics will be taught to differentiate cell types and cellular heterogeneity. Machine learning is a topic that is significantly impacting big data driven research and this course will show the practical application of machine learning in genomics. CRISPR/Cas9 model system detail will be introduced within the context of conditional experiments to characterize genetic mutations.

### Bioinformatics (MSBS7221)

This course will teach the applications of bioinformatics to manipulate and analyze large scale dataset using established bioinformatics tools and programming languages. The bioinformatics module will also provide an overview of approaches and techniques for clinical application. The course is designed to provide biomedical researchers with minimum skills to perform bioinformatics tasks in the research team.

The course will recap the essential biology principles as a base for a meaningful bioinformatic analysis including knowledge on molecular biology, genomics, genetics, cell biology, biochemistry, evolutionary theory, and regulatory genomics.

The next set of topics are computation skills which are core skills for a bioinformatician: basic programming, scripting languages, ability to use scientific and statistical analysis software packages, data mining, database design and management.

The course will emphasis on the essential statistical skills for effective bioinformatic approach and application of statistics in the contexts of molecular biology and genomics. The course is designed to focus on the core competencies for each bioinformatics training that involve theory and hands on training on analysis of biological data; retrieving and manipulating data from public repositories; ability to manage, interpret, and analyze large data sets using established bioinformatics software packages, tools, and algorithms.

### Special Topics in Biomedical Sciences (MSBS7233)

This course will introduce translational biomedical science to the students in terms of the definition of biomedical scientists, the skills they should acquire in their training, and their role in the clinical and biomedical research field. Common personality traits shared by researchers will be discussed as it can help early career researchers and biomedical scientists to lead or be part of interdisciplinary teams, and collaborative research. Basics of

how to develop, maintain, and expand a scientific network is a major goal in this course. The transmission of research-related information for the permanent record is principally through journals and books. Training the students on how to read a scientific publication, reading and writing the scientific protocol, and then how to present the research results in a different format other than papers like conferences oral or poster abstracts, along with basics of scientific writing. Students will be provided with an overview of how to write a successful grant application. Special topics on animal care and use in research will be detailed as it is an integral part of biomedical science training. Sessions will be designed to make students familiar and equipped with needed knowledge and skills to conduct research deciphering the region's biggest health challenges: cancer, cardiovascular disease, diabetes, obesity, mental health neuroscience, blood disorders, stem cells, and the current COVID-19 Pandemic.

## Biomedical Sciences Seminars & Journal Club (MSBS7122)

This course will introduce students to the preparation of research seminars in their respective fields of research. Students will develop their oral and visual presentation skills and participate in the discussion of other student presentations. As part of this course, students will present and discuss recent journal articles describing novel and major scientific advances. Students will learn how to critique and answer questions on their respective articles.

## Laboratory Rotations (pre-requisite, not a course)

The Laboratory Rotations is a required co-curricular activity, is not a course, and does not carry any credit hours. It is a pre-requisite for the Research in Biomedical Sciences course (MSBS7312). All students enrolled in the MSc BMS Program are required to undergo rotations in 4-5 different laboratories of their preference to get familiar with the potential thesis supervisor and their research. Students will be provided with a list of potential thesis supervisors and a description of their research areas and recent publications, prior to choosing the labs of their preference. After they have completed these rotations, they will be given an opportunity to rank the laboratories they would like to work for their thesis project in the order of preference. The student preferences will be discussed with the preferred principal investigators, and they will be matched. It is not always possible to match a student with the lab of their first preference.

## Research in Biomedical Sciences (MSBS7312)

Pre-requisite - Laboratory Rotations: All students enrolled in the MSc BMS Program are required to undergo rotations in 4-5 different laboratories of their preference to get familiar with the potential thesis supervisor and their research. Students will be provided with a list of potential thesis supervisors and a description of their research areas and recent publications, prior to choosing the labs of their preference. After they have completed these rotations, they will be given an opportunity to rank the laboratories they would like to work for their thesis project in the order of preference. The student preferences will be discussed with the preferred principal investigators, and they will be matched. It is not always possible

to match a student with the lab of their first preference. The Laboratory Rotations is not a course, but a required co-curricular exercise, and does not carry any credit hours.

The research course is designed for all MSc BMS students at MBRU. This will provide students with an opportunity to register for research credit hours as they carry out their thesis research in the laboratory of their supervisors, acquire skill and gain research experience, and develop their research projects.

Students will learn the methodologies employed in the supervisors' laboratory introducing them to a wide range of research tools that will help them be equipped to plan and organize their research, as well as to communicate their findings. The students will practice scientific thinking and learn scientific processes, which may be helpful in advancing their educational and career goals.

This course is part of the graduation requirement and requires each student to carry out an original research work and present it in the form of a research dissertation of a publishable standard. The students are required to present their thesis work publicly. The dissertation is also evaluated and judged by an examining committee of experts chaired by the student's academic supervisor and at a minimum of two other members including an external examiner.

## Sequencing of courses

Please refer to ["Sequencing of Courses for the MSc BMS"](#)

## Admission, Withdrawal and Enrolment policies

Admission into the MSc BMS at MBRU will follow the requirements that are established by the Standards for Licensure and Accreditation 2019 (Commission for Academic Accreditations (CAA), Ministry of Education, UAE) as well as the College of Medicine at MBRU.

General minimum admissions criteria for the academic year 2023-2024 entry are set out below:

ITEM	QUALIFICATION/CRITERIA
Degree	<p>Hold a bachelor's degree or equivalent in any biological sciences discipline (e.g. biology, biochemistry, microbiology) with a minimum cGPA of 3.00 on a scale of 4.00 or equivalent.</p> <p>Applicants with cGPA between 2.5 - 2.99 or equivalent may be considered for conditional admission*.</p>

Note:



- Applicants with university degree obtained outside the UAE, are required to submit an Educational Credential Evaluators (ECE) - General with Grade Average for US institutions evaluation when applying to evaluate the transcripts and have a standard GPA (<http://www.ece.org>)
- \*If accepted, student must take a maximum of nine credit hours of courses during the period of conditional admission and must achieve a minimum cGPA of 3.0 on a 4.0 scale in these nine credits of courses studied or be subject to dismissal.

Applicants with a cGPA of less than 2.5 will not be considered.

English Language Requirements	Academic IELTS	An overall band 6 with no skill less than 5.5 IELTS Indicator' will not be considered for admission purposes. Must have been taken within the last two years. A single certificate to be submitted, combined scores are not accepted.
	TOEFL	iBT 80 PBT is not accepted. Must have been taken within the last two years. 'My Best Scores' will not be considered for admission purposes
Interview	Shortlisted applicants will be invited for a face-to-face interview.	

### Transfer Admissions and Recognition of Prior Learning Policy

The Master in Biomedical Sciences does not accept transfer of admissions, transfer credit, nor recognize prior learning, due to the uniqueness and integrated nature of the curriculum offered.

### Registration, Re-Enrollment, Withdrawal, Probation and Dismissal Policies

MBRU's admissions policy and procedures are detailed in the Student Handbook (Section 4.1). The registration, re-enrollment and withdrawal policies and procedures are detailed in the Student Handbook (Section 4.3), and the dismissal policy and procedures are detailed in the Student Handbook (Section 5).

Re-enrollment is not applicable to the MSc BMS program and the two weeks of add/drop period does not apply. Early exit from the program will not lead to a degree qualification.

Please refer to [student assessment and progression](#) for information on probation and dismissal.

## Student Assessment and Progression

## Assessment

A graduate course is a course whose contents require a higher level of cognitive processing, critical evaluation, and problem solving as compared to undergraduate courses. In addition, a graduate course contains a significant communication, writing, and speaking requirement with the ultimate objective being to prepare the student to perform, critically evaluate, and communicate original research and scholarly activity, and/or obtain comprehensive professional understanding and expertise in a particular field. Graduate courses will follow a standard numbering classification (see the Graduate Studies Policies for detail) and will have the below general guidelines in terms of grading and grade requirements.

- At the end of every semester, courses will be graded using letter grades to show student performance.
- Grade Point Average (GPA) is the student’s performance for a specific period of time. It is a numerical value of the student’s final grand on a 4.0 scale and is weighted to reflect the credit hours assigned to each course.
- Any course listed on the student’s Program of Study in which a grade “C-” or below is earned must be remediated or repeated. If a graduate student fails a course, he/she would be required to repeat the course.
- An Incomplete (I) grade for a course means that the grade for that course has been deferred. It is given to a student who is unable to complete the assigned work on time. The “I” grade for a graduate-level course will be changed to an “F” if the work is not completed within one semester following the semester in which the “I” grade was assigned. The student may not repeat the course to remove an incomplete grade. Graduate students may not graduate with an “I” grade on their transcript.
- Students on a scholarship or graduate assistantship may not carry an Incomplete (I) grade longer than one semester. In such a case, the student will lose the scholarship or assistantship.
- If a graduate student earns credits from one MBRU program and is later admitted into another program at MBRU, he/she can transfer up to 9 credit hours towards the requirements for the new program, as long as a grade of “B” or higher has been earned in the course.

%	Grade	Point Grade	Performance
≥90	A	4.0	Excellent
87-89	A-	3.7	Excellent
84-86	B+	3.3	Very Good



80-83	B	3.0	Good
77-79	B-	2.7	Satisfactory
74-76	C+	2.3	Satisfactory
70-73	C	2.0	Satisfactory
67-69	C-	1.7	Unsatisfactory
64-66	D+	1.3	Unsatisfactory
60-63	D	1.0	Unsatisfactory
Below 60	F	0	Fail
NA	P	NA	Pass
NA	NP	NA	Not Pass
NA	W	NA	Withdrawal
NA	I	NA	Incomplete
NA	CC	NA	Continuing Course
NA	AU	NA	Audited Course

- For a postgraduate student to maintain good academic standing at MBRU, a minimum cumulative GPA of 3.0 (out of a 4.0 scale) is required. Individual academic programs may have requirements that are more stringent.
- A regularly admitted graduate student who earns a GPA of less than 3.0 in any semester is placed on probation. However, students who are admitted conditionally and could not attain a minimum CGPA of 3.0 in the first semester will be withdrawn from the program.
- A course where the student has earned a grade of “B-” or higher cannot be repeated for a higher grade. A course where the student has earned a grade of lower than “B-” may be repeated for a higher grade in certain programs once. All graded courses are calculated in the GPA, except for the first grade for a repeated course.
- The student is expected to earn a Pass (P) grade for all research credits. One Fail (F) grade for research credits indicates that the student is not making satisfactory progress and will be placed on probation. The student will be subject to withdrawal from the program if he/she earns a Fail (F) grade for research credit for two semesters.

The enrollment of a graduate student will be terminated under any one of the following conditions:

- If the student has a cumulative GPA below 2.0 at the end of the first semester of study.
- If the student fails to establish and maintain a cumulative GPA of 3.0 or above after more than one semester of study.
- If the student has been conditionally admitted and has a cumulative GPA below 3.0 in the first semester of study.
- If the student has earned a grade of “F” for two courses during his/her studies.
- If the student has earned an Unsatisfactory (C- or below) grade for research credits for two semesters.
- If the student has failed a qualifying/comprehensive exam or a thesis defense for a second time.
- Other reasons for termination might include failure to maintain continuous enrollment and/or make normal progress toward degree completion, and other issues related to academic integrity or student conduct, etc.

## Maximum Time Limits for Completion of Degree

It is important that students work closely with their supervisor/advisor, Thesis Advisory Committee (TAC) members, and their program coordinators to develop a timeline for completion of the program requirements. Most full-time students enrolled in master’s degree programs at MBRU require 2 years for completion of their program. The maximum time allowed for completion of a master’s degree for these students is 3 years from the start date of enrollment. In special circumstances, this time limit may be extended for an additional one year.

The College of Medicine recognizes that for programs that are designed for part-time students, completion of the requirements may take longer time than stated above. To be granted an extension for all of the graduate programs at MBRU, the student must make a formal request in writing (with appropriate justification) to the Program Coordinator/Director, who should then discuss this matter with the student and his/her supervisor to outline a plan for completion within one year. The Program Coordinator must then consult with the student’s TAC and, if all agree, forward the request to the College of Medicine for final approval.

## Degree Requirements

All master's programs at MBRU are designed to be thesis-based, non-thesis, or of a professional nature. With the exception of professional master's degrees, all other master's degree programs require that the student prepare a thesis and pass the thesis defense or a final examination.

The thesis is a scholarly study, which makes a significant contribution to the knowledge of the chosen discipline. To successfully complete a master's degree program, candidates must satisfactorily demonstrate to the MBRU faculty that they can understand the literature within their field of study and are able to defend their research work.

## Master's Degree Graduation Requirements

Before the final examination or the thesis defense, all master's students must have completed all the required course work with a minimum cumulative GPA of 3.0. Furthermore, they must have completed all the research credit hours or be registered for the remainder of them before scheduling the final examination. The scheduling for the final examination or the thesis defense must be done through the College of Medicine following their guidelines and timelines and an "Application for Degree/ Graduation" must be submitted.

Research work leading to a thesis, which is a scholarly and original study that contributes to the knowledge in a chosen discipline, is required towards graduation requirements. The student's TAC members must help and support the student throughout his/her studies by providing suggestions to improve, troubleshoot, and enhance the overall quality of the research work. Before the thesis defense is scheduled, the student must submit a typed complete draft copy of the thesis in the format approved by the College of Medicine. The student's TAC members, in addition to their role in this capacity, should read the thesis and provide feedback to the student as they play an important part in the Thesis Examining Committee (TEC) (see the Final Master's Examination/Thesis Defense below).

## Graduation and Submitting the Final Thesis to the College of Medicine

Students who wish to graduate must file an "Application for Degree/Graduation" by a deadline of the semester in which they wish to graduate. The College of Medicine will provide guidelines and forms towards the students' completion of the degree and submission of the final thesis/dissertation. After passing the final thesis/ dissertation defense, hard copies, as well as an electronic copy of the corrected dissertation/thesis, must be submitted following the guidelines of the College of Medicine.

## Master's Thesis Examination Outcome

The candidate shall "pass" the thesis defense if the majority of the Thesis Examining Committee (TEC) vote that they are satisfied with students' research work and his/her defense. In the thesis defense, the student is assessed on the breadth of knowledge acquired and whether or not he/she can defend her thesis.

Below are the possible outcomes for the final examination or the thesis defense:

- Pass: a successful candidate must receive affirmative votes from a majority of the members of the committee to pass the final examination or thesis defense.
- Pass with minor or major modifications: The TEC or the examiners may also choose to recommend passing the student following either minor or major modifications to the thesis. In these cases, the student is given some time to implement the corrections to the thesis based on the guidelines of the College of Medicine. If minor modifications are required, the TEC may leave it to the supervisor to ensure that the changes are incorporated into the thesis. If major modifications are required, the TEC may request that the student make another presentation to the TEC to ensure that the modifications (or additional experiments) are to their satisfaction.
- Fail: if a student fails to demonstrate a sufficient understanding of the literature in his/ her core research area or fails to articulate the motivation and design of the research in either the written part (thesis) or during the oral examination, he/she will be allowed to retake the exam only one more time after at least three months.

The College of Medicine will appoint a liaison for the re-examination. A student who fails two final examinations will be withdrawn from the graduate program at MBRU. However, should there be procedural irregularities or extenuating circumstances during the first or the second examination, the student has the right to appeal to the College of Medicine.

After passing the final oral examination for thesis students, the student must submit an electronic copy of the thesis to the College of Medicine for final acceptance. Details for submitting the thesis will be provided by the College of Medicine. Following approval, the final thesis would need to be handed to the College of Medicine for distribution to MBRU/ Al Maktoum Medical Library (AMML), the student's college/program, College of Medicine, and a copy for each of the TEC members, etc. Different programs may have different requirements for the number of copies of the final thesis to be provided. Following this, the student will be recommended for an MSc BMS degree by the College of Medicine.

## Dispute/Conflict Resolution

An MBRU graduate student who believes that his/her rights as a graduate student have been violated by a member of the academic community can contact the College of Medicine to file a formal complaint, in writing. The nature of the complaint will determine the level of involvement of the University and the College of Medicine. In general, MBRU would like to resolve all disputes professionally with the highest standards of integrity. Regardless of the best intentions of all involved, conflict can arise in the course of graduate studies, even between the student and the advisor simply because of differences in personality, communication style, or unspoken expectations. In many cases, such conflict can be resolved through improved communication, but occasionally the situation deteriorates to the point where external mediation is required. The proposed dispute resolution mechanism is consistent with other University policies, emphasizing action first at the local level. The initial complaint should be brought to the attention of the program coordinator, but if that individual is unable to resolve the dispute, then the Head of the Department in which the advisor is a member should become involved. If the Head cannot resolve the matter or has

a conflict of interest i.e., being the advisor, then the Head should refer the matter to the College Dean, who will provide informal mediation. If mediation is not possible, then the advisor and the student should both have the option of discontinuing their collaboration as a student and supervisor, however, this should be done as soon as possible. For more serious disputes, an official committee will try to resolve the dispute or provide a recommendation to the Vice Chancellor. The decision made by the Vice Chancellor is final.

## Responsibilities of the Program Examination Committee

A Subcommittee of the Program Steering Committee will function as the Examination Committee, and is responsible for scrutinizing and monitoring of examination quality by:

1. Ensuring University and College regulations are adhered to.
2. Reviewing reports from Course Coordinators
3. Reviewing External Examiners' reports (if applicable) in matters related to the examination.
4. Verifying with Course Coordinators that examination papers are vetted.
5. Reviewing a sample of examination question papers.
6. Confirming that appropriate standard-setting procedures are adopted.
7. Reviewing examination 'item' performance.
8. Reviewing the distribution of grades.
9. Recommending improvements and ratifying changes to the examination process.
10. Approval of timetables and invigilation guidelines of final examinations.
11. Receipt and consideration of final examinations results.
12. Recommendation, in consultation with Course Coordinators, of supplementary.
13. Handling misconduct in examinations and/or resits.
14. Liaising with appropriate bodies in cases of student appeals that relate to examinations.
15. Recommending amendments to the College examinations policy.
16. Any other duties that may, from time to time, be assigned to the Committee.

## Examination Guidelines

Examinations should be both formative and summative. The methods of assessment used will be dictated by the purpose of the assessment.

Summative assessment is any form of assessment that will contribute to the final grade of a student. Guidelines for conducting summative assessments are as follows:

- a. Each course Coordinator shall assess all aspects of the course objectives. Multiple methods, including the creation of a blueprint, are usually required to assess the course objectives. The different examination instruments allow a balance of strengths and weaknesses of each method.
- b. As much as possible, questions should assess higher order thinking and not just a simple recall of information.

- c. For skills/performance-based assessments, properly constructed checklists and/or rating scales should be used.

## Review of Examinations

For all exams (in-course and final), exam questions should be reviewed and amended by the Assessment Subcommittee of the BMS-Graduate Studies Steering Committee before the examination takes place.

## Standard Setting

For each examination, a defensible standard-setting method should be used by trained faculty. Arbitrary methods should not be used. The standard-setting procedure should be declared to the College Examinations Committee. The percentage scores corresponding to the letter grades are pre-determined.

## Grades and Grading

Letter grades shall be used to describe the achievement level attained within a particular course. A final semester grade shall be based on continuous assessment throughout the semester as well as a final examination. A final examination is customary but may not be considered necessary in certain types of courses.

## Item Analysis and Test Statistics

Student performance on exam questions should be analyzed using appropriate item analysis software by the coordinators whenever appropriate. The results of these analyses should be discussed by the relevant committees to assist in making informed decisions about the assessment process. For all examinations used by instructors, reliability indices should be determined, and the data used to improve on the assessment process in the College.

## Feedback (to students) on examinations

Feedback on in-course examinations should be given to students within 1 week of the examination. Feedback should not involve the release of questions but a discussion of points of weaknesses with students. Final examinations will not be discussed with students.

## Training of Students in Examination Methods

Students should be familiarized with the type of examinations in the College. Practice questions should be provided by the concerned coordinators.

## Access to Old/Previous Exams

Students will not have access to old/previous examination questions.

## Absenteeism from Examinations

Please refer to the attendance policy in the Student Handbook (4.6). Additionally, the following will apply to the College of Medicine:

Sick leave accompanied by detailed medical reports may be accepted as an excuse for absence from course examinations subject to confirmation by an expert panel set up by the College Examinations Committee.

Note: A student exempted due to bereavement, hospital admission, or in extremely ill health should be offered the option of sitting for the examination in accordance with the circumstance prevailing at the time and must be in-line with University regulations.

## Misconduct in Examinations

Please refer to the policy in the Student Handbook (Section 5). Additionally, the following procedure of reporting misconduct will be applied in the College of Medicine:

Misconduct in examinations should be reported to the Examinations committee by the senior invigilator of the examination during which the malpractice occurred. The Examinations Committee will deliberate on the report. Thereafter, a recommendation will be made to the Dean.

## Online Exams

### General Conduct of Students

- a. Students must not indulge in any behavior or conduct that may disturb other candidates or disrupt the smooth progress of an examination.
- b. Students are not permitted to smoke in any part of the examination room.
- c. Students must obey the instructions of any invigilator and their attention is drawn to the regulations governing admission to and departure from the examination room.
- d. Students are not allowed to take into the examination room any unauthorized books, manuscripts, notes, bags, cases, or any means whereby they may improperly obtain assistance in their work. All such materials, including handbags, must be placed on a table outside the examination room.
- e. Students are not allowed to take into the examination room electronic transmission devices such as mobile phones, pagers, PDAs, or any digital storage media such as flash drives or CDs.

- f. Students are not allowed to take into the examination hall paper of any sort. A plain sheet of paper (or similar material) shall be provided in the examination hall should any student require it.
- g. Students must be at the venue of the examination at least 10 minutes before exam commencement.
- h. Before the commencement of the examination, the student must place their ID card on the top right-hand corner of the desk for inspection by one of the invigilators.
- i. Students must not use any means whatsoever to communicate or obtain, directly or indirectly, assistance in their work, or give or attempt to give, directly or indirectly, assistance to any other candidate.
- j. Students are permitted to use only personal non-programmable electronic calculators in an examination provided they are silent in operation and have an independent power supply.
- k. Any suspected breach of the foregoing regulations will be investigated by the College.

## Invigilation

Invigilation is part of the responsibilities of all faculty and biomedical scientists. Course Tutors and Course Coordinators do not normally invigilate their own course examinations. In any examination, the most senior and experienced faculty member will act as the senior invigilator with other academic and biomedical staff as members of the team. The ratio of invigilator to student should range from 1 to 20 to 1 to 30, depending on the examination venue.

The Course Coordinator must be available during the examination so that the senior invigilator may contact them for clarification. At the end of the examination, the senior invigilator should personally deliver the scripts to the Course Coordinator.

### Duties of the Senior Invigilator:

The Senior Invigilator shall be responsible for the entire proceedings of the examinations to which he/she is appointed. Specifically, the Senior Invigilator shall:

- On the date of the examination, personally and accompanied by a second invigilator, collect the prescribed examinations materials from the Examinations Office no later than one hour prior to the start of the examination and be at the venue at least 30 minutes before the commencement of the examination.
- Prior to the commencement of the examination, require each student to deposit, at a designated point, any textbooks, notebooks, papers, baggage, files, or mobile telephones, as they enter the examination room.
- At the appropriate time, start the examination. Remind students of the duration of the examination and to write their names and ID numbers clearly on the first page or cover page.
- Inform students when they have reached the following stages in the examination: half time, three-fourths of time, and 5 minutes remaining.



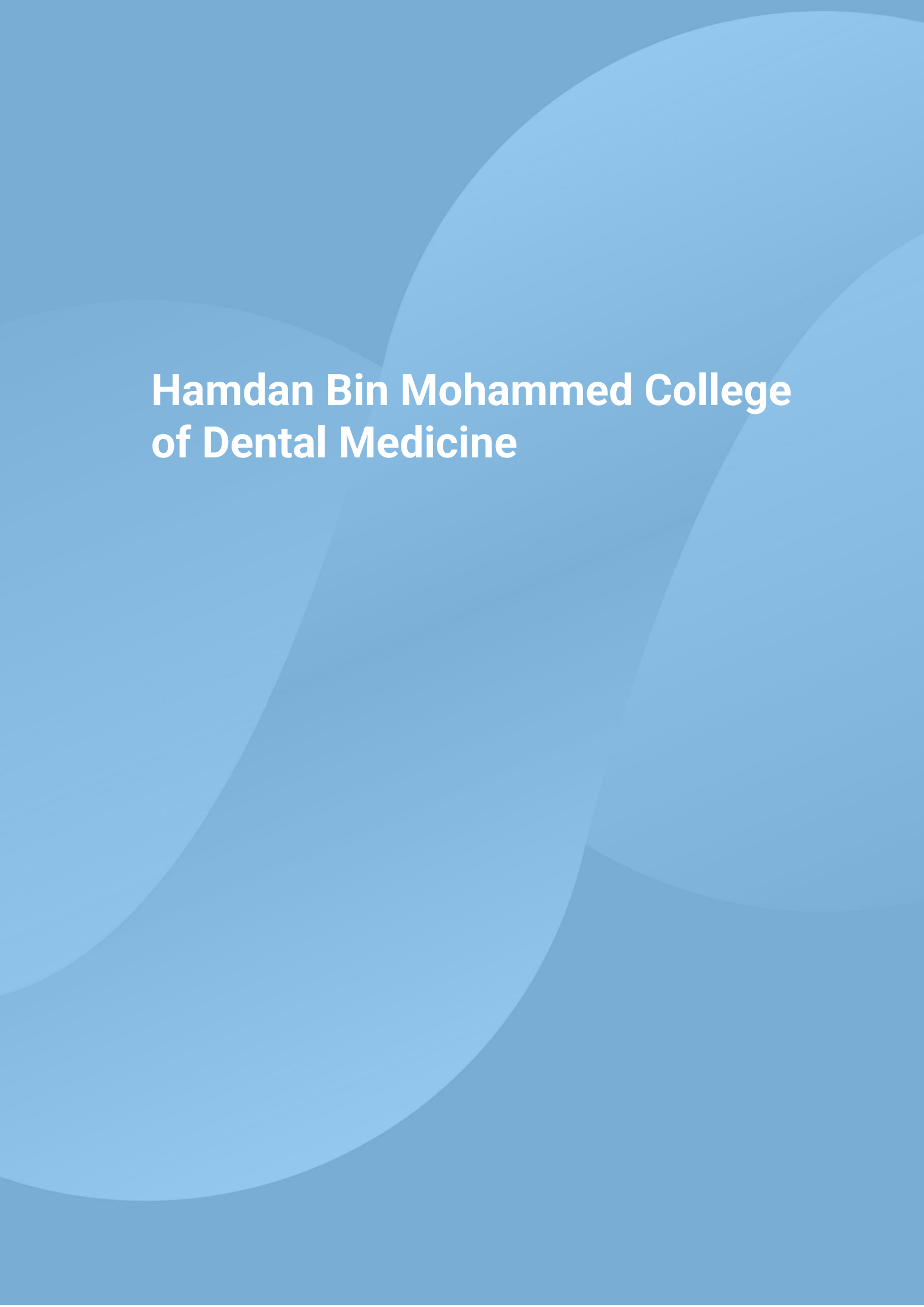
- Submit examination incident reports to the Examinations Officer who reports to the Chairman of the Examinations Committee
- Allow students who have completed the examination to leave the venue after confirming the submission on the e-platform.

## Faculty listing

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Abiola Senok	Microbiology	University of Ibadan Chinese University of Hong Kong	MBBS PhD  FRCPATH	Supervisor: 10 MSc Graduated Co-supervisor: 1 PhD Current	Teaching in graduate programs
Alawi Al Sheik-Ali	Cardiology	Mass. Inst. of Technology Boston University Tufts University University Medicine	BSc  MSc MD MSc	Supervisor: 1 PhD Graduated Co-supervisor: 1 MSc Graduated	Teaching in graduate programs
Amar Omer	Biostatistics	University of Khartoum University of Paris XI Univ. Med. Aix Marseille	BSc Hons  MBS  PhD	Supervisor: 4 MSc Graduated 1 PhD Graduated	Teaching and course coordination in graduate
Bakhrom Berdiev	Physiology	Central Asia Medical Pediatric Institute Institute of Physiology and Biophysics	MD  PhD	Supervisor: 2 Post-docs Completed. 1 Post-doc Current	Teaching in the graduate program
Fahad Ali	Molecular Biology	University of Jordan Liverpool John Moores University University of Liverpool	BSc MSc  PhD	Supervisor: 2 Post-docs Current 1 PhD Current 1 MSc BMS student current	Teaching and course coordination in graduate programs

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Laila Alsuwaidi	Molecular Hematology	UAE University Southeastern University of the West of England Cardiff of Wales Cardiff University	BSc AAS MSc PGD  PhD	Supervisor: 1 MSc BMS Student	Teaching in graduate programs
Mahmood Al Mashhadani	Translational Medicine Systems Biology	Al Nahrain University Dundee Univ Universität zu Lübeck, Germany University of Sharjah, UAE	MBChB MSc MRes Dr. Med  PhD	1 PhD Current	Teaching and course coordination in graduate programs
Mohammed Uddin	Genetics	Memorial University	BSc MSc PhD	Supervisor: 2 MSc Current 1 PhD Current 2 Post-doc Current	Teaching and course coordination in graduate programs students
Rajan Radhakrishnan	Pharmacology	University of Kerala Strathclyde University National University of Singapore	BS BPharm MSc PhD	Supervisor: 1 MSc Graduated 1 Post-Doc Current 1 PhD Current	Teaching and course coordination in graduate programs
Reem AlGurg	Public Health & Nutrition	University of Bradford Kings college London	PhD	None	Teaching and course coordination in graduate programs
Riad Bayoumi	Biochemistry & Cell Biology	Khartoum University London University Royal College Pathologists	MBBS PhD FRCPath	Supervisor: 14 MSc Graduated 6 PhD Graduated 1 PhD Current	Teaching and course coordination in graduate programs

Faculty Name	Field	Graduating Institutions	Degrees Held	Research Student Supervision	Graduate Teaching Experience
Saba Al Heialy	Immunology	Universite du Quebec McGill University	BSc PhD	Co-supervisor: 2 MSc Graduated 1 PhD Graduated	Teaching and course coordination in graduate programs
Saif Alqassim	Biochemistry	University of Michigan Johns Hopkins University	BSc PhD	None	Teaching in graduate programs
Stefan Du Plessis	Physiology	Stellenbosch University	BSc BSc Hon MSc Hons B&A MBA PhD	Supervisor: 15 MSc Graduated 5 MSc Current 9 PhD Graduated 3 Post-docs Completed 1 Post-doc Current	Teaching in graduate programs
Thomas Adrian	Physiology	Brunel University Royal Postgrad Medical School, London University Royal College Pathologists	MSc PhD  FRCPath	Supervisor: 3 MSc Graduated 17 PhD Graduated 22 Post-docs Completed 1 Post-doc Current 1 PhD Current	Teaching and course coordination in graduate programs
Tom Loney	Public Health	University of Bath	BSc PhD	Supervisor: 34 MSc Graduated 3 PhD Graduated	Teaching and course coordination in graduate programs.
Yajnavalka Banerjee	Biochemistry	University of Calcutta The National University of Singapore	BSc PhD	Supervisor: 11 MSc Graduated 1 Post-doc Current 1 PhD Current	Teaching and course coordination in graduate programs

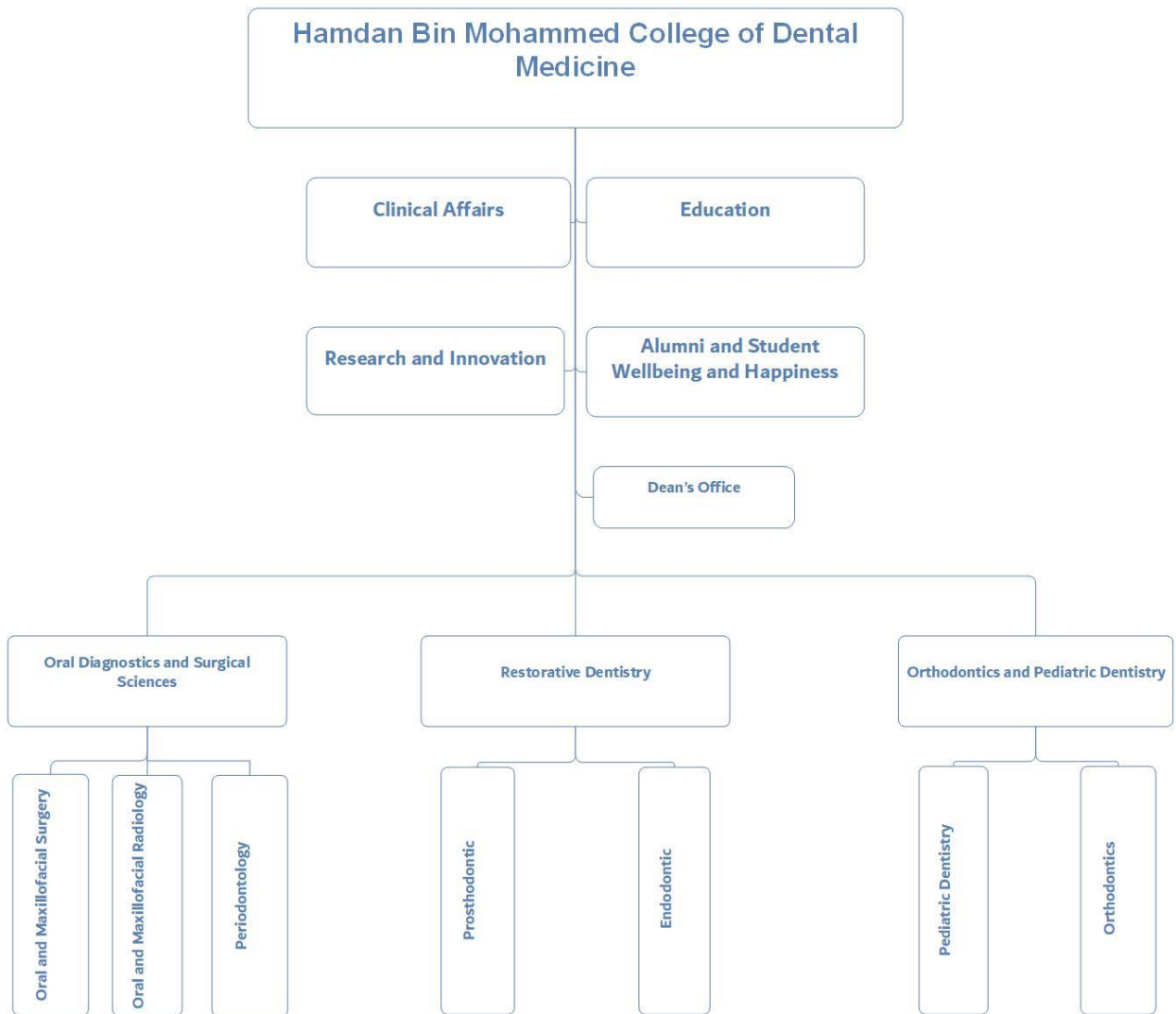


# **Hamdan Bin Mohammed College of Dental Medicine**

## Organizational structure of College

HBMCDM is one of the academic departments at MBRU. The organization chart below provides an overview of its structure:

### Hamdan Bin Mohammed College of Dental Medicine Functional Structure



## College Goals and Outcomes

Goal 1	Provide dental specialty training
Objectives	Provide competency-based training.
	Will encourage evidence-based practice.
	Integrate basic, medical, behavioral and dental sciences in all curricula.

	Develop new programs/courses
Goal 2	Deliver curricula that meet national and international standards
Objectives	Affiliate and collaborate with dental educational centers of excellence. Include core knowledge across all dental specialties and ensure that all students have the corequisite basic sciences, clinical competency and research skills. Provide dental curricula that will foster an interdisciplinary appreciation by the students. Align academic programs with local, regional and international curricula for clinical specialist training. Align curricula with the eligibility requirements to sit local, regional, internationally recognized clinical specialty examinations.
Goal 3	Provide patient centered care
Objectives	Position HBMCDM and DDH as a center of dental excellence. Deliver care through multidisciplinary clinical teams. Empower and involve of patients in their oral health. Monitor patient satisfaction. Ensure that patient complaints are dealt with effectively and efficiently along with DDH. Provide community programs in oral health education.
Goal 4	Embed research to foster evidence-based practice and improve patient care
Objectives	Focus on clinical problems relevant to the country and the region. Attract faculty with a research track record. Collaborate with internationally renowned researchers and industry leaders. Support and provide adequate time and resources for research that is aligned with the research mission of the MBRU. Encourage students to conduct high quality research and publish in high impact journals. Strengthen research capacity at the college.
Goal 5	Harness technology and innovation in teaching and learning.
Objectives	Encourage the use of latest technology in clinical practice as well as didactic learning and teaching. Promote and reward excellence in teaching. Provide academic development education and research.

## International accreditations

Most of the Programs are recognized by The Ministry of Higher Education of Kuwait and The Ministry of Higher Education of Jordan.

HBMCDM also plans to seek further accreditation of its programs from reputed international bodies.

The Professional Qualification Recognition Committee in UAE has granted specialist status immediately upon graduation to the graduates of HBMCDM.

## Academic Calendar

Week #	Semester 1	Dates
Semester 1 Sunday, 27 August 2023 – Thursday, 1 February 2024		
	Clinic Starts for Returning Students	Sunday, 27 August 2023
1	New Student Orientation	Tuesday, 29 August 2023 – Thursday, 31 August 2023
	Classes Start for New & Returning Students	Sunday, 3 September 2023
WINTER BREAK for Year 1 and 2: 3 weeks Sunday, 17 December 2023 – Thursday, 4 January 2024		
WINTER BREAK for Year 3: 2 weeks Sunday, 24 December 2023 – Thursday, 4 January 2024		
19 - 22	Semester 1 – Clinical Practice	Sunday, 7 January 2024 – Thursday, 1 February 2024
19 –20	Semester 1 – Final Exams	Sunday, 7 January – Thursday, 18, 2024
21	Semester 1 – SAPC Meeting	Tuesday, 23 January 2024
Week #	Semester 2	Dates
Semester 2 Sunday, 04 February 2024 –Thursday, 04 July 2024		
SPRING BREAK for Year 1 and 2: 2 weeks Sunday, 24 March – Thursday, 4 April 2024		
SPRING BREAK for Year 3: 1 week Sunday, 31 March – Thursday, 4 April 2024		
19 - 22	Semester 2 – Clinical Practice (Year 1 and 2)	Sunday, 9 June 2024 – Thursday, 4 July 2024
20-21	Semester 3 – Clinical Practice (Year 3)	Sunday, 9 June 2024 – Thursday, 20 June 2024
18	Semester 2 – Year 3 Final Exams	Monday, 27 May – Tuesday, 28 May, 2024
18	Semester 2 – SAPC Meeting - Year 3 Grade Approval	Thursday, 30 May 2024
19	Semester 2 – SAPC Graduation Recommendation	Thursday, 6 June 2024
19 - 21	Semester 2 – Year 1 and 2 Final Exams	Sunday, 2 June - 13, 2024
22	Semester 2 – SAPC Meeting - Year 1 and 2 Grade Approval	Monday, 24 June 2024
SUMMER BREAK Start Sunday, 7 July 2024		

## UAE Public Dates & Holidays 2022-2023 (Subject to Official Confirmation)

Occasion	Dates
Prophets Birthday	Thursday - September 28, 2023,
Martyr's Day	Friday – December 1, 2023,
UAE National Day	Saturday December 2 - Sunday December 3, 2023
New Year's Day	Monday - January 1, 2024
Ramadan Begins	Monday – March 11, 2024
End of Ramadan & Eid Al Fitr	Tuesday April 9 – Friday 12 April 2024
Arafat & Eid Al Adha	Sunday June 16 – Wednesday June 19, 2024
Islamic New Year	Sunday, July 7, 2024

\*SAPC – Student Admission and Progression Committee

Public holidays are subject to confirmation from relevant authorities and will be announced by the MBRU administration.

Any revisions to teaching and clinical skills scheduling, examination timetables, public holidays, and MBRU closure periods, will be published throughout the year on the university's website at [www.mbru.ac.ae](http://www.mbru.ac.ae). In addition, during breaks, the students are required to be on call at Dubai Dental Hospital. Students will be notified of this requirement in advance.

## Tuition fees

2023-24	International Student	UAE & GCC* Student	Payment Schedule
Seat reservation fee (non-refundable)	AED 10,000	AED 10,000	At the time of acceptance of offer
Tuition Fee	AED 175,000	AED 150,000	July 26th, 2022
	AED 185,000	AED 160,000	

## Research policies

### Policies And Procedures on Projects, Theses and Dissertations

#### Registration

Students will be registered in the Research Dissertation courses (five courses) starting semester 2 of year 1. The topic for a dissertation will be chosen by the student in conjunction with the faculty supervisor. The research project title and the supervisory team will be defined in the first semester of year-one as a prerequisite for the research dissertation course in the second semester of postgraduate study.

#### Proposal Submission & Approval



The student must submit the final proposal to the Primary Supervisor before the end of semester two of year one. The students are advised to organize and write the research proposal according to the HBMCDM Research Proposal Checklist.

### **Selection of Principal Supervisor**

The primary supervisor will normally be a faculty within the program. The primary supervisor will be appointed based on their clinical, research or scholarly interest in the identified area of dental practice. The primary supervisor will allocate the supervisory team based on the faculty interest and previous research experience with the approval from the program director.

### **Research Supervisory Committee**

The Research Supervisory Committee will consist of at least two faculty members from HBMCDM (with one primary supervisor) to oversee the student's research progress. Supervisors will provide appropriate guidance and monitoring throughout the research project. Students must meet with their research supervisor regularly (at least twice per semester) and complete and submit the research supervision meeting form to their supervisor by two weeks after the meeting.

### **Seminars**

Postgraduate students attend a common course on Research Methodology and Biostatistics in the first semester of the first year and Scientific Literature courses throughout their three-year postgraduate program to further enhance their knowledge of research in their specialties and critical appraisal of the scientific literature.

### **External Examiner**

Based on the recommendation of the Primary Supervisor, the Dean's office invites the examiners (internal and external) to the examination and once accepted the Dissertation Defense Panel (DDP) is formed. The DDP includes the two examiners and the DDP coordinator. Subsequently the dissertation is sent by the DDP coordinator to the examiners to be evaluated by both.

### **Final thesis defense**

The examiners jointly evaluate the dissertation presentation and defense by the student and the DDP coordinator ensures that the examination abides with the guidelines governing the examination and documents the recommendation of the examiners.

### **Revisions**

The examiners jointly evaluate the dissertation presentation and defense by the student and the DDP coordinator ensures that the examination abides with the guidelines governing the examination and documents the recommendation of the examiners.

### **Award of Degree**

Students will be awarded the MSc degree following successful completion of all didactic courses, meeting the required competencies in specialty clinical training and clinical skills, receiving a pass grade in the final Research Dissertation course and completion of any other administrative requirements by the Student Admissions and Registrations Department.

### **Intellectual Property Rights and Copy Rights**

MBRU is committed to encouraging faculty and students to pursue research activities that may result in protected forms of intellectual properties, such as patents and licenses and protection of such intellectual properties in an effective and efficient manner. The applicable laws of the United Arab Emirates govern ownership of intellectual property rights.

MBRU respects the rights of authors and publishers under the Copyright Laws of the United Arab Emirates. Accordingly, faculty members and students are expected to abide by all relevant copyright and intellectual property laws and standards.

## **General Information - Graduate Programs**

The Hamdan Bin Mohammed College of Dental Medicine (HBMCDM) is honored to carry the name of the Crown Prince of Dubai, His Royal Highness Prince Hamdan Bin Mohammed Bin Rashid Al Maktoum. HBMCDM was established to provide internationally recognized postgraduate student-centered dental education programs that combine advanced didactic, clinical, and research training designed to prepare the candidate for a career at the specialist level. The College supports the community by providing high quality specialized oral health services through the work of our postgraduate dental students at Dubai Dental Hospital.

The postgraduate programs at HBMCDM satisfy the eligibility criteria to sit the Royal College of Surgeons of Edinburgh (RCSEd) and Ireland (RCSI) specialty membership examinations. Candidates who successfully complete a Master of Science in Periodontology from MBRU, pass the conjoint examination and obtain specialist registration in the United Arab Emirates are eligible to apply for Membership of the Royal Australasian College of Dental Surgeons (MRACDS) in Periodontics without further examination.

Currently, HBMCDM offers three-year, full-time postgraduate programs in Endodontics, Orthodontics, Pediatric Dentistry, Periodontology and Prosthodontics.

The research element is meant to underpin the evidence-based approach to clinical practice and embed critical thinking. Students are supervised by a faculty member and completion of a dissertation is mandatory for graduation.

Each program has a fixed curriculum and graduation is dependent on passing all courses in the curriculum, demonstrating clinical proficiency in the specialty, completing a research project and defending a dissertation. Failure to do so in any course will result in the student not being awarded the academic degree or certificate.

## **General Admission Requirements and Procedures**

All five programs offered by HBMCDM have common admission requirements and policies.

MBRU's admissions policy and procedures are detailed in the Student Handbook (Section 4.1.1.2).

The minimum requirement for admission to the HBMCDM postgraduate programs are:

**Degree:**

- Degree in Dentistry (B.D.S., D.D.S., D.M.D.) with a minimum cGPA of 3.00 on a scale of 4.00 or equivalent.
- Applicants with cGPA between 2.50 - 2.99 or equivalent may be considered for conditional admission.\*
- Applicants with a cGPA of less than 2.5 will not be considered.

**Note:**

- For applicants with a degree awarded outside the UAE, Educational Credential Evaluators (ECE) – General with Grade Average evaluation is required to evaluate the transcripts and have a standard GPA (<https://www.ece.org/>).
- \*If admitted, the student is required to achieve a minimum cGPA of 3.0 on a 4.0 scale at the end of semester 1 excluding the Specialty Clinical Training course or be subject to dismissal.

**Experience:**

- Minimum of one year Internship or of any other clinical practice.
- Minimum of two reference letters from the current Employer/Institution

**English Language Requirements:**

**IELTS:**

- An overall band 6 with no skill less than 5.5.
- 'IELTS Indicator' will not be considered for admission purposes.
- Must have been taken within the last two years.
- A single certificate to be submitted, combined scores are not accepted.

**TOEFL**

- iBT 80 with minimum of 20 in Writing.
- PBT is not accepted.
- 'My Best Scores' will not be considered for admission purposes.
- Must have been taken within the last two years.

**Interviews:**

Screened applicants will be invited for the respective program interview OR Multiple Mini Interviews (MMI) as applicable. Applicants may also have a practical exercise.

Notes:

Detailed information of the required documentation is available in the MBRU website [www.mbruniversity.ac.ae](http://www.mbruniversity.ac.ae).

For more details on the admission process, please refer Section 4 of the Student Handbook.

Achievements on the application forms are also considered in the selection process e.g., College grades, class rank, extra-curricular activities and recommendations from teachers, Dean and Head of Department play an important part in the whole admission procedure.

All applicants are reviewed according to these criteria without discrimination based on race, age, color, ethnic origins, marital status, gender or any other non-merit factor.

Applications can be submitted online through the MBRU website [www.mbruniversity.ac.ae](http://www.mbruniversity.ac.ae) For the academic year 2023-2024, the deadline for submitting applications was 13 February 2023.

The applications for the academic year 2024-2025 will be published on the website.

## **Transfer Admissions and Recognition of Prior Learning Policy**

Transfer applications are considered on an individual basis and are screened like all other applicants as per undergraduate and graduate admission processes and deadlines. All applicants seeking transfer admission must meet the relevant admission criteria before consideration of credits by the relevant committee. If approved, consideration may be given for transfer credit as per the Recognition of Prior Learning Policy. Students can only request for transfer credit at the time of application – if applicable.

When applicable, for a transfer admission request to be considered:

- The student must be in good academic standing at his/her home institution and should not hold a GPA of less than 3.0 on a scale of 4 (or equivalent) in the last completed year.
- UAE institutions recorded in the National Register of Licensed HEIs, or other organizations in the UAE approved by the CAA, or recognized institutions of higher learning located outside the UAE, are eligible for transfer admission.
- The institution from where the transfer is being made must be a federal or licensed institution, recognized by the Ministry of Education, United Arab Emirates (UAE), or a foreign institution of higher education recognized by the Ministry of Education, UAE.

Transfer credits may be granted for courses if:

- The courses are relevant to the program and have comparable learning outcomes to courses offered at MBRU.
- For courses to be considered for transfer credit, they must have been completed in the previous 5 years.
- The student must have attained a minimum grade of B (or equivalent) for a graduate degree for courses to be considered for transfer credit.

- No transfer credit will be granted for graduation projects and thesis courses.
- The student may not receive credit twice for the same course taken at different institutions.
- MBRU does not recognize experiential or non-classroom based prior learning.
- Prior learning credits for clinical training are recognized only if the relevant training took place in the UAE, when applicable as per the Recognition of Prior Learning Policy. In exceptional circumstances a waiver may be granted by the Ministry of Education.
- All supporting documents will be presented to the relevant College Curriculum Committee for evaluation as per the Recognition of Prior Learning Policy. For approved transfer credit courses, the grade that appears on MBRU transcript is Transfer Credit (TC) and does not count towards the final GPA calculation.

Transferred courses should not exceed more than:

- 25% of the total number of credits required to complete a degree for graduate programs.

Students can transfer only at the beginning of an academic year. Transfer students will be notified of the outcome of their admissions transfer evaluation, and how this will be applied to their application for the selected program at MBRU, in line with the general admissions process and deadlines.

The relevant committee's decision is final in the absence of new information or procedural errors.

Conditional admission for students accepted with cGPA of 2.50 on a scale of 4.00.

If admitted, the student is required to achieve a minimum cGPA of 3.0 on a 4.0 scale at the end of semester 1 excluding the Specialty Clinical Training course or be subject to dismissal.

## **Registration**

A student will be registered at the beginning of each academic term and continue in active registration throughout their stay in the University, unless otherwise advised.

## **Probation**

A student with a cumulative grade point average (cGPA) below 3.0 in any academic year (considering the fact that semester 1 has Specialty Clinical Training as continuous course) will be placed on academic probation and is allowed to progress from one year to the next. For programs with no continuous courses offered in semester 1 of year 1, a student with cGPA below 3.0 in that semester will be placed on academic probation and is allowed to progress to semester 2.

The following applies, at the end of the academic year, if the student obtains a cGPA below 3.0.

- The student will be given the option of either to progress to the following year on terms and conditions or withdraw from the program.
- If the student opts to progress to the following year on terms, the student will be allowed one additional year on academic probation to meet the cGPA requirement of 3.0 or above.
- Additionally, the student will be required to sign an undertaking form and the sponsor of the student, if applicable, will be notified.
- A student who does not meet this requirement will be dismissed from the program upon the recommendation of SAPC and endorsement of the Dean.

If you have been placed on probation, your advisor must initiate a report of students on probation or underperforming students, record a study plan and document measures to tackle difficulties in discussion with you.

## **Withdrawal**

Withdrawal is an action where a student opts to discontinue their studies at MBRU for any reason- personal/academic. Withdrawal could be from a course(s), or from the University.

Withdrawal from a course(s) means:

- Voluntarily withdraw from registered courses(s) or
- Withdrawn from the registered course(s) if he/she is absent for two consecutive weeks at any stage of the academic semester/session without reason or permission.
- Wrongfully enrolled in course(s)
- Demonstrates poor academic performance.

The student must complete the Add and Drop Request Form for withdrawal from a course(s). Withdrawal from the program means that the student drops all courses in which he/she is currently enrolled, but not yet completed, and cancels enrollment in courses for which he/she is scheduled to be registered in an upcoming semester/ session. A change of status form is required to be completed in case a student opts to discontinue their studies at MBRU. Upon approval, the student status and registration changes as withdrawn on the Student Record System. If the student wishes to return to the university, then the policy for Re-enrollment applies.

## **Re-enrollment to MBRU**

Students who were given a leave of absence from the University or a break from continuous enrollment in regular academic terms, may apply for re-enrollment, contingent upon the following:

- The student applies for re-enrollment within two years from the beginning of the first academic term of the break-in registration.
- The student is not dismissed from the University.

- Students on suspension are eligible to apply for re-enrollment upon the completion of the period of suspension.
- A student must comply with the academic, administrative, and financial policies of the University when submitting a request for re-enrollment. The request should be submitted two months in advance of the new semester. Students eligible for re-enrollment into MBRU are required to complete and submit the change of status form along with any supporting documentation to SSR.
- The final decision on re-enrollment remains with the Dean of the concerned college. SSR is responsible for facilitating the re-enrollment request from students, seeking the required approvals and communicating the final decision back to the students.

## Dismissal

A permanent discontinuation of registration as a bonafide student is usually a disciplinary measure taken against a student found guilty of a serious offence following investigation. Dismissed students do not normally have the option of reenrollment.

## Student Assessment and Progression

All five programs offered by HBMCDM have common assessment and progression policies.

Students are required to maintain a Personal Development Portfolio (PDP), which incorporates a summary of their clinical logbook, reflective learning portfolio, workplace-based assessments, and 360o appraisal.

Objective Structured Clinical Examination (OSCE)	Summative
Personal Development Portfolio	
Clinical Logbook and Reflective learning portfolio	Formative
Workplace-based assessments	Formative
360° appraisal	Formative
Case Report Presentation	Summative
Clinical Examinations with patients/case histories	Summative

Students are permitted to re-sit an assessment deemed to have not reached the pass grade, that is “below expectations”.

## Mechanisms and Methods of Assessment

A range of assessment methods is used as appropriate to the learning outcomes.

## Assessment of Knowledge and Understanding

Written examination (MCQs, short answers, essays)	Summative
Essay assignments	Summative
Oral Examination	Summative

## **Assessment of Clinical Skills and Attitudes**

### **HBMCDM Workplace-Based Assessments (WBA)**

Workplace-based assessments are intended to provide feedback to the trainee.

Formative feedback can be used by the trainee for self-directed learning for areas where there are deficiencies in performance, and also in those areas where a trainee has done well.

WBAs must be:

- **Valid:** Must comprise direct observation of workplace tasks and be “blueprinted” against program curriculum and ILOs
- **Reliable:** Multiple measures of outcomes: number of assessors and methods, and must be frequent
- **Feasible:** The assessment should not add time to the workplace task being assessed. Assessor should be able to complete scoring and feedback within 5-10 minutes.
- **Trainee- and assessor-led:** But trainee has the overview and should be proactive.

WBAs include:

#### **Direct Observation of Procedural Skills (DOPS)**

A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development.

#### **Case-Based Discussion (CBD)**

The CBD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CBD should focus on a written record (such as written case notes, out-patient letter, discharge summary).

#### **Mini-Clinical Evaluation Exercise (mini-CEX)**

This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. It can be used at any time and in any setting when there is a trainee-patient interaction, and an assessor is available.

Summary of workplace-based assessment tools used at HBMCDM



WBA	Competencies	Setting
DOPs	Technical skills, procedures and protocols	Clinic, operating theatre
CBD	Clinical judgment, clinical management, reflective practice	Multiple areas covered by a challenging case
Mini-CEX	Communication with patient, physical examination, diagnosis, treatment planning	Clinic, community, operating theatre

### Formative Assessment

Formative assessment focuses on assessing progress, giving feedback and on reflection by the student. Formative assessments should enable the student to develop and improve before completing summative assessments. Students have a responsibility to consider feedback and to act on it.

Feedback to students is given on a frequent basis in the clinical situation on a one-to-one basis. This is initiated by the sign off of the Clinical Logbook. The student groups are small, and this has the advantage of allowing direct and regular informal feedback to students. This personal feedback enables the student to reflect on individual skills and performance.

### Summative Assessment

Summative assessment includes both coursework and examinations. Students should have the opportunity, within reason, to seek clarification and further feedback regarding summative assessments.

### Schedule for students' assessment

Clinical Training	Method of Assessment	Time for Assessment
Specialty Clinical Training/ Clinic	Clinical Logbook and Reflective Learning Portfolio	Continuous assessment
	Formative 360 Appraisal	End of Year 1,2,3
	FORMATIVE Case Based Presentation	Once per semester

	Summative	
	DOPs (Direct Observation of Procedural Skill) CBDs (Case Based Discussion) Mini CEX (Mini-Clinical Evaluation Exercise)	Continuous assessment
	Formative	
	Meeting with Program Chair to discuss performance	Twice a semester
	Formative	

**Grade Descriptors for clinical assessments (knowledge, skills and attitudes):**

**4 (Above Expectations)**

- Knowledge
  - Sound depth and breadth of knowledge base, with good level of understanding. Ability to relate knowledge to problems, and critically assess possible solutions.
- Manual Skills
  - An excellent level of clinical skills. Excellent cross infection control. Excellent time management and accurate self-assessment
- Professionalism
  - Excellent professional attitude towards patients, colleagues and nurses. Excellent communication with patients, colleagues, and nurses. Excellent level of patient management and motivation.
- Attendance
  - Attended early for session. Plenty of time to prepare, set up, read clinical notes.

**3 (Meets Expectations)**

- Knowledge
  - An adequate knowledge of essential basic information and ability to relate this information to provide acceptable solutions to clinical problems.
- Manual Skills
  - An above average level of clinical skills. Above average cross infection control. Good time management. A basic level of self-assessment.
- Professionalism
  - Good professional attitude towards patients, colleagues, and nurses. Effective communication with patients, colleagues, and nurses. Effective level of patient management and motivation.
- Attendance
  - Attended early but had to rush to prepare for the session.

**2 (Borderline)**

- Knowledge

- A poor level of knowledge with minimal ability to relate information to solving clinical problems.
- Manual Skills
  - An adequate level of clinical skills. Questionable cross infection control. Poor time management.
- Professionalism
  - Acceptable professional attitude towards patients, colleagues and nurses. Communication. Poor patient management and motivation.
- Attendance.
  - Attended, but just in time or a little arrived late.

**1 (Below Expectations)**

- Knowledge.
  - Errors or omissions in basic essential information. Evidence suggests the student could be unsafe to work if does not improve.
- Manual Skills.
  - A poor level of clinical skills. Poor cross infection control. Poor time management. Some evidence to suggest the student is unsafe to practice if skills, cross infection control do not improve.
- Professionalism.
  - Poor or unacceptable professional attitude towards patients, colleagues and nurses. Poor communication skills. Lack of ability to manage patient/motivate patient.
- Attendance
  - Absent. Not authorized. No telephone messages.

Workplace-based assessments have their own descriptors.

**Grading Policy**

**Grading Scale:**

Grade	Grade Points	Score	Performance
A	4.00	90 - 100	Excellent
A -	3.70	87- 89	Excellent
B +	3.30	84-86	Very Good
B	3.00	80-83	Very Good
B -	2.70	77-79	Good
C +	2.30	74-76	Satisfactory
C	2.00	70 - 73	Satisfactory
C -	1.70	67-69	Unsatisfactory
D +	1.30	64-66	Unsatisfactory
D	1.00	60-63	Unsatisfactory
F	0.00	0 - 59	Fail
		Can remediate even if score is < 60	

## Other grades

Letter Grade	Description
P	Pass grade shall be assigned for a course that is not graded on the A-F scale. These credits shall contribute to the total required for graduation in a particular degree program but shall not contribute to the grade point average.
TC	Transfer Credit shall be awarded to a student who has been granted credit from another institution. These credits shall contribute to the total required for graduation in a particular degree program but shall not contribute to the grade point average.
CC	Continuing Course Grade indicates a course which is more than a semester in length, is continuing.
AU	Audit grade shall designate a course registration with audit status. These credits are not included to the total required for graduation in a particular degree program and shall not contribute to the grade point average.
IP	In Progress a notation that indicates the student is currently enrolled in the course.
I	Incomplete grade shall be used when student has not completed course requirements for extenuating circumstances.
W	Withdrawn grade shall be assigned to a student who withdraws formally from a course within the prescribed deadline after the period of Drop & Add. The deadline to withdraw formally from a course shall be 6 weeks from the beginning of classes in the semester.
WF	Withdrawn with Failure shall be assigned to a student who withdraws formally from a course after the prescribed deadline.

Students receive A-F grades in all enrolled courses except Scientific Literature and Research Dissertation courses. These two courses will be graded on a P/F scale.

## Weighting of Course Work

The relative weighting of the various examinations or practical projects which make up the final course grade is at the discretion of the course coordinator and will be approved by the Curriculum Committee at the beginning of each semester and provided to the students at the beginning of each course. Flexibility in weighting of course work is acceptable but options (such as dropping the worst test score, etc.) will be made known to the students at the beginning of the course.

## Posting Grades

Grades shall be assigned to individual students on the basis of the student's performance. Grades of all courses of a semester will be ratified departmentally and subsequently by the Student Admission and Progression Committee (SAPC) in the week after the final examinations of the semester, uploaded on the LMS and released by the SSR following approval by the Dean or a nominated representative. Grades, once submitted, are not to be

changed without the approval of the Dean. Such changes have to take place within 20 working days from the commencement of the following semester.

## **Student Grade Access and Appeal**

The student will be able to access his/her grade in a course after the course instructor submits it to the LMS and it gets approved by the SAPC and the Dean of the college. The student is strongly encouraged to discuss his/her performance in class assignments during the semester with his/her course coordinator. A student who wishes to challenge the accuracy or fairness of his/her final course grade may appeal the grade within 5 working days of publication/posting of the final grades. A student should first raise the concern directly with the course coordinator and request clarification/confirmation of the accuracy and propriety of the final grade. The student may request that the course coordinator or a nominated faculty member review their exam paper for redundant questions and accuracy of entry of course codes and grades. If the course coordinator agrees that there was an error, the process for changing the grade, described in the section below, must be followed. If the course coordinator disagrees, the student can raise the issue with the program director. If the program director is in agreement with the faculty but the student remains convinced that the grade is in error, the student can then raise the issue in writing to Student Admissions and Registration for a final review with the Dean. The Dean should form a committee which would include a program director, the course coordinator and one other faculty member, to review the details and the accuracy of the student's grade and provide their recommendation to the Dean's office via a written report within 5 working days. The Dean of the college communicates the final decision on the appeal to SSR and the program director of the concerned department within 5 working days of receiving the committee's decision. The final decision communicated by the Dean is not open to appeal. The student will be notified by the SSR regarding the decision of the committee.

## **Grade Point Requirement and General Policy Regarding Deficient Grades**

Students are expected to maintain a cGPA of 3.0. A grade of "C- or below" in any given course is not acceptable for progress from year to year or for successful completion of a postgraduate program. The minimum passing grade for Specialty Clinical Training courses is B.

Successful completion of a remediation option short of repetition of a course in its entirety will result in a grade improvement from a "C-, D+ or D" to a maximum of a "B".

## **Remediation of Deficient Grades**

Recommendations for scheduling of remediation exams, projects or clinical practical exams for remediation of course failure should be communicated to the SAPC for review and approval. Students with final grades of "C-, D+, D or F" will be considered by the Student Admission and Progression Committee for remediation. Students will be informed as soon as the grades are released. Upon notification of approval to remediate, the student must contact the appropriate course coordinator(s) involved to confirm the intention to be present for the remediation and the student must be present on the scheduled date(s). No substitute dates are permitted.

The specific option for remediation of a student's deficient grade is determined by the course coordinator and is based on the course coordinator's judgment as to the nature of the student's deficiencies and as to the student's ability to demonstrate mastery of the course material within a given period of time.

Options for remediation of deficiencies in a didactic course may include:

- Written exam after a review/tutorial period
- Oral examination
- A written paper or essay project

Options for remediation of deficiencies in a laboratory course may include:

- A special practical exam
- A remedial period of laboratory work with specific goals or practical examinations

Options for remediation of deficiencies in a clinical course may include:

- A remedial period of clinical work with specific goals.
- Based on the final summative assessment as determined by the faculty members of each program, the period of remediation and the specific areas of clinical competencies requiring remediation is recommended for approval by SAPC. The period of remediation can be completed during the academic breaks if sufficient, otherwise, an extension of the period of study must be requested by the program director, approved by SAPC, and raised for the Dean's endorsement. The student will be allowed to progress as per the study plan.

Options for remediation of deficiencies in a research dissertation course may include:

- A remedial period of research work with specific goals that is determined by the supervisor and the program director.
- If the student is not successful in fulfilling the requirements of thesis completion as determined by the thesis examination panel, a period of remediation and the specific areas of research requiring remediation is recommended by the panel and approved by the SAPC. The graduation approval will be after the successful submission of the thesis.

## **Repeating a course**

A student who repeats a course in its entirety will be awarded the achieved grade for the repeated course. However, both the original failing grade and the newly awarded grade will appear in the transcript. Only the new grade will be weighted into the cumulative grade point average computation.

## **Remediation of Grades other than Failure**

In general, short of repeating an entire course, there are no options for improving an existing passing grade (C and above) through re-examination or other remedial work.

Please refer to the HBMCDM Assessment and Progression Policy for more information.

## Probation and dismissal

A student with a cumulative grade point average (cGPA) below 3.0 in any academic year (considering the fact that semester 1 has Specialty Clinical Training as continuous course) will be placed on academic probation and is allowed to progress from one year to the next. For programs with no continuous courses offered in semester 1 of year 1, a student with cGPA below 3.0 in that semester will be placed on academic probation and is allowed to progress to semester 2.

At the end of the academic year, if the student obtains a cGPA below 3.0. The student will be given the option of either to progress to the following year under terms or withdraw from the program. If the student opts to progress to the following year, the student will be allowed one additional year on academic probation to meet the cGPA requirement of 3.0 or above. Additionally, the student will be required to sign an undertaking form agreeing to that and the sponsor of the student, if applicable, will be notified. In the event the student does not meet this requirement they will be dismissed from the program upon the recommendation of SAPC and endorsement of the Dean.

A student admitted with a cGPA between 2.5 -2.99 will be placed on academic probation. The student is required to achieve a grade point average (GPA) of 3.0 in all courses he/she is registered for in semester 1 excluding the Specialty Clinical Training course. If the conditionally admitted student does not achieve the required GPA as stated above, he/she will not be allowed to continue in the program upon the recommendation of SAPC and endorsement of the Dean.

## Examinations

The SAPC is responsible for scrutinizing and monitoring of examination quality by:

1. Ensuring adherence to university and college regulations, as they pertain to examinations.
2. Reviewing reports from course coordinators and the Thesis Committee
3. Reviewing external examiners' reports (if applicable) in matters related to the examination.
4. Verifying with course coordinators that examination papers are vetted in a standardized manner.
5. Recommending improvements and ratifying changes to the examination process
6. Approving timetables and invigilation guidelines of final examinations, in conjunction with SSR
7. Receipt and consideration of final examinations results
8. Recommendation, in consultation with course coordinators, of supplementary examinations and/or re-sits
9. Handling misconduct in examinations, in cooperation with SSR
10. Liaising with appropriate bodies in cases of student appeals that relate to examination.
11. Recommending amendments to the college examinations policy
12. Any other duties that may, from time to time, be assigned to the committee.



## General Conduct of Students During Exams

1. Students must not indulge in any behavior or conduct that may disturb other candidates or disrupt the smooth progress of an examination.
2. Students are not permitted to smoke in any part of the examination room.
3. Students must obey the instructions of any invigilator and their attention is drawn to the regulations governing admission to and departure from the examination room.
4. Students are not allowed to take into the examination room any unauthorized books, manuscripts, notes, bags, cases or any means whereby they may improperly obtain assistance in their work. All such materials, including handbags, must be placed on a table outside the examination room, or at the front of the examination room.
5. Students are not allowed to take into the examination room wearable technological devices including smart watches and electronic transmission devices such as mobile phones, PDAs or any digital storage media such as flash drives.
6. Students are not allowed to take into the examination hall paper of any sort. Plain sheets of paper (or similar material) shall be provided in the examination hall should any student require them.
7. Students must be at the venue of the examination at least 15minutes before exam commencement.
8. Before the commencement of the examination, the student must place on the top right hand corner of the desk their ID card for inspection by one of the invigilators.
9. Students must not use any means whatsoever to communicate or obtain, directly or indirectly, assistance in their work, or give or attempt to give, directly or indirectly, assistance to any other candidate.
10. Students are permitted to use only personal non-programmable electronic calculators in an examination provided they are silent in operation and have an independent power supply.
11. Any suspected breach of the foregoing regulations will be investigated by the college.

## Examination Invigilation

1. Invigilations are carried out by Faculty. The course coordinator and tutors do not, however, invigilate their own courses. As well as the nominated invigilator, there must also be a reserve invigilator available on the day of the examination. The course coordinator must be available during the examination so that the invigilator may contact him/her for any clarification that may arise.
2. Rooms should be sufficiently large enough for the number of students taking the examination to ensure adequate spacing between one student and another. Advance scheduling of all examinations will allow the scheduling of additional classrooms if necessary.
3. In the event of cheating and misconduct during an examination, the invigilator must do the following:
  - Collect any available evidence e.g. laptop, written notes etc.
  - Write student's name and ID on the evidence.



- Complete an incident report after completion of the examination.
- Submit the report to the Dean

The Dean will then decide on an appropriate course of action.

## **Examination Review**

Questions, MCQs and short answer questions, should be reviewed and approved by all tutors who taught on the course. For all exams (in-course and final), exam questions/stations/cases should be reviewed and amended departmentally before the examination takes place.

## **Standard Setting**

Faculty receive periodic “training the trainers” courses by independent bodies such as Royal College of Surgeons of Edinburgh. Such courses are organized by MBRU for the purpose of training and standardization of examiners.

## **Absenteeism from Examinations**

Please refer to the attendance policy in the MBRU Student Handbook. Additionally, the following will apply to the HBMCDM:

Attested sick leave accompanied by detailed medical reports may be accepted as an excuse for absence from course examinations subject to confirmation by an expert panel set up by the SAPC, if required.

A student exempted for any reason would be offered the option of sitting for the examination in accordance with the circumstance prevailing at the time and must be in-line with university regulations.

## **Examination Feedback**

Feedback of examinations should be given to students within one week of the release of the results. Feedback should not involve the release of questions but a discussion of points of weaknesses with students.

## **Completion requirements**

Graduation of a student requires satisfactory completion of all course requirements including clinical, didactic and research activities, as mentioned in the program syllabus and study plan.

The minimum cGPA (Cumulative Grade Point Average) required for graduation is 3.0. The GPA is calculated on the total number of credits taken by the student. The total number of credit hours required for completion of each program is as follows:

Endodontics program - 70  
Orthodontics program - 72  
Pediatric Dentistry program – 70  
Periodontology Program – 71  
Prosthodontics - 70

Students are expected to maintain a cGPA of 3.0 during their course of study. Additionally, the minimum passing grade of any given course is a grade of C.

## Teaching and Learning Methods

The majority of the knowledge base of the curriculum is delivered through a combination of teaching and learning activities including lectures and small group tutorials. Students are expected to prepare in advance for small group teaching in order to contribute to class discussion. Communication skills are important in clinical disciplines and small group teaching encourages students to express themselves. Communication skills and participation are often assessed.

**Lectures** will be used to deliver core knowledge, to provide an overview of the subject and to guide students in their independent study.

**Group and individual tutorials** will be delivered by faculty during the course to enhance student's understanding and as a forum to discuss topics in a group environment.

**Clinical case-based discussions** - Students will present clinical cases in which they have had a significant involvement in the development of a treatment strategy and/or managed/executed the treatment of the patient. They will document the cases, in accordance with specific guidelines and templates, present this to peers and staff and be able to discuss and defend the case in a comprehensive manner. Peer-review of clinical practical work will enhance the student's ability to critically appraise their own performance.

**Student-led critical appraisals of the literature** This will enable the student to appraise systematically current evidence in Endodontics and to sustain a critical argument in writing.

**Independent study** will enable the students to undertake further private study related to the subject matter and will also include pre-course reading, preparation for the delivery of seminars and self-directed practical work in the clinical skills laboratories.

**Preparation and delivery of evidence-based presentations** will enable the student to sustain a critical argument in writing and through oral presentations.

**Attendance at journal clubs and research presentations** within the department will further enhance the student's breadth of knowledge and how these impacts on their Endodontic practice.

A flipped classroom approach has been adopted in many courses to expose learners to new and related material outside of class, via pre-reading, e-learning, or videos. This allows class

time to focus on the assimilation of knowledge, through problem-solving, discussion, and debates.

The support for course delivery is enabled by MBRU's Learning Management System. The system allows learners to access study materials from anywhere and at any time. All study materials are consolidated into one central location and various forms of communication are supported to allow learners to collaborate, make connections and exchange opinions with each other, and stay updated with the latest news from faculty and fellow students, thus empowering learners to take charge of their own learning.

## Clinical Education and Training

- The dental clinical skills center is located in the simulation center on the 2nd floor of Building 14. The programs in Prosthodontics, Endodontics and Pediatric Dentistry involve training in the simulation center on typodonts.
- The technology laboratory is located on the ground floor of Building 34 and houses the full range of materials and equipment including CAD/CAM, box scanners and milling machine. Both Orthodontic and Prosthodontic students have course work in the laboratory which is supported by three dental technicians.
- Students will spend the majority of their time during their three-year program treating patients under faculty supervision at Dubai Dental Hospital.

## Research

The MSc has a research project and dissertation. The dissertation is based on a research project conducted by the candidate.

Students must initiate and complete a research project using the elements of scientific methods, including research design, accurate reporting, critical thinking and the formulation of conclusions based on scientific data rather than opinion. Collaboration with other hospitals, medical institutions and other health-orientated organizations is encouraged to foster collaborative research.

The student must work closely with their research supervisors to ensure satisfactory progress. The research protocol will be developed within the first year of the program. Implementation and data collection will commence after Institutional Review Board approval (where appropriate) and other regulatory approvals as necessary. It is anticipated that data collection will be completed by the end of the second year to allow for data analysis, dissertation preparation and defense of the dissertation by the end of year 3.

Please refer to [research policies](#) for more information.

## Common Courses

The General Education requirements are designed to add breadth to the student intellectual experience. They ensure that when students complete their MSc program, they can

demonstrate competence in scientific quantitative and critical reasoning. The following specific courses have been designed to address those competencies:

Applied Basic Sciences I CC510  
Applied Basic Sciences II CC511  
Research Methodology and Biostatistics CC502  
Clinical Governance, Legislation and Ethics CC503  
Molecular Biology CC504  
Radiology and Imaging CC509  
Oral Epidemiology CC508

## **Common Courses - Course Descriptions**

### **Applied Basic Sciences I (CC510)**

This course provides students with the opportunity to participate in the evaluation and management of patients. This course is comprised of lectures designed to aid the student to expand their knowledge in anatomy, physiology and pharmacology with areas of clinical importance. Knowledge gained by the student will contribute to achieving competency in rendering treatment.

### **Applied Basic Sciences II (CC511)**

This course is comprised of lectures designed to expand student knowledge in oral histology and physiology with emphasis on clinical relevance. Knowledge gained by the student will contribute to achieving competency in rendering dental treatment.

### **Research Methodology and Biostatistics (CC502)**

This course will be conducted through tutorial and practical sessions to empower students to appraise scientific literature. In addition, students will understand the applications of statistical software and be guided through the steps of conducting sound scientific research.

### **Clinical Governance, Legislation and Ethics (CC503)**

This course covers clinical governance, ethical clinical practice and professionalism. Particular emphasis is placed on patient confidentiality and gaining consent. In addition, students will be introduced to the process involved in clinical negligence claims and the role of the expert witness. Ethics in the conduct of research on human participants and animals is included. The course supports the later preparation of a dissertation.

### **Molecular Biology (CC504)**

This course introduces students to the fundamentals of molecular biology as it relates to dentistry. The clinical relevance of molecular biology including stem cell research and regenerative management will be emphasized.

### **Radiology and Imaging (CC509)**

This course is designed to provide contemporary and evidence-based information about conventional and advanced diagnostic imaging modalities that are of interest to postgraduate students in various dental specialty programs. A review of indications, task-specific image acquisition, image analysis and interpretation, cross-sectional dentoalveolar, and maxillofacial imaging anatomy for various imaging modalities will be presented. Students will learn the rationale for selecting a certain image acquisition protocol, image acquisition process, evaluation of post-processed images for quality assurance, and navigating a diagnostic imaging exam for a given indication. In addition, national regulations (Federal Authority for Nuclear Regulation) regarding radiation use in healthcare and International Council on Radiation Protection (ICRP) guidelines will be covered.

### **Oral Epidemiology (CC508)**

This course covers epidemiology and relevant research methodology. Subjects such as observational studies and randomized controlled trials will be discussed in depth. Students will be introduced to the concepts regarding systematic reviews and meta-analysis. Each specialty's students will discuss relevant descriptive epidemiology including indices and importantly the global burden of oral disease.

The background features three overlapping light blue circles of varying sizes. A white, curved path or ribbon-like shape starts from the bottom left, curves upwards and to the right, and then curves downwards and to the right, passing through the center of the composition. The text is centered on this white path.

Master of Science in Endodontics

## Program learning outcomes and completion requirements

The MSc Program in Endodontics at HBMCDM has the following learning outcomes aligned with the UAE Quality Framework Level 9.

### A. Knowledge and Understanding

On completing the program students should have:

- PLO A1. An integration of knowledge within and directly related to endodontics, including structure and function of the pulp, causes and effects of pulp disease and pain control mechanisms.
- PLO A2. Demonstrate an appraisal of the knowledge and skills necessary to assess teeth for root canal treatment and their subsequent restoration.
- PLO A3. Originality in the application of clinical and scientific knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in endodontics.

### B. Intellectual and Practical Skills

On completing the program students should be able to:

- PLO B1. Critically appraise and interpret scientific/academic literature and keep up to date with current and best practice.
- PLO B2. Demonstrate competence to carry out history taking, examination, interpretation of investigations and imaging at a specialist level.
- PLO B3. Synthesize clinical findings to arrive at the relevant diagnosis and devise evidence-based treatment strategies while working within an interdisciplinary team when required.
- PLO B4. Appraise the importance and implications of the interrelationship between Endodontics and other clinical disciplines.
- PLO B5. Demonstrate competence in pain management, vital pulp therapy, surgical and nonsurgical endodontic treatment and retreatment, and dental traumatology.
- PLO B6. Be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude necessary for the advancement of practice, research, and teaching in Endodontics.

### C. Attitudes

On completing the program, students should be able to:

- PLO C1. Maintain a high ethical standard and work in harmony with peers, support staff and faculty with a view to becoming a team leader.

- PLO C2. Appreciate the importance of knowledge sharing, self-development and life-long learning and research in evidence-based practice of endodontics and be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude.
- PLO C3. Establish practice management skills and abilities for accountability for critical decisions and governance.
- PLO C4. Manage and work within the context of a healthcare system.

### Program Learning Outcomes Alignment to QFE Level 9 Descriptors (Outcomes)

The MSc in Endodontics Program is consistent with the guidelines of the National QFEmirates (level 9 in terms of credits, knowledge, skills, autonomy and responsibility, self-development, excess, progression and employability).

### Alignment of QFE Level 9 Descriptors (Outcomes) to PLOs in Endodontics

	NQF Emirates PLOs (Level 9)	HBMCDM Program Learning Outcomes (PLOs)												
		PLO A1	PLO A2	PLO A3	PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO C1	PLO C2	PLO C3	PLO C4
<b>A. Knowledge (K)</b>														
9K1	Comprehensive, highly specialized knowledge in a field of work, discipline and/or professional practice, and at the interface between different fields, including frontier concepts and recent developments	x	x	x	x	x	x	x	x	x	x	x		
9K2	Advanced knowledge of applicable research principles and methods			x	x					x		x		
9K3	Critical awareness of knowledge issues, as the basis for original thinking; encompassing appropriate processes of enquiry and current processes of	x	x	x	x					x		x		



	knowledge production													
9K4	Detailed body of knowledge of recent developments in a field of work, and/or discipline	x	x	x	x	x	x	x	x	x			x	
<b>B. Skills (SK)</b>														
9SK1	Advanced skills required in research, analysis, evaluation and/or innovation of complex ideas, information, concepts and/or activities			x	x	x	x	x	x	x			x	x
9SK2	Skills to develop new knowledge and procedures and to integrate knowledge from different fields using highly developed cognitive and creative skills and intellectual independence to the field of work or discipline	x	x	x	x	x	x	x	x	x	x	x		x
9SK3	Advanced problem-solving skills to analyze highly complex issues with incomplete data and develop innovative solutions and proposals relevant to an academic/professional field, field of work or discipline			x	x	x	x	x	x	x		x	x	x
9SK4	Planning skills to develop and execute a major project or comparable activities (that includes a significant range of variables and			x	x					x		x		

	complexity) with appropriately selected research methodologies producing sound conclusions													
9SK5	Highly developed specialist communication and information technology skills to present, explain and/or critique highly complex matters			x	x	x	x	x	x	x	x	x	x	x
<b>C. Autonomy and responsibility (AR)</b>														
9AR1	Can function autonomously and/or take responsibility for managing professional practices, work, processes or systems, or learning contexts that are highly complex, unpredictable and unfamiliar, and require new strategic approaches and/or intervention or conceptual abstract solutions			x	x	x	x	x	x	x	x	x	x	x
9AR2	Can account for high level governance of processes and systems										x	x	x	x
9AR3	Can analyze and reflect on socio-cultural norms and relationships and act to build and transform them			x	x					x		x		x
<b>D. Role in context (RC)</b>														
9RC1	Can initiate and manage professional activities that may include a highly complex environment				x	x	x	x	x	x	x	x	x	x



### **Examination and Diagnosis (EN841)**

A series of lectures intended to expose the student to the core concepts and current information necessary for a thorough and appropriate assessment and examination of the patient, their dental, pulpal, periradicular, periodontal, oral and peri-oral tissues in relation to the presenting complaints of the patient, arriving at an appropriate diagnosis of the condition from the information provided and examination and investigations undertaken. Topics include physiology, microbiology and pathology of the pulp and periradicular tissues; odontogenic pain; local and systemic spread of infection; endodontic emergencies; traumatic injuries to the dentition; and the relationship between oral and systemic disease.

### **Specialty Clinical Training- Clinical Skill Facility (EN842)**

This course constitutes the foundation to preparing the student to enter the clinical environment and perform endodontic procedures on a patient. The student will participate in endodontic procedures performed on extracted teeth and simulated models. Lectures, seminars, and clinical demonstrations by the endodontic faculty cover the range of clinical procedures to be perfected by students during the clinical phases of training.

Root canal anatomy for each tooth is reviewed in detail including the incidence of anatomical variations. Materials and equipment used in Endodontics are reviewed and their use and maintenance are demonstrated. A variety of non-surgical endodontic procedures are thoroughly reviewed, demonstrated and practiced.

### **Specialty Clinical Training-Clinic (EN837/EN838/EN839)**

This course is a clinical course that encompasses the scope of clinical Endodontics. During the first year of the Program, students are closely supervised while developing skills in diagnosis, radiographic technique, treatment planning, uncomplicated non-surgical endodontic therapy, trauma management and emergency management. During the second and third year as individual clinical skills develop, students' progress to more complex endodontic therapy including surgical and non-surgical retreatment. Students also gain extensive experience in the team management approach to patient care through the multi-disciplinary clinics. Year 3 students develop a holistic approach to the overall management of complex restorative treatment planning by liaising with other dental specialties. The clinical course will take part in the clinics of the Dubai Dental Hospital.

### **Treatment Strategies and Plans in Endodontics and Pulp Therapy (EN843)**

A series of lectures and seminars intended to expose the student to the core concepts and current information pertaining to such topics as: treatment planning based on patient needs, patient communication and management, vital therapy and outcomes as well as instruments, devices and materials in endodontics embracing the best evidence-based approach.

### **Scientific Literature (EN821/EN822/EN823/EN824/EN825/EN826)**

This six-part scientific literature course spans the three years of the Endodontic Program the students meet on a weekly basis for 2 hours. This is a joint class where all three groups of residents from different cohorts meet and are assigned articles mostly from the current literature to summarize and present to the group. These presentations are followed by an in-depth group discussion on that topic in Endodontics.

In addition to that, the students all meet for an hour weekly to present, summarize and discuss guidelines, position statements and classic literature which cover important facets pertaining to the science and practice of Endodontics. These sessions also cover essential reading materials that is recommended for appropriate preparation for the Membership Examination of the Royal College of Surgeons UK.

### **Non-Surgical Root Canal Treatment (EN844)**

A series of lectures and seminars intended to expose the student to the core concepts and current information necessary for a thorough knowledge of non-surgical root canal treatment. This course will describe the treatment procedures and options in non-surgical root canal treatment. Procedures to optimize the working field, benefits of enhanced lighting and magnification in endodontic practice, anatomy of the pulp space, nature of endodontic infections and strategies for their removal. Methods of working length determination and their limitations. Current and historic methods for on-surgical root canal treatment. Controversies in endodontic practice and the need for further intervention in the case of failure or uncertainty.

### **Non-Surgical Root Canal Retreatment (EN846)**

A series of seminars intended to expose the student to the core concepts and current information necessary for a thorough knowledge of non-surgical root canal retreatment. This course will describe the different outcome measures in endodontics and their assessment. Procedures and materials used in the root canal treatment and restoration of teeth. Materials and procedures for coronal disassembly, removal of materials and objects from root canals, identifying previously untreated anatomy, re-negotiation, management of procedural accidents as well as risks and limitations associated with non-surgical and surgical re-treatment procedures. Factors which may be associated with the success and failure of non-surgical retreatment procedures and the need for further intervention in the case of failure or uncertainty.

### **Research Dissertation (EN812/EN813/EN814/EN815/EN816)**

These courses are designed to develop the principles of scientific research methods and enhance the student's understanding of one particular field. The ability to be critical and creative thinkers is an essential attribute of the clinical specialist. These courses require the preparation of a study protocol and culminate with a dissertation and oral defense before a panel of internal and external examiners.

### **Microbiology (EN852)**

The course will encompass the study of the general characteristics of microorganisms with emphasis on those of dental relevance. The concept of the mouth as a microbial habitat,

the nature of the oral microbiome, factors influencing oral microbial ecology and the impact of the oral microbiome in health and disease will be addressed. The correlation between microbiological properties and virulence factors of selected causative agents of common dental infectious pathologies as well as the oral manifestations of systemic conditions will be addressed. The students will be introduced to the principles of infection control as well as diagnostic approaches and new technologies utilized for microbial identification and outbreak investigation.

### **Periodontology and Prosthodontics for Endodontic Specialists (EN854)**

A series of lectures intended to expose the student to the concepts and information necessary for an endodontic specialist to understand the importance and implications of the inter-relationship between endodontics and other clinical disciplines, namely periodontics and prosthodontics. This course would enable the endodontic student to assess the periodontal as well as prosthodontic status of teeth relevant to the endodontic status.

### **Surgical Root Canal Treatment (EN849)**

A series of lectures and seminars intended to expose the student to the core concepts and current information necessary for a thorough knowledge of surgical root canal treatment. This course will describe surgical anatomy, principles of microsurgical surgical soft and hard-tissue management, root-end preparation, guided tissue regeneration as well as micro suturing techniques.

### **Dental Traumatology (EN850)**

This is an in-depth course providing knowledge in the etiology, presentation, investigation and management of dentoalveolar, intraoral and perioral soft tissue injuries in children, adolescents and adults. The course will also discuss maxillofacial injuries. Emphasis will be placed on the multidisciplinary approach to the management of these conditions.

### **Consolidation of Endodontic Training (EN853)**

This course is intended to present a final revision for the students to prepare them to sit for the Membership in Endodontics specialty examination of the RCS Edinburgh. The aims of the examination are to test the range of knowledge of Endodontics at a level expected of a specialist practitioner and to test the attainment of competence in the planning and execution of Endodontic dentistry requisite for specialist practice.

## **Sequencing of courses**

### **Endodontics Study Plan**

Year 1 Semester 1	12 credits	Course code	Duration	Prerequisite
Examination and Diagnosis	1	EN841	16 weeks	None

Applied Basic Sciences I	2	CC510	16 weeks	None
Specialty Clinical Training- Clinical Skill Facility	3	EN842	16 weeks	None
Specialty Clinical Training- Clinic	1*	EN837	20 weeks	None
Treatment Strategies and Plans in Endodontics and Pulp Therapy	1	EN843	16 weeks	None
Scientific Literature	1	EN821	16 weeks	None
Research Methodology and Biostatistics	2	CC502	16 weeks	None
Clinical Governance: Legislation and Ethics	1	CC503	16 weeks	None
<b>Year 1 Semester 2</b>	<b>12 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Applied Basic Sciences II	1	CC511	16 weeks	CC510
Oral Epidemiology	1	CC508	16 weeks	None
Non-Surgical Root Canal Treatment	1	EN844	16 weeks	None
Specialty Clinical Training - Clinic	6	EN837	20 weeks	None
Research Dissertation	1	EN812	16 weeks	CC502/ Selection of research topic & supervisor team in Y1S1
Scientific Literature	1	EN822	16 weeks	None
Radiology and Imaging	1	CC509	16 weeks	None
<b>Year 2 Semester 1</b>	<b>11.5 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Research Dissertation	1	EN813	16 weeks	None
Non-Surgical Root Canal Retreatment	1	EN846	16 weeks	None
Dental Traumatology	1	EN850	16 weeks	None
Scientific Literature	1.5	EN823	16 weeks	None
Specialty Clinical Training - Clinic	7*	EN838	20 weeks	EN837
<b>Year 2 Semester 2</b>	<b>11.5 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Surgical Root Canal Treatment	1	EN849	16 weeks	None
Microbiology	1	EN852	16 weeks	None

Research Dissertation	2	EN814	16 weeks	None
Scientific Literature	1.5	EN824	16 weeks	None
Molecular Biology	1	CC504	16 weeks	None
Specialty Clinical Training	5	EN838	20 weeks	None
<b>Year 3 Semester 1</b>	<b>11.5 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Periodontology and Prosthodontics for Endodontic Specialists	1	EN854	16 weeks	None
Research Dissertation	2	EN815	16 weeks	None
Scientific Literature	1.5	EN825	16 weeks	None
Specialty Clinical Training - Clinic	7*	EN839	20 weeks	EN838
<b>Year 3 Semester 2</b>	<b>11.5 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Research Dissertation	3	EN816	16 weeks	None
Scientific Literature	1.5	EN826	16 weeks	None
Consolidation of Endodontic Training	1	EN853	16 weeks	EN841/EN843/ EN844/EN846/ EN850/EN849/ EN852/EN854
Specialty Clinical Training - Clinic	6	EN839	20 weeks	None

\*This is a CC course and will be graded at the end of Semester 2.

## Admission, withdrawal and enrolment policies

Please refer to the section [General Admission Requirements and Procedures](#).

## Student Assessment and Progression

Please refer to the section [Student Assessment and Progression](#).

## Faculty listing


### Full time faculty

Faculty Name	Area of Specialization	Degrees Held	Highest degree and University	Graduate Teaching Experience	Research Interests
Amre R. Atmeh	Endodontics	BDS, MSc, PhD	PhD, Biomaterials, Tissue engineering,	10 years	Imaging and microscopy, Interfaces, Endodontics, Calcium



			and Imaging, King's College London.		silicate-based materials.
Keyvan Moharamzadeh	Endodontics	BSc, DDS, PhD, FDSRCS, FHEA	PhD, Restorative Dentistry, University of Sheffield	16 years	Multidisciplinary research in the field of dental biomaterials, tissue engineering and implantology. Tissue engineering of human alveolar bone and oral mucosa and development of three-dimensional tissue models for various laboratory and clinical applications. 3D printing in dentistry and regenerative medicine. Biocompatibility assessment of restorative dental materials, oral healthcare products and dental implants. Chemical synthesis and analysis of polymers and composite materials used in dentistry and medicine. Investigation of physical and optical properties of different types of aesthetic dental materials.
Mohamed Jamal Ahmed	Endodontics	DDS, CAGS, MSD, DScD FRCD(C)	Doctor of Science in Dentistry, The Center for Regenerative Medicine, Boston University, Massachusetts, USA	5 years	Dental Anatomy in Emirati population, guided endodontic, stem cells and dental pulp regeneration, generation of dental mesenchymal progenitors, dental developmental diseases.

Rashid Elabed	Endodontics	B.D.S, Postgraduate Certificate of Specialization (CO- UA) in Endodontics, Jordanian Board of Endodontics	Jordanian Board of Endodontics	7 years	Endodontic Instruments and testing. design
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Master of Science Orthodontics

## Program learning outcomes and completion requirements

The MSc Program in Orthodontics at HBMCDM has the following learning outcomes aligned with the UAE Quality Framework Level 9.

### A. Knowledge and Understanding

On completing the program students should have:

- PLO A1. A comprehensive appraisal of the development and growth of the facial complex, dentition, occlusion, and psychosocial development
- PLO A2. An integration of the knowledge necessary for Orthodontic diagnosis and treatment planning.
- PLO A3. Originality in the application of clinical and scientific knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in orthodontics.

### B. Intellectual and Practical Skills

On completing the program students should be able to:

- PLO B1. Evaluate critically current research and advanced scholarship in Orthodontics to be able to deliver expert level evidence-based orthodontic care.
- PLO B2. Be prepared to provide specialist level comprehensive treatment of malocclusion and dentofacial disharmonies in children, adolescents, and adults.
- PLO B3. Work within an interdisciplinary team to provide high level orthodontic care for patients.
- PLO B4. Provide treatment for patients with moderate to difficult orthodontic requirements including dentofacial anomalies and systemic conditions.
- PLO B5. Possess appropriate communication skills with patients and peers necessary for successful practice of Orthodontics.
- PLO B6. Be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude necessary for the advancement of practice, research, and teaching in orthodontics.

### C. Attitudes

On completing the program, students should be able to:

- PLO C1. Maintain a high ethical standard and work in harmony with peers, support staff and faculty with a view to becoming a team leader.
- PLO C2. Appreciate the importance of knowledge sharing, self-development and life-long learning and research in evidence-based practice of orthodontics and be

prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude.

- PLO C3. Establish practice management skills and abilities for accountability for critical decisions and governance.
- PLO C4. Manage and work within the context of a healthcare system.

### Alignment of QFE Level 9 Descriptors (Outcomes) to PLOs in Orthodontics

	NQF Emirates PLOs (Level 9)	HBMCDM Program Learning Outcomes (PLOs)												
		PLO A1	PLO A2	PLO A3	PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO C1	PLO C2	PLO C3	PLO C4
<b>A. Knowledge (K)</b>														
9K1.	Comprehensive, highly specialized knowledge in a field of work, discipline and/or professional practice, and at the interface between different fields, including frontier concepts and recent developments	x	x	x	x	x	x	x	x	x	x	x	x	
9K2	Advanced knowledge of applicable research principles and methods			x	x					x		x		
9K3	Critical awareness of knowledge issues, as the basis for original thinking; encompassing appropriate processes of enquiry and current processes of knowledge production	x	x	x	x					x		x		
9K4	Detailed body of knowledge of recent developments in a field of work, and/or discipline	x	x	x	x	x	x			x			x	
<b>B. Skills (SK)</b>														

9SK1	Advanced skills required in research, analysis, evaluation and/or innovation of complex ideas, information, concepts and/or activities			x	x	x	x	x		x			x	x
9SK2	Skills to develop new knowledge and procedures and to integrate knowledge from different fields using highly developed cognitive and creative skills and intellectual independence to the field of work or discipline	x	x	x	x	x	x	x	x	x	x	x		x
9SK3	Advanced problem-solving skills to analyze highly complex issues with incomplete data and develop innovative solutions and proposals relevant to an academic/professional field, field of work or discipline			x	x	x	x	x		x		x	x	x
9SK4	Planning skills to develop and execute a major project or comparable activities (that includes a significant range of variables and complexity) with appropriately selected research methodologies producing sound conclusions			x	x			x		x		x		

9SK5	Highly developed specialist communication and information technology skills to present, explain and/or critique highly complex matters			x	x	x	x	x	x	x	x	x	x	x
<b>C. Autonomy and responsibility (AR)</b>														
9AR1	Can function autonomously and/or take responsibility for managing professional practices, work, processes or systems, or learning contexts that are highly complex, unpredictable and unfamiliar, and require new strategic approaches and/or intervention or conceptual abstract solutions			x	x	x	x	x	x	x	x	x	x	x
9AR2	Can account for high level governance of processes and systems										x	x	x	x
9AR3	Can analyze and reflect on socio-cultural norms and relationships and act to build and transform them			x	x					x		x		x
<b>D. Role in context (RC)</b>														
9RC1	Can initiate and manage professional activities that may include a highly complex environment				x	x	x	x		x	x	x	x	x
9RC2	Can take responsibility for						x		x		x	x	x	x

	leading the strategic performance and development of professional teams and self													
<b>E. Self-Development (SD)</b>														
9SD1	Can self-evaluate and take responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts			x	x			x		x	x	x	x	x
9SD2	Can develop and implement further learning consistently and sensitively			x	x					x		x		x
9SD3	Can consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid decisions										x		x	x

## Completion requirements

[Please refer to Completion Requirements section in this catalog.](#)

## Course information

For information on [Common Courses](#) and their [descriptions](#) please refer to Common Courses under section 3.2.8.1

### Orthodontic Program Description

Orthodontics is that branch of dentistry concerned with facial growth, with development of the dentition and occlusion, and with the diagnosis, interception, and treatment of occlusal anomalies.

The Master of Science degree taught postgraduate three-year program incorporates clinical training at the level of specialist trainee and appropriate preparation for the Membership and Fellowship Examinations of the Royal Colleges of Surgeons UK.

### Orthodontic Program Course Descriptions



### **Research Dissertation (OR612, OR613, OR614, OR615, OR616)**

These courses are designed to develop the principles of scientific research methods and enhance the student's understanding of one particular field. The ability to be critical and creative thinkers is an essential attribute of the clinical specialist. These courses require the preparation of a study protocol and culminate with a dissertation and oral defense before a panel of internal and external examiners.

### **Scientific Literature (OR621, OR622, OR623, OR624, OR625, OR626)**

The Scientific Literature in Orthodontics is a three-year literature review course that meets on a weekly basis. Students are assigned articles to present to the group. These presentations are followed by an in-depth group discussion on that particular orthodontic or orthodontic-related topic.

During the literature review series, students read and analyze classic and current literature that is recommended for appropriate preparation for the Membership Examination of the Royal College of Surgeons UK. They also have mock examinations in these disciplines.

### **Specialty Clinical Training (OR637, OR638, OR639)**

This clinical course encompasses the scope of clinical orthodontics. During the first year of the program, students are closely supervised while developing skills in history taking, examination, diagnosis, radiographic analysis and treatment planning. During the second and third year as individual clinical skills develop, students will be able to more independently manage appropriate cases. Students gain extensive experience in the team management approach to patient care while interacting with all other dental specialties and disciplines within the hospitals and with outside clinics and practitioners. In addition, there is opportunity to attend hospital grand rounds and physician conferences. The clinical course will take part in the clinics of the Hamdan Bin Mohammed College of Dental Medicine and the Community Health Centers of the Dubai Academic Health Corporation.

The students will be required to complete a clinical rotation in surgery. This is a 2-week rotation that permits observation of the care involved in providing orthognathic surgery and cleft lip and palate surgery. The primary goal is to acquire the knowledge, skills and attitudes to function as health care providers within a team.

### **Clinical Skills (OR641)**

This course is intended to give the orthodontic students in depth preclinical instructions about diagnostic records including history, clinical examination, study models, radiographic and imaging evaluation, and photographs. Students practice with different components of fixed and removable orthodontic appliances (bands, brackets, arch-wires) in a pre-clinical context. This course will be conducted parallel to the Specialty Clinical Course in the clinic.

### **Basic Science Relevant to Orthodontics (OR642)**

This course will provide the student with the required knowledge in normal development and potential abnormalities in growth of the craniofacial and dento-alveolar complex in specific and somatic growth in general. The course will also provide relevant information about the principles of genetically determined conditions especially these with significant orofacial and dental features. The role of cell biology in health and disease will also be presented in this course.

### **Orthodontic Diagnosis and Treatment Planning (OR643)**

This course will provide the student with the required knowledge about need and demand for orthodontic treatment. It would also provide basics on psychological assessment for understanding patient's motivation, cooperation and expectations. From orthodontic treatment. The course will also discuss conventional radiographic techniques including an introduction to the principles of cephalometric radiography. The health and safety issues around specialist orthodontic practice are described including those relating to radiography in the young patient. Current technology available to assist with image analysis is described.

### **Growth Assessment - Cephalometric Methods for Assessment of Dentofacial Changes (OR644)**

This course will provide the student with the required knowledge in eliciting a history and undertaking an examination and in particular to determine patient motivation for and expectations of orthodontic treatment. The course also includes assessment of growth and introduces the student to radiographic cephalometric assessment and analysis.

### **Dentofacial Orthopedics and Temporomandibular Dysfunction (OR655)**

This course will provide introduction to the concepts of dentofacial orthopedics and the required knowledge about the structure, function, and abnormalities of the temporomandibular joints and its relevance to orthodontic treatment.

### **Orthodontic Materials and Appliances (OR656)**

This course will provide the students with the required knowledge of the uses of orthodontic appliances. The students will also learn about the design and fabrication of these appliances as well as their fitting and activation. The scientific and clinical aspects of orthodontic materials will be discussed.

### **Craniofacial Development and Cephalometric Assessment (OR647)**

This course will provide the student with the required knowledge about craniofacial development and growth as well as its analysis. The consequences of abnormal development of the face, jaws and dentition will be presented. The diagnosis and management of cleft lip and palate (CLP), and obstructive sleep apnea (OSA) patients. Treatment analysis and cephalometric radiographic analysis feature in this course in relation to growth analysis.

### **Orthodontic Tooth Movement and Biomechanics (OR657)**

This course discusses the biological aspects of orthodontic tooth movement and the various effects of the biomechanical systems. It will also familiarize students to the principle ideas of advanced wire bending in relation to clinical patient care and orthodontic treatment techniques.

### **Adult Orthodontics and Long-Term Effects of Orthodontic Treatment (OR660)**

This course will provide students with the required knowledge of adult orthodontic treatment at the level of a specialist, diagnosis, etiology, mechanotherapy, long-term effects of orthodontic treatment as well as the risk assessment and potential harmful consequences of orthodontic therapy.

### **Orthodontic Techniques (OR658)**

This course will provide the students with the required knowledge for the identification of indicating factors for the use of fixed appliances. The students will also learn about the historical and advanced orthodontic techniques (i.e.: Edgewise, Tweed-Merrifield, Rickett's utility arch, segmented arch mechanics, and Straight-wire appliance).

### **Guiding the Development of the Occlusion (OR652)**

This course will provide the student with the required knowledge in guiding the development of the occlusion with consideration of interceptive orthodontics, elimination of local factors, treatment of cross bites and early correction of skeletal discrepancies.

### **Multidisciplinary Treatment Modalities (OR653)**

This course will provide the student with the required knowledge about the interface of orthodontic management with surgical care. The course covers the management of unerupted teeth, soft tissue surgery, temporary anchorage devices' placement, management of dentofacial deformities by means of orthognathic surgery, and multidisciplinary management of cleft lip and / or palate patients.

### **Consolidation of Orthodontic Training (OR659)**

This course is intended to present a final revision for the students to prepare them to sit for the UK Membership Examination in Orthodontics. The examination of the Intercollegiate Specialty Diploma of Membership in Orthodontics includes Applied Science in Relation to Orthodontic Practice and Orthodontics with assessment of knowledge, clinical skills and presentation of clinical cases. The aims of the examination are to test the range of knowledge of Orthodontics at a level expected of a specialist practitioner and to test the attainment of competence in the planning and execution of Orthodontic care requisite for specialist practice.

### **Temporomandibular Disorders (PR366)**

A series of lectures intended to expose the student to the core concepts and current information necessary for a thorough and appropriate assessment and examination of the

patient to be able to diagnose oral parafunction and other factors in the development of dysfunction of mandibular movements and the TMJs.

Topics include anatomy, physiology and pathology of the Temporomandibular Joint and associated musculature, Radiographic imaging techniques, intraoral and extra-oral, their interpretation and assessment and occlusal splint designs, repositioning appliances and previsualization.

## Sequencing of courses

### Orthodontic Study Plan

Year 1 Semester 1		12 Credits	Course code	Duration	Prerequisite
Applied Basic Sciences I		2	CC510	16 weeks	None
Research Methodology and Biostatistics		2	CC502	16 weeks	None
Clinical Governance, Legislation & Ethics		1	CC503	16 weeks	None
Scientific Literature		1	OR621	16 weeks	None
Specialty Clinical Training		2*	OR637	20 weeks	None
Clinical Skills		2	OR641	16 weeks	None
Basic Science Relevant to Orthodontics		1	OR642	16 weeks	None
Orthodontic Diagnosis and Treatment Planning		1	OR643	16 weeks	None
Semester 2		12 Credits	Course code	Duration	Prerequisite
Applied Basic Sciences II		1	CC511	16 weeks	CC510
Oral Epidemiology		1	CC508	16 weeks	None
Radiology and Imaging		1	CC509	16 weeks	None
Research Dissertation		1	OR612	16 weeks	CC502/ Selection of research topic & supervisor team in Y1S1
Scientific Literature		1	OR622	16 weeks	None
Specialty Clinical Training		4	OR637	20 weeks	None

Growth Assessment – Cephalometric Methods for Assessment of Dentofacial Changes	1	OR644	16 weeks	None
Dentofacial Orthopedics and Temporomandibular Dysfunction	1	OR655	16 weeks	None
Orthodontic Materials and Appliances	1	OR656	16 weeks	None
<b>Year 2 Semester 1</b>	<b>12 Credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Temporomandibular Disorders	1	PR366	16 weeks	None
Research Dissertation	1	OR613	16 weeks	None
Scientific Literature	1	OR623	16 weeks	None
Specialty Clinical Training	6*	OR638	20 weeks	OR637
Craniofacial Development and Cephalometric Assessment	1	OR647	16 weeks	None
Guiding the Development of the Occlusion	1	OR652	16 weeks	None
Orthodontic Tooth Movement and Biomechanics	1	OR657	16 weeks	None
<b>Semester 2</b>	<b>12 Credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Molecular Biology	1	CC504	16 weeks	None
Research Dissertation	2	OR614	16 weeks	None
Scientific Literature	1	OR624	16 weeks	None
Specialty Clinical Training	5	OR638	20 weeks	None
Adult Orthodontics and Long-Term Effects of Orthodontic Treatment	1	OR660	16 weeks	None
Orthodontic Techniques	1	OR658	16 weeks	None
Multidisciplinary Treatment Modalities	1	OR653	16 weeks	None
<b>Year 3 Semester 1</b>	<b>12 Credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Research Dissertation	2	OR615	16 weeks	None
Scientific Literature	1	OR625	16 weeks	None
Specialty Clinical Training	9*	OR639	20 weeks	OR638

Semester 2	12 Credits	Course code	Duration	Prerequisite
Research Dissertation	3	OR616	16 weeks	None
Scientific Literature	1	OR626	16 weeks	None
Specialty Clinical Training	7	OR639	20 weeks	None
Consolidation of Orthodontic Training	1	OR659	16 weeks	OR642/OR643/ OR644/OR655/ OR656/PR366/ OR647/OR652/ OR657/OR660/ OR658/OR653

\*This is a CC course and will be graded at the end of Semester 2.

## Admission, withdrawal and enrolment policies

Please refer to the section [General Admission Requirements and Procedures](#) in this catalog.

## Student Assessment and Progression

Please refer to the section [Student Assessment and Progression](#) in this catalog.

## Faculty listing

### Full time faculty

Faculty Name	Area of Specialization	Degrees Held	Highest degree and University	Graduate Teaching Experience	Research Interests
Ahmed Ghoneima	Orthodontics	BDS, MSc, PhD, MSD	PhD in Orthodontics, IUSD, IN, USA and Al-Azhar University, Egypt	23 years	Three-dimensional (3D) image analysis, registration and superimposition techniques, airway analysis for sleep apnea patients, and the application of virtual reality (VR), augmented reality (AR), and artificial intelligence (AI) in dental education.
Nameer Al-Taai	Orthodontics	BDS, MSc, PhD, DDS, MSc, PhD	Doctor of Philosophy in Medicine,	12 years	Maxillary expansion and Nocturnal enuresis

			(PhD) Faculty of Medicine, Orthodontics, Umeå University, Sweden		Orthodontics and Sleep apnea, snoring and mouth breathing Cephalometric Superimposition Facial and dentoalveolar orthodontic treatment-related changes Longitudinal craniofacial and dentoalveolar growth-related changes Serial extraction Temporary anchorage devices (TADs)
Sabarinath Prasad	Orthodontics	BDS, PhD	MDS, Doctor of Philosophy (PhD), University of Otago, Dunedin, New Zealand	12 years	Orthodontics, Cleft Lip and palate, Wearable medical devices and smartphone applications for oral health monitoring.

## Master of Science in Pediatric Dentistry



## Program learning outcomes and completion requirements

The MSc Program in Pediatric Dentistry at HBMCDM has the following learning outcomes aligned with the UAE Quality Framework Level 9.

### A. Knowledge and Understanding

On completing the program students should have:

- PLO A1. A comprehensive mastery of techniques applicable to the specialist practice of Pediatric Dentistry. including prevention, early diagnosis, and management of oral disease in children including dental traumatology and the recognition and management of child maltreatment.
- PLO A2. A systematic high-level appraisal of oral and systemic conditions essential for the specialist practice of pediatric dentistry,
- PLO A3. High-level application of scientific knowledge in a unique way, while also having a practical grasp of established research techniques and their interpretation in the field of pediatric dentistry.

### B. Intellectual and Practical Skills

On completing the program students should be able to:

- PLO B1. Critically evaluate current research and advanced scholarship in Pediatric Dentistry and utilize to provide evidence-based practice of pediatric dentistry.
- PLO B2. Provide specialist-level primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs, using pharmacologic and non-pharmacologic behavior management techniques.
- PLO B3. Work within multidisciplinary dental and medical teams to manage pediatric patients.
- PLO B4. Provide comprehensive care and multidisciplinary management for pediatric patients with special healthcare needs and medical conditions, ensuring that both their oral and medical needs are properly addressed.
- PLO B5. Demonstrate a professional level of communication skills necessary for successful care with the child patients, their guardians and other healthcare providers.
- PLO B6. Be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude necessary for the advancement of practice, research, and teaching in pediatric dentistry.

### C. Attitudes

On completing the program, students should be able to:

- PLO C1. Maintain a high ethical standard specifically while dealing with the highly vulnerable pediatric population and work in harmony with peers, support staff and faculty with a view to becoming a team leader.
- PLO C2. Appreciate the importance of knowledge sharing, self-development and life-long learning and research in evidence-based practice of pediatric dentistry and be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude.
- PLO C3. Establish practice management skills and abilities for accountability for critical decisions and governance.
- PLO C4. Manage and work within the context of a healthcare system.

### Alignment of QFE Level 9 Descriptors (Outcomes) to PLOs in Pediatric Dentistry

	NQF Emirates PLOs (Level 9)	HBMCDM Program Learning Outcomes (PLOs)												
		PLO A1	PLO A2	PLO A3	PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO C1	PLO C2	PLO C3	PLO C4
<b>A. Knowledge (K)</b>														
9K1	Comprehensive, highly specialized knowledge in a field of work, discipline and/or professional practice, and at the interface between different fields, including frontier concepts and recent developments	x	x	x	x	x	x	x	x	x	x	x	x	
9K2	Advanced knowledge of applicable research principles and methods			x	x						x		x	
9K3	Critical awareness of knowledge issues, as the basis for original thinking; encompassing appropriate processes of	x	x	x	x						x		x	

	enquiry and current processes of knowledge production													
9K4	Detailed body of knowledge of recent developments in a field of work, and/or discipline	x	x	x	x	x	x			x			x	
<b>B. Skills (SK)</b>														
9SK1	Advanced skills required in research, analysis, evaluation and/or innovation of complex ideas, information, concepts and/or activities			x	x	x	x	x		x			x	x
9SK2	Skills to develop new knowledge and procedures and to integrate knowledge from different fields using highly developed cognitive and creative skills and intellectual independence to the field of work or discipline	x	x	x	x	x	x	x	x	x	x	x		x
9SK3	Advanced problem-solving skills to analyze highly complex issues with incomplete data and develop innovative solutions and proposals relevant to an academic/professional field, field of work or discipline			x	x	x	x	x		x		x	x	x
9SK4	Planning skills to develop and execute a major project or comparable activities (that includes a			x	x			x		x		x		

	significant range of variables and complexity) with appropriately selected research methodologies producing sound conclusions													
9SK5	Highly developed specialist communication and information technology skills to present, explain and/or critique highly complex matters			x	x	x	x	x	x	x	x	x	x	x

**C. Autonomy and responsibility (AR)**

9AR1	Can function autonomously and/or take responsibility for managing professional practices, work, processes or systems, or learning contexts that are highly complex, unpredictable and unfamiliar, and require new strategic approaches and/or intervention or conceptual abstract solutions			x	x	x	x	x	x	x	x	x	x	x
9AR2	Can account for high level governance of processes and systems										x	x	x	x
9AR3	Can analyze and reflect on socio-cultural norms and relationships and act to build and transform them			x	x					x		x		x

**D. Role in context (RC)**

9RC1	Can initiate and manage professional activities that may include a highly complex environment				x	x	x	x		x	x	x	x	x
9RC2	Can take responsibility for leading the strategic performance and development of professional teams and self						x		x		x	x	x	x
<b>E. Self-Development (SD)</b>														
9SD1	Can self-evaluate and take responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts				x	x			x		x	x	x	x
9SD2	Can develop and implement further learning consistently and sensitively				x	x				x		x		x
9SD3	Can consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid decisions										x		x	x

### Completion requirements

[Please refer to Completion Requirements section in this catalog.](#)

### Course information

For information on [Common Courses](#) and their [descriptions](#) please refer to Common Courses under section 3.2.8.1

### Pediatric Dentistry Program Description

Pediatric Dentistry is the practice and teaching of, and research into the comprehensive therapeutic oral health care for children from birth through adolescence, including care for those who demonstrate intellectual, medical, physical, psychological and/or emotional problems.

The Master of Science in Pediatric Dentistry taught postgraduate three-year program incorporates clinical training at the level of specialist trainee and appropriate preparation for the Membership and Fellowship Examinations of the Royal Colleges of Surgeons UK.

## **Pediatric Dentistry Course Descriptions**

### **Introduction to Pediatric Dentistry (PD441)**

Introduction to Pediatric Dentistry is an intensive seminar series given to incoming students that covers the fundamental concepts of the practice of pediatric dentistry. The course is intended to solidify the previous knowledge in pediatric dentistry for the new students with concepts they will encounter in various clinical settings.

### **Restorative Techniques (PD442)**

This course will give an in-depth presentation about the selection, application and delivery of conventional restorative and minimally invasive restorations and endodontic procedures in pediatric dentistry. In depth knowledge is provided on selection of nonoperative versus operative interventions, and the restorative materials most frequently used in pediatric dentistry are fully described, highlighting their advantages and disadvantages. Appropriate local anesthetic techniques for adequate pain management in pediatric patients will be emphasized during the course. The course will also provide the appropriate knowledge regarding the therapies appropriate to the management of traumatic dental injuries. The impact of various factors on clinician decision-making is then explained in detail, examples including the type of dentition, the clinical and radiographic aspect of the dentine caries lesion (noncavitated or cavitated), and whether the lesion is associated with a developmental defect. The principles of short and long-term management, including enforced extraction of first permanent molars with poor prognosis will be discussed in this course.

### **Scientific Literature (PD421/PD422/PD423/PD424/PD425/PD426)**

The Scientific Literature is a six-part literature review course that meets on a weekly basis for 2 hours. This is a joint class where all three groups of students from different cohorts meet and are assigned articles/guidelines mostly from the current literature to abstract and present to the group. These presentations are followed by an in-depth group discussion and critical appraisal on that topic in pediatric dentistry. In addition to that, the students all meet for an hour weekly to present one of their cases and to discuss literature related to their diagnosis and treatment.

During the seminar session where the class meets with the instructor, critical thinking is encouraged by reviewing in detail and analyzing the study designs, methods and materials along with the discussion and conclusion sections.

### **Specialty Clinical Training/Clinic (PD437/438/439)**

This course is a clinical course that encompasses the scope of clinical pediatric dentistry. During the program students are closely supervised while developing skills in diagnosis, radiographic technique, treatment planning, preventive and restorative dentistry, space management, trauma management and pharmacologic and non-pharmacologic behavior management techniques, and management of children with special healthcare needs. Students gain extensive experience in the team management approach to patient care while interacting and coordinating with other departments within the College and with outside clinics and practitioners. In addition, a weekly meeting is convened to discuss the treatment planning of the new cases and to present completed cases for the department. The clinical course takes part in the clinics of the Dubai Dental Hospital. Treatment under general anesthesia is conducted at Al Jalila Children's Specialty Hospital, including evaluation and management of pediatric patients admitted to the hospital. During the second semester of the second year, the students will perform a clinical rotation in pediatric medicine. This is a two-week rotation for the students in pediatric medicine. The aim is to attain knowledge and skills to function as health care providers within the hospital setting. In addition, the 3rd year students will attend a four-week Anesthesiology Rotation during the second semester of the second year. The primary goal of this rotation is to acquire knowledge and experience in the management of infants, children and adolescents undergoing general anesthesia.

### **Research Dissertation (PD412/PD413/PD414/PD415/PD416)**

These courses are designed to develop the principles of scientific research methods and enhance the student's understanding of one particular field. The ability to be critical and creative thinkers is a desirable attribute of the clinical specialist. These courses require the preparation of a study protocol and culminate with a dissertation and oral defense before a panel of internal and external examiners.

### **Orthodontic Diagnosis and Treatment Planning (OR643)**

This course will provide the student with the required knowledge about the need and demand for orthodontic treatment. It would also provide basics on psychological assessment for understanding patient's motivation, cooperation and expectations. From orthodontic treatment. The course will also discuss conventional radiographic techniques including an introduction to the principles of cephalometric radiography. The health and safety issues around specialist orthodontic practice are described including those relating to radiography in the young patient. Current technology available to assist with image analysis is described.

### **Orthodontics for the Pediatric Dentists (PD444)**

Orthodontics for Pediatric Dentists presents features of malocclusion and abnormalities of tooth position and eruption. The course will provide knowledge about the use of appliances in interceptive orthodontics and space maintenance. The course will also identify the role of the pediatric dentist as part of the multidisciplinary team in the management of cleft lip and palate. Management of typical problems range from minimizing damage to the occlusion caused by enforced extraction of poor-quality teeth, through the management of

specific local abnormalities such as impacted teeth, cross-bite and space management, to referral for comprehensive treatment of all aspects of the malocclusion, including principles for the care of children with craniofacial anomalies.

### **Behavioral Science and Management (PD446)**

This course is intended for giving the student in-depth knowledge about the principles of child cognitive development and behavioral psychology and non-pharmacologic behavior management techniques. This course also is to explain in depth the nature and development of dental fear and anxiety and provides an understanding of how and why pediatric patients behave differently. This forms the core for the practice of conscious sedation in the management of dental fear and anxiety in children and adolescents. The course also provides an integrated approach to the anatomy, physiology and, to some extent, the pharmacokinetics of the drugs, as they relate to sedation, is essential to establish a basis for safe clinical practice. The guidelines for safe and effective delivery of inhalation sedation including pre-sedation appraisal, facility, personnel and equipment along with the techniques and management of complications and emergencies will be discussed in depth. Other sedation techniques will be discussed. The course will also describe the facilities for the delivery of comprehensive restorative care and exodontias for children and adolescents under general anesthesia. The students will receive general anesthesia simulation training at Khalaf Al Habtoor Simulation Center.

### **General Pediatrics (PD445)**

This course will provide the student with an in-depth knowledge of the key conditions that may complicate the delivery of oral healthcare in pediatric patients and their oral/dental management. The student will learn the principles of appropriate dental management for these patients. The student will also be introduced to ways of effective communication with other healthcare providers involved in the treatment of these patients. The students will get simulation training at Khalaf Al Habtoor Simulation Center on management of common pediatric emergencies.

### **Basic Sciences in Pediatric Dentistry (PD450)**

This course will provide the student with the required knowledge in normal development and potential abnormalities in growth of the craniofacial and dento-alveolar complex in specific, and somatic growth in general. The course will also provide relevant information about the principles of genetically determined conditions, especially these with significant craniofacial and dental features. The role of cell biology in health and disease will also be presented in this course.

### **Pediatric Oral Pathology and Medicine (PD443)**

The course includes the most important conditions in pediatric oral medicine and pathology (those causing pain or affecting the mucosae, salivary glands, or jaws) essential for students – those that are most common and those that are dangerous or even potentially lethal and is intended to represent the current practice in investigations, diagnosis, and arrangement of patient management. In this course, the diagnosis and management of mucosal, soft and hard tissue pathologies in oral maxillofacial area will be discussed. The



course will also discuss the diagnosis and interdisciplinary, surgical, and non-surgical management of impacted and supernumerary teeth in children and adolescent patients. Dental anomalies of size, shape, number, color, and structure will be discussed during the course.

**Dental Traumatology (PD451)**

This is an in-depth course providing knowledge in the etiology, presentation, investigation, diagnosis, and management of dentoalveolar, intraoral and perioral soft tissue injuries in children and adolescents. The course will also discuss maxillofacial injuries in the same age group. The pathophysiology and interdisciplinary management of dental trauma complications such as resorption, infraocclusion and ankylosis of traumatized teeth will be discussed. Emphasis will be placed on the interdisciplinary approach to the management of these conditions. By the end of the course, students will be able to recognize and manage non-accidental dental injuries and consider child safeguarding in their management.

**Prevention of Oral Disease (PD448)**

This course will provide evidence-based guidelines regarding the pathophysiology, prevention and management of dental caries in primary and permanent dentition in children and adolescents. The course will discuss the complexity of the caries process and its etiology with emphasis on the role of prevention in management. The course will also discuss non-carious tooth surface loss etiology and management. The prevention, diagnosis, and management of periodontal disease in childhood and adolescence will be discussed, along with the recognition and prevention of harmful recreational habits and addictions.

**Consolidation of Pediatric Dentistry Training 1 & 2 (PD454/455)**

This course is intended to present a final consolidation of information in the specialty of pediatric dentistry to ensure the students’ readiness to work as independent competent specialists and to prepare them to sit for the UK Membership Examination in Pediatric Dentistry.

**Sequencing of courses**

**Pediatric Dentistry Study Plan**

Year 1 Semester 1	12 credits	Course code	Duration	Prerequisite
Introduction to Pediatric Dentistry	1	PD441	16 weeks	None
Clinical Governance, Legislation and Ethics	1	CC503	16 weeks	None
Restorative Techniques	1	PD442	16 weeks	None

Applied Basic Sciences I	2	CC510	16 weeks	None
Scientific Literature	1	PD421	16 weeks	None
Research Methodology and Biostatistics	2	CC502	16 weeks	None
Specialty Clinical training	3*	PD437	20 weeks	None
Orthodontic Diagnosis and Treatment Planning	1	OR643	16 weeks	None
<b>Semester 2</b>	<b>12 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Prevention of Oral Disease	1	PD448	16 weeks	None
Scientific Literature	1	PD422	16 weeks	None
Behavioral Science and Management	1	PD446	16 weeks	None
Specialty Clinical Training	5	PD437	20 weeks	None
Research Dissertation	1	PD412	16 weeks	CC502/ Selection of research topic & supervisor team in Y1S1
Applied Basic Sciences II	1	CC511	16 weeks	CC510
Oral Epidemiology	1	CC508	16 weeks	None
Radiology and Imaging	1	CC509	16 weeks	None
<b>Year 2 Semester 1</b>	<b>12 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Research Dissertation	1	PD413	16 weeks	None
General Pediatrics	1	PD445	16 weeks	None
Scientific Literature	1	PD423	16 weeks	None

Specialty Clinical Training	7*	PD438	20 weeks	PD437
Basic Sciences in Pediatric Dentistry	1	PD450	16 weeks	None
Pediatric Oral Pathology and Medicine	1	PD443	16 weeks	None

Semester 2	12 credits	Course code	Duration	Prerequisite
Dental Traumatology	1	PD451	16 weeks	None
Orthodontics for the Pediatric Dentists	1	PD444	16 weeks	None
Research Dissertation	2	PD414	16 weeks	None
Scientific Literature	1	PD424	16 weeks	None
Specialty Clinical Training	6	PD438	20 weeks	None
Molecular Biology	1	CC504	16 weeks	None

Year 3 Semester 1	11 credits	Course code	Duration	Prerequisite
Research Dissertation	2	PD415	16 weeks	None
Consolidation of Pediatric Dentistry Training 1	1	PD454	16 weeks	PD441/PD442/ OR643/PD448/ PD446/PD445/ PD450/PD443/ PD451/PD444
Scientific Literature	1	PD425	16 weeks	None
Specialty Clinical Training	7*	PD439	20 weeks	PD438

Semester 2	11 credits	Course code	Duration	Prerequisite
Research Dissertation	3	PD416	16 weeks	None
Scientific Literature	1	PD426	16 weeks	None

Consolidation of Pediatric Dentistry Training 2	1	PD455	16 weeks	PD454
Specialty Clinical Training	6	PD439	20 weeks	None

\*This is a CC course and will be graded at the end of Semester 2.

## Admission, withdrawal and enrolment policies

Please refer to the section [General Admission Requirements and Procedures](#).

## Student Assessment and Progression

Please refer to the section [Student Assessment and Progression](#).

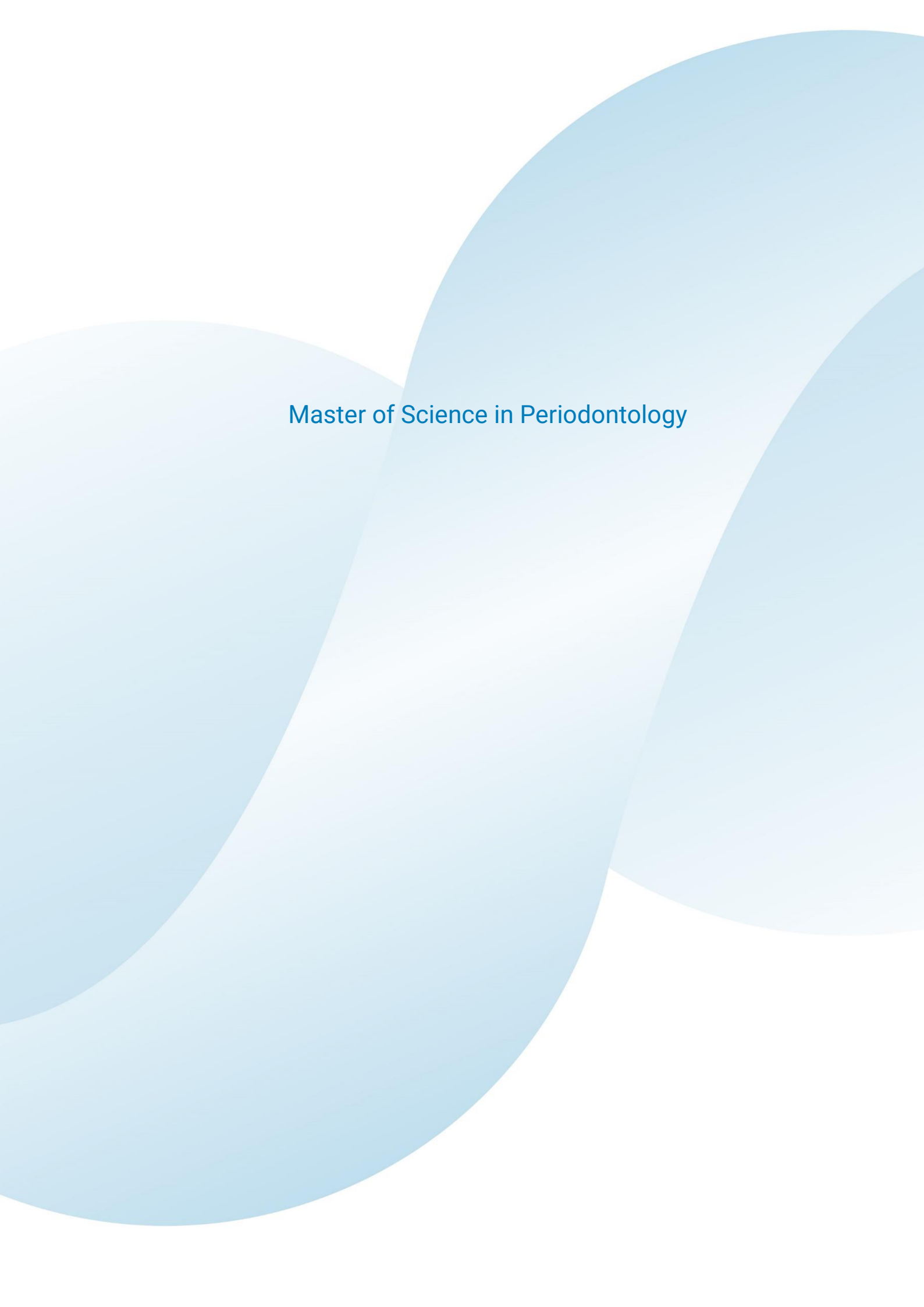
## Faculty listing

### Full time faculty

Faculty Name	Area of Specialization	Degrees Held	Highest degree and University	Graduate Teaching Experience	Research Interests
Anas Alsalamy	Pediatric Dentistry	D.D.S., MFDRCSI (Ireland), M.Sc. Pediatric Dentistry, MPaedDent RCSEd (Edinburgh)	MSc in Pediatric Dentistry, Hamdan Bin Mohammed College of Dental Medicine, MBRU, Dubai	5 years	Dental Public health and Prevention, Esthetic restorations in primary dentition, Oral health of medically compromised children, Pediatric Oral Medicine and Pathology, Minimal Intervention Dentistry and Hall Technique Crowns, Silver Diamine Fluoride (SDF), and Dental Trauma.
Eman Al Nuaimi	Pediatric Dentistry	DDS, MSc.	MSc in Pediatric Dentistry, Hamdan Bin Mohammed College of Dental Medicine, MBRU, Dubai	1 year	Currently on study leave

Iyad Hussein	Pediatric Dentistry	DDS (Dam), MDentSci (Leeds), Stat.Exam (GDC-UK), MFDS RCPS(Glasg), GDC-UK Specialist in Paediatric Dentistry	MDentsSci (Leeds, UK)	15 years	Intrinsic and extrinsic sugars and plaque pH, The Hall technique and biological caries management, Child protection in dentistry, Oral surgery in pediatric dentistry, Dental anxiety and general anesthesia in dentistry, Dental caries in children, Drooling and hypersalivation in children, Sleep apnea, formula milk and sugar concentration, Behaviour management in children, Assessment in postgraduate dentistry
Manal Al Halabi	Pediatric Dentistry	BDS, MS, Diplomate, American Board of Pediatric Dentistry	Certified, American Board of Paediatrics Dentistry	15 years	Minimally invasive biological caries management techniques, dental care of special needs patients, genetics and prevalence of enamel defects, knowledge of dental and medical healthcare providers in different oral healthcare related aspects, dental education with emphasis on postgraduate students and child maltreatment.
Mawlood Kowash	Pediatric Dentistry	BDS, MSc, DSc, MRCD(C), FRCD(C), FDSRCPS(Glasg), FDSRCS(Ed)	Doctorate of Dental Science (DSc) in Paediatric Dentistry; Leeds University, UK	10 years	Epidemiology, prevention and management of dental caries in children. Epidemiology and management of traumatic dental injuries. Oral health of medically compromised and special need children. Molar incisor hypomineralisation "MIH" and enamel

					defects. Dental education, examination and question writing
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## Master of Science in Periodontology

## Program learning outcomes and completion requirements

The MSc Program in Periodontology at HBMCDM has the following learning outcomes aligned with the UAE Quality Framework Level 9.

### A. Knowledge and Understanding

On completing the program students should have:

- PLO A1. A systematic appraisal of knowledge within and directly related to Periodontology including normal and abnormal intraoral structures and relationship with systemic factors, the interpretation of investigations within a holistic approach.
- PLO A2. A comprehensive interpretation of relevant biology, anatomy, physiology, pathology, and microbiology, including appropriate antimicrobial prescription where necessary.
- PLO A3. Originality in the application of clinical and scientific knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in Periodontology.

### B. Intellectual and Practical Skills

On completing the program students should be able to:

- PLO B1. Critically appraise and interpret scientific/academic literature and keep up to date with current and best practice in Periodontology.
- PLO B2. Demonstrate competence to undertake the examination and diagnosis of patients presenting with routine and complex Periodontal treatment needs.
- PLO B3. Develop outcome-based treatment strategies and health promotion for patients presenting with routine and complex Periodontal treatment needs.
- PLO B4. Competently to provide non-surgical, surgical and periodontal plastic surgery management of patients presenting with routine and complex Periodontal treatment needs.
- PLO B5. Competently provide dental implant surgery and management of peri-implant disease either independently and/or part of a multidisciplinary team.
- PLO B6. Competently manage periodontitis as a manifestation of systemic diseases.
- PLO B7. Appraise the importance and implications of the interrelationship between Periodontics and other clinical disciplines.
- PLO B8. Be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude necessary for the advancement of practice, research, and teaching in periodontology.

### C. Attitudes

On completing the program, students should be able to:



- PLO C1. Maintain a high ethical standard and work in harmony with peers, support staff and faculty with a view to becoming a team leader.
- PLO C2. Appreciate the importance of knowledge sharing, self-development and life-long learning and research in evidence-based practice of periodontology and be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude.
- PLO C3. Establish practice management skills and abilities for accountability for critical decisions and governance.
- PLO C4. Manage and work within the context of a healthcare system.

### Alignment of QFE Level 9 Descriptors (Outcomes) to PLOs in Periodontology

	NQF Emirates PLOs (Level 9)	HBMCDM Program Learning Outcomes (PLOs)														
		PLO A1	PLO A2	PLO A3	PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO B7	PLO B8	PLO C1	PLO C2	PLO C3	PLO C4
<b>A. Knowledge (K)</b>																
9K1	Comprehensive, highly specialized knowledge in a field of work, discipline and/or professional practice, and at the interface between different fields, including frontier concepts and recent developments	x	x	x	x	x	x	x	x	x	x	x	x	x		
9K2	Advanced knowledge of applicable research principles and methods			x	x							x		x		
9K3	Critical awareness of knowledge issues, as the basis for original thinking; encompassing appropriate processes of enquiry and current processes of knowledge production	x	x	x	x							x		x		

9K4	Detailed body of knowledge of recent developments in a field of work, and/or discipline	x	x	x	x	x	x	x	x	x	x	x			x	
<b>B. Skills (SK)</b>																
9SK1	Advanced skills required in research, analysis, evaluation and/or innovation of complex ideas, information, concepts and/or activities			x	x	x	x	x	x	x	x	x			x	x
9SK2	Skills to develop new knowledge and procedures and to integrate knowledge from different fields using highly developed cognitive and creative skills and intellectual independence to the field of work or discipline	x	x	x	x	x	x	x	x	x	x	x	x	x		x
9SK3	Advanced problem-solving skills to analyze highly complex issues with incomplete data and develop innovative solutions and proposals relevant to an academic/professional field, field of work or discipline			x	x	x	x	x	x	x	x	x		x	x	x
9SK4	Planning skills to develop and execute a major project or comparable activities (that			x	x					x		x		x		

	includes a significant range of variables and complexity) with appropriately selected research methodologies producing sound conclusions															
9SK5	Highly developed specialist communication and information technology skills to present, explain and/or critique highly complex matters			x	x	x	x	x	x	x	x	x	x	x	x	x
<b>C. Autonomy and responsibility (AR)</b>																
9AR1	Can function autonomously and/or take responsibility for managing professional practices, work, processes or systems, or learning contexts that are highly complex, unpredictable and unfamiliar, and require new strategic approaches and/or intervention or conceptual abstract solutions			x	x	x	x	x	x	x	x	x	x	x	x	x
9AR2	Can account for high level governance of processes and systems											x	x	x	x	
9AR3	Can analyze and reflect on socio-cultural norms and relationships and			x	x							x		x		x

	act to build and transform them															
<b>D. Role in context (RC)</b>																
9RC1	Can initiate and manage professional activities that may include a highly complex environment				x	x	x	x	x	x	x	x	x	x	x	x
9RC2	Can take responsibility for leading the strategic performance and development of professional teams and self						x	x	x		x		x	x	x	x
<b>E. Self-Development (SD)</b>																
9SD1	Can self-evaluate and take responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts			x	x					x		x	x	x	x	x
9SD2	Can develop and implement further learning consistently and sensitively			x	x							x		x		x
9SD3	Can consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid decisions												x		x	x

### Completion requirements

[Please refer to Completion Requirements section.](#)

## Course information

For information on [Common Courses](#) and their [descriptions](#) please refer to Common Courses under section 3.2.8.1

### Periodontology Program Description

Periodontology is the specialty of dentistry focused on the prevention, diagnosis, and clinical management of the diseases or conditions that affect the hard and soft tissues supporting or surrounding the teeth.

The Master of Science in Periodontology taught postgraduate three-year program incorporates clinical training at the level of specialist trainee and appropriate preparation for the Membership and Fellowship Examinations of the Royal Colleges of Surgeons UK.

### Periodontology Course Descriptions

#### Advanced Biological Science Relevant to Periodontology (PE260)

This course consists of a series of lectures covering the anatomy, histology and physiology of periodontal tissues, pathogenesis and microbiology of periodontal diseases, epidemiology, and local and systemic risk factors associated with periodontal diseases. The lectures are intended to provide students with thorough understanding of the current and classic literature and research related to the relationship of plaque and inflammatory periodontal diseases, the current classification of periodontal diseases, the natural history of periodontal disease in a variety of populations and the impact of environmental and genetic influences on host susceptibility.

#### Diagnosis and Treatment Planning in Periodontology (PE243)

The course introduces advanced concepts associated with periodontal practice and addresses comprehensive periodontal disease diagnosis, risk assessment, prognosis of periodontal diseases and treatment planning with an evidence-based rationale. Students will be expected to demonstrate advanced skills in periodontal disease examination, acquire analytical skills in estimating prognosis, understand the interaction between varying predisposing/modifying factors and periodontal disease, outline an effective, comprehensive and personalized treatment plan for their patients, assess long-term treatment outcomes and embrace evidence-based clinical decision making.

#### Specialty Clinical Training – Clinic (PE237/PE238/PE239)

This course is the clinical component of the Periodontology program curriculum. Students are expected to attend and treat patients at the HBMCDM dental clinics.

In the first year, the simulation exercises using dental models and animal cadavers will cover a wide range of procedures including scaling and root planning, maintenance of hand instruments, basic surgical skills and advanced surgical periodontal procedures. The clinical sessions are mainly devoted to examination, treatment planning, scaling and root

planning. It is expected that students may undertake some periodontal surgical procedures towards the end of the first year.

In the second year, the clinical sessions are devoted to treatment of patients with periodontal disease, both non-surgically and surgically, as well as starting to place a number of implants. Students are also expected to start treating interdisciplinary cases.

In the third year, the clinical sessions are still devoted to treating patients with periodontal disease, both non-surgically and surgically, as well as performing a number of mucogingival procedures. Students are expected to undertake treatment of more complex implant cases and continue treatment of interdisciplinary cases.

### **Scientific Literature (PE221/PE222/PE223/PE224/PE225/PE226)**

This course runs over the three years of the Periodontology program. The weekly seminars are based on case presentations, assignments and journal clubs. Case presentations provide students with an opportunity to become accustomed to presenting and discussing patient's case at an informal level before the examination process. It also allows discussion of the patients' treatment plans by graduate students and staff. Each student is expected to write assignments, undertake profound discussions of the literature in Periodontology and Implant Dentistry and present the assignments to their colleagues. In journal club seminars, students are expected to read, discuss and comprehensively review current dental literature pertaining to Periodontology and Implant Dentistry.

### **Non-Surgical Periodontal Treatment (PE244)**

This course is designed to provide students with knowledge in the contemporary practice of Periodontology with emphasis on non-surgical periodontal management. Topics covered will include mechanical debridement, use of chemotherapeutics and laser in the treatment of periodontal disease, behavioral health models, and periodontal maintenance. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

### **Periodontal Surgery (PE249)**

This course is designed to provide students with knowledge in the contemporary practice of Periodontology with emphasis on surgical periodontal management. Topics covered will include basic principles of periodontal surgery, resective surgical procedures, surgical management of furcation-involved teeth, crown lengthening and current trends in surgical and non-surgical periodontal treatment. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

### **Basic Implant Surgical and Restorative Techniques (PR351)**

This course consists of a series of lectures that cover biological and anatomical aspects relevant to implant dentistry, fundamentals of prosthodontic and surgical aspects of oral implant rehabilitation and provide students with essential evidenced-based information for successful implant treatment outcome.

### **Research Dissertation (PE212/PE213/PE214/PE215/PE216)**

These courses are designed to develop the principles of scientific research methods and enhance the student's understanding of one particular field. The ability to be critical and creative thinkers is a desirable attribute of the clinical specialist. These courses require the preparation of a study protocol and culminate with a dissertation and oral defense before a panel of internal and external examiners.

### **Interdisciplinary Interfaces (PE246)**

The course aims to introduce students to multidisciplinary treatment planning by emphasizing on the importance of the relationship between Periodontology and other dental specialties in comprehensive patient care. Topics covered include relevant restorative and occlusal considerations when treating periodontal patients and placing dental implants or managing combined endodontic-periodontal lesions. Other topics related to periodontal-orthodontic interrelationship and the association between periodontal diseases and different systemic diseases are also covered.

### **Advanced Implant Surgical and Restorative Techniques (PR352)**

This course consists of a series of lectures that cover advanced surgical and prosthodontic aspects in implant dentistry, including recent advances in digital implant planning, guided surgery, and oral rehabilitation in young and medically compromised patients.

### **Oral Pathology and Oral Medicine (PE256)**

In this course, the diagnosis and management of mucosal, soft and hard tissue pathologies in oral and paraoral structures will be discussed. The course will also review the internal medicine and management of medically compromised dental patients.

### **Mucogingival Surgery and Regenerative Techniques (PE250)**

This course is designed to provide students with knowledge in the contemporary practice of Periodontology with emphasis on mucogingival surgery and regenerative techniques. Topics covered will include basic principles of periodontal wound healing and regeneration, management of marginal tissue recession and osseous defects, and current trends in regenerative periodontal therapy. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

### **Consolidation of Periodontic Training (PE259)**

This course is intended to present a final revision for the students to prepare them to sit for Royal College of Surgeons of Edinburgh Membership in Periodontology examination. The aims of the course are to test the range of knowledge of Periodontology at a level expected of a specialist practitioner and to test the attainment of competence in the planning and execution of periodontal dentistry required for specialist practice.

## Sequencing of courses

### Periodontology Study Plan

Year 1 Semester 1	12 Credits	Course code	Duration	Prerequisite
Applied Basic Sciences I	2	CC510	16 weeks	None
Advanced Biological Science Relevant to Periodontology	1	PE260	16 weeks	None
Diagnosis and Treatment Planning in Periodontology	1	PE243	16 weeks	None
Specialty Clinical Training - Clinic	3*	PE237	20 weeks	None
Clinical Governance, Legislation and Ethics	1	CC503	16 weeks	None
Research Methodology and Biostatistics	2	CC502	16 weeks	None
Scientific Literature	2	PE221	16 weeks	None
Year 1 Semester 2	12 Credits	Course code	Duration	Prerequisite
Scientific Literature	2	PE222	16 weeks	None
Non-Surgical Periodontal Treatment	1	PE244	16 weeks	None
Periodontal Surgery	1	PE249	16 weeks	None
Basic Implant Surgical and Restorative Techniques	1	PR351	16 weeks	None
Specialty Clinical Training - Clinic	3	PE237	20 weeks	None
Research Dissertation	1	PE212	16 weeks	CC502/ Selection of research topic & supervisor team in Y1S1
Applied Basic Sciences II	1	CC511	16 weeks	CC510
Radiology and Imaging	1	CC509	16 weeks	None
Oral Epidemiology	1	CC508	16 weeks	None



Year 2 Semester 1				
	12 Credits	Course code	Duration	Prerequisite
Interdisciplinary Interfaces	1	PE246	16 weeks	None
Research Dissertation	1	PE213	16 weeks	None
Advanced Implant Surgical and Restorative Techniques	2	PR352	16 weeks	PR351
Scientific Literature	2	PE223	16 weeks	None
Specialty Clinical Training - Clinic	6*	PE238	20 weeks	PE237
Year 2 Semester 2				
	12 Credits	Course code	Duration	Prerequisite
Oral Pathology and Oral Medicine	1	PE256	16 weeks	None
Research Dissertation	2	PE214	16 weeks	None
Scientific Literature	2	PE224	16 weeks	None
Mucogingival Surgery and Regenerative techniques	1	PE250	16 weeks	None
Specialty Clinical Training - Clinic	5	PE238	20 weeks	None
Molecular Biology	1	CC504	16 weeks	None
Year 3 Semester 1				
	11 Credits	Course code	Duration	Prerequisite
Research Dissertation	2	PE215	16 weeks	None
Scientific Literature	2	PE225	16 weeks	None
Specialty Clinical Training - Clinic	7*	PE239	16 weeks	PE238
Year 3 Semester 2				
	12 Credits	Course code	Duration	Prerequisite
Research Dissertation	3	PE216	16 weeks	None
Scientific Literature	2	PE226	16 weeks	None
Consolidation of Periodontic Training	1	PE259	16 weeks	PE260/PE243/ PE244/PE249/ PR351/PE246/ PR352/PE256/ PE250
Specialty Clinical Training - Clinic	6	PE239	20 weeks	None

\*This is a CC course and will be graded at the end of Semester 2.

## Admission, withdrawal and enrolment policies

Please refer to the section [General Admission Requirements and Procedures](#).

## Student Assessment and Progression

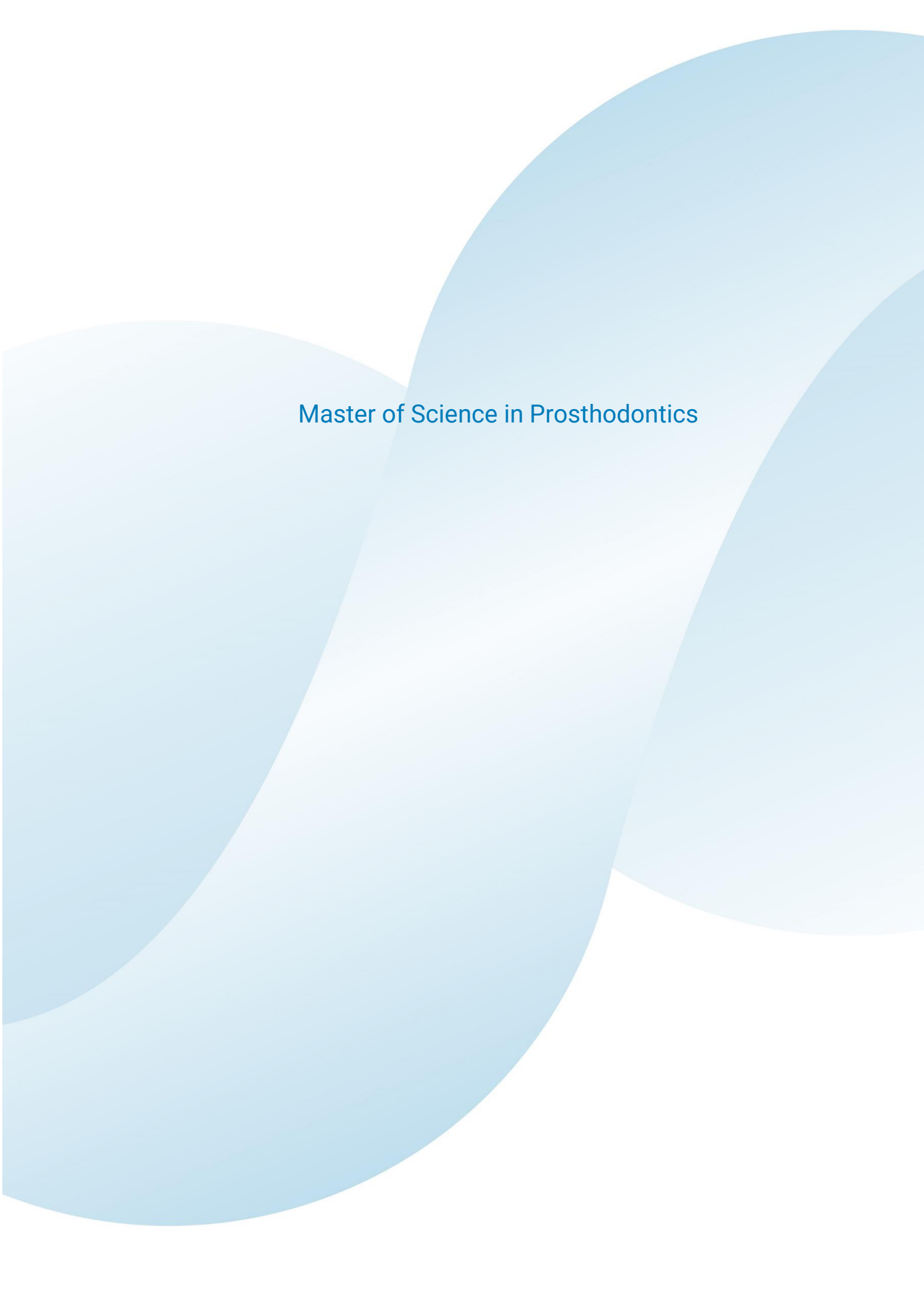
Please refer to the section [Student Assessment and Progression](#) in this catalog.

### Faculty listing

#### Full time faculty

Faculty Name	Area of Specialization	Degrees Held	Highest degree and University	Graduate Teaching Experience	Research Interests
Abeer Hakam	Periodontology	MS in Dental Sciences with a Certificate in Periodontics - University of Florida Certified, American Board of Periodontology	American Board of Periodontology and Dental Implant Surgery	1 year	Tissue engineering – Platelet-rich fibrin (PRF) Osseointegration Pharmacology Medication effect on different periodontal tissues
Maanas Shah	Periodontology	BDS, MSD, CAGS	MSc in Periodontics, Boston University Institute of Dental Research and Education, Dubai	2 years	Molecular Biology and Stem cell based research; Evidence based literature reviews and Meta-Analyses. Randomized Clinical Trials related to implant dentistry and regenerative techniques.
Momen Atieh	Periodontology	BDS, MSc, DClinDent (Periodontology), PhD	Doctor of Philosophy (PhD) - University of Otago, Dunedin, New Zealand	15 years	Evidence-based dental practice (systematic reviews and meta-analysis) Clinical trials in Periodontology and Implant Dentistry Risk assessment in Periodontology and Implant Dentistry Qualitative research in Periodontology and Implant Dentistry Patient reported

					outcome measures in Periodontology and Implant Dentistry
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## Master of Science in Prosthodontics

## Program learning outcomes and completion requirements

The MSc Program in Prosthodontics at HBMCDM has the following learning outcomes aligned with the UAE Quality Framework Level 9.

### A. Knowledge and Understanding

On completing the program students should be able to:

- PLO A1. Develop a comprehensive knowledge and in-depth understanding of basic and clinical sciences as well as materials science related to the diagnosis and management of patients with prosthodontics and complex restorative needs.
- PLO A2. Appraise advanced concepts in fixed and removable Prosthodontics and evaluate the application of clinical imaging (radiography, including digital radiography and photography) as it relates to the prosthodontic management of patients.
- PLO A3. Identify originality in the application of the research concepts, theories and principles of fixed and removable prosthodontics and conservative dentistry.

### B. Intellectual and Practical Skills

On completing the program students should be able to:

- PLO B1. Critically evaluate and apply the research and evidence from the scientific literature in clinical management of patients with fixed and removable prosthodontics.
- PLO B2. Demonstrate competence to independently undertake, record and interpret a detailed history and examination of patients requiring management with simple and complex prosthodontics to reach an accurate and comprehensive diagnosis.
- PLO B3. Determine and plan treatment strategies for patients requiring management that involves simple and/or complex prosthodontic and restorative rehabilitation.
- PLO B4. Integrate treatment plans with other dental specialties and effectively provide specialist prosthodontic input to interdisciplinary interfaces.
- PLO B5. Organize the provision of simple and complex fixed and removable prosthodontic treatment, and appropriately manage the patients diagnosed with Temporomandibular disorders, tooth wear and traumatic dental injuries including esthetic management.
- PLO B6. Integrate the application of digital dentistry as it relates to the dental management of patients with fixed or removable prosthodontics.
- PLO B7. Formulate a research proposal, conduct a research project and analyze results and draw appropriate conclusions compatible with sound scientific and ethical principles of human or laboratory research.

C. Attitudes

On completing the program, students should be able to:

- PLO C1. Maintain a high ethical standard and work in harmony with peers, support staff and faculty with a view to becoming a team leader.
- PLO C2. Appreciate the importance of knowledge sharing, self-development and life-long learning and research in evidence-based practice of prosthodontics and be prepared for future roles in clinical research by stimulating and encouraging development of a critical and inquiring attitude.
- PLO C3. Establish practice management skills and abilities for accountability for critical decisions and governance.
- PLO C4. Manage and work within the context of a healthcare system.

Alignment of QFE Level 9 Descriptors (Outcomes) to PLOs in Prosthodontics

	NQF Emirates PLOs (Level 9)	HBMCDM Program Learning Outcomes (PLOs)													
		PLO A1	PLO A2	PLO A3	PLO B1	PLO B2	PLO B3	PLO B4	PLO B5	PLO B6	PLO B7	PLO C1	PLO C2	PLO C3	PLO C4
<b>A. Knowledge (K)</b>															
9K1	Comprehensive, highly specialized knowledge in a field of work, discipline and/or professional practice, and at the interface between different fields, including frontier concepts and recent developments	x	x	x	x	x	x	x	x	x	x	x	x		
9K2	Advanced knowledge of applicable research principles and methods			x	x							x	x		
9K3	Critical awareness of knowledge issues, as the basis for original thinking; encompassing appropriate processes of enquiry and current processes of	x	x	x	x			x	x	x	x	x	x		

	knowledge production														
9K4	Detailed body of knowledge of recent developments in a field of work, and/or discipline	x	x	x	x	x					x	x			x
<b>B. Skills (SK)</b>															
9SK1	Advanced skills required in research, analysis, evaluation and/or innovation of complex ideas, information, concepts and/or activities			x	x	x	x	x	x	x	x			x	x
9SK2	Skills to develop new knowledge and procedures and to integrate knowledge from different fields using highly developed cognitive and creative skills and intellectual independence to the field of work or discipline	x	x	x	x	x	x	x	x	x	x	x	x		x
9SK3	Advanced problem-solving skills to analyze highly complex issues with incomplete data and develop innovative solutions and proposals relevant to an academic/professional field, field of work or discipline			x	x	x	x	x	x	x	x		x	x	x
9SK4	Planning skills to develop and execute a major project or comparable activities (that includes a significant			x	x		x	x	x	x	x		x		

	range of variables and complexity) with appropriately selected research methodologies producing sound conclusions														
9SK5	Highly developed specialist communication and information technology skills to present, explain and/or critique highly complex matters			x	x	x		x			x	x	x	x	x

**C. Autonomy and responsibility (AR)**

9AR1	Can function autonomously and/or take responsibility for managing professional practices, work, processes or systems, or learning contexts that are highly complex, unpredictable and unfamiliar, and require new strategic approaches and/or intervention or conceptual abstract solutions			x	x	x	x	x	x	x	x	x	x	x	x
9AR2	Can account for high level governance of processes and systems											x	x	x	x
9AR3	Can analyze and reflect on socio-cultural norms and relationships and act to build and transform them			x	x						x		x		x

**D. Role in context (RC)**

9RC1	Can initiate and manage professional activities that may				x	x	x	x	x	x	x	x	x	x	x
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	include a highly complex environment																
9RC2	Can take responsibility for leading the strategic performance and development of professional teams and self							X					X	X	X	X	
<b>E. Self-Development (SD)</b>																	
9SD1	Can self-evaluate and take responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts												X	X	X	X	X
9SD2	Can develop and implement further learning consistently and sensitively												X		X		X
9SD3	Can consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid decisions													X		X	X

### Completion requirements

[Please refer to Completion Requirements section.](#)

### Course information

For information on [Common Courses](#) and their [descriptions](#) please refer to Common Courses under section 3.2.8.1

### Prosthodontics Program Description

Prosthodontics is the restoration or replacement of diseased or missing teeth. The examination of the patient’s dental, pulpal, periradicular, periodontal, oral and peri-oral tissues is fundamental prior to restorative treatment and in determining the correct diagnosis.

The Master of Science in Prosthodontics taught postgraduate three-year program incorporates clinical training at the level of specialist trainee and appropriate preparation for the Membership and Fellowship Examinations of the Royal Colleges of Surgeons UK.

## **Prosthodontics Course Descriptions**

### **Scientific Literature (PR321/PR322/PR323/PR324/PR325/PR326)**

This course occurs every semester and aims to develop critical appraisal skills in residents and recognition of the importance of evidence-based dentistry. Classic or seminal literature in prosthodontics and related fields will be reviewed. Faculty will lead each session, but sessions will be inter-active and involve residents presenting an overview of the papers they have studied. This course will challenge residents to think about methodology, results and conclusions as well as determine how clinically relevant are results and/or conclusions. The objectives of the literature seminars are to:

- Develop critical appraisal skills.
- Encourage students to discuss the latest developments in Prosthodontics and other disciplines.
- Encourage critical thinking by in-depth analysis of study design, methods, results including statistical tests and discussion of publications.
- Embed the philosophy of evidence-based dentistry into daily practice of HBMCDM post-graduate students.

### **Advanced Prosthodontics: Simulation Center Clinical Skills (PR331)**

This course provides the practical skills necessary to prepare teeth for crown and bridgework and thus prepare residents to perform Prosthodontic procedures on patients. The student will work on typodont teeth in the Clinical Skills facility. Facebow and associated occlusal records will be demonstrated in order to program a semi-adjustable articulator. Subsequently students will take records on each other in clinic. Transfer and programming a semi-adjustable articulator follow. The laboratory stages for fixed prostheses and complete dentures will also be covered. Crown and bridgework using Zirconia and glass ceramics is introduced. Digital dentistry is covered at the end of the course with demonstrations on how to scan models and manufacture crownwork by CAD CAM. Some aspects of this course are deemed remedial insofar as they should have been taught at undergraduate level. In order to comply with CAA requirements these elements are not credit bearing.

### **Principles of Fixed Prosthodontics (PR346)**

This course provides students with the necessary knowledge to undertake crown and bridgework (C & B). It is linked to and complemented by course PR331 where the clinical C & B practical skills are taught.

### **Dental Biomaterials (PR347)**

A series of seminars covering the different types of biomaterials in the field of restorative and prosthetic dentistry. Dental material properties, clinical indications, adverse effects, chemical composition, biocompatibility, dental material reactions and changes in the oral cavity will be discussed. Particular emphasis is placed on new dental materials such as glass ceramics, zirconia and nanotechnologies.

### **Basic Implant Surgical and Restorative Techniques (PR351)**

This course consists of a series of lectures that cover biological and anatomical aspects relevant to implant dentistry, fundamentals of prosthodontic and surgical aspects of oral implant rehabilitation and provide students with essential evidenced-based information for successful implant treatment outcome.

### **Cariology, Tooth Wear, Compromised Dentitions and Restorations (PR367)**

A series of lectures aimed at in-depth understanding of caries pathogenesis, histology and management including an introduction to minimally invasive dentistry. Other series of lectures covering risk factors, etiology and management of tooth wear. Postgraduate students will have knowledge on the range of intrinsic and extrinsic factors associated with acid erosion. The Dahl concept and treatment strategies for both localized and generalized tooth wear will be discussed.

### **Research Dissertation (PR312/PR313/PR314/PR315/PR316)**

These courses are designed to develop the principles of scientific research methods and enhance the student's understanding of one particular field. The ability to be critical and creative thinkers is an essential attribute of the clinical specialist. These courses require the preparation of a study protocol and culminate with a dissertation and oral defense before a panel of internal and external examiners.

### **Specialty Clinical Training (PR332/PR338/PR339)**

This course encompasses the scope of clinical Prosthodontics. During the first year of the program, students are closely supervised while developing skills in diagnosis, radiographic techniques, and treatment planning. In the first-year students will treat patients for overall restorative dental care, especially fixed and removable prosthodontics. Students will be exposed to a broad range of cases including temporomandibular disorders, tooth wear and aesthetic cases.

During the second and third year as individual clinical skills develop, students will progress to more complex cases including the placement and restoration of dental implants, and interdisciplinary cases requiring combination endodontic, periodontal, surgical or orthodontic therapy.

### **Removable Prosthodontics: Complete Dentures (PR355)**

This course is concerned with the assessment, diagnosis and treatment of the edentulous patient including immediate dentures and implant supported and retained prostheses. The

technical aspects and materials needed for the fabrication of various types of removable prostheses will be discussed. The course will cover digital denture fabrication and the treatment options for tooth and/or implant support for overdentures. Topics include ridge classifications, management of flat ridges and severe atrophy cases, neutral zone, copy dentures, relines and rebase of complete dentures, obturators, CAD/CAM fabrication of complete dentures.

### **Advanced Implant Surgery and Restorative Techniques (PR352)**

This course consists of a series of lectures that cover advanced surgical and prosthodontic aspects in implant dentistry, including recent advances in digital implant planning, guided surgery, and oral rehabilitation in young and medically compromised patients.

### **Removable Prosthodontics: Partial Dentures (PR354)**

A series of seminars covering the management of the partially edentulous jaw. Students will be able to diagnose and classify the different types of partially dentate jaw. In addition, students will learn about advanced methods of denture retention such as precision attachments and telescopic crowns. Surveying and metal framework design is taught in a practical hands-on workshop. Set up of acrylic teeth in different jaw relationships, materials and techniques most suitable for casting of the metal framework and the fabrication of partial dentures will be discussed.

### **Esthetics and Digital Dentistry (PR368)**

A series of lectures covering the fundamentals of aesthetic dentistry, developmental anomalies and digital dentistry. Residents will have knowledge on smile design, diagnostic protocols in aesthetic dentistry and treatment of dental anomalies. Tooth whitening techniques for vital and non-vital teeth including micro and macro abrasion will all be covered. Tooth preparation methods for direct and indirect aesthetic restorations will be discussed.

### **Periodontics, Endodontics and Advanced Restorative Dentistry (PR370)**

This course provides students with fundamental knowledge on the interrelationship of periodontics and endodontics with prosthodontics and advanced restorative dentistry. It is very important for the prosthodontic specialist to understand this interrelationship and how it impacts on diagnosis and treatment planning. Periodontal fundamentals include the anatomy and the 2017 classification of periodontal disease. The diagnosis and management of common periodontal diseases is also covered.

The need to recognize periradicular disease and its influence on prosthodontic prognosis and treatment planning will be delivered by specialist endodontists.

### **Medical problems relevant to Prosthodontics (PR361)**

This course provides students with knowledge regarding common medical conditions that affect dental treatment. The treatment of a range of medical emergencies will be covered and students will be taught the practical skills needed to manage them.

### Consolidation of Prosthodontic Training (PR364)

This is mainly a revision course with a summative MPros RCS Edinburgh style exam and will prepare students for the Membership in Prosthodontics specialty examination of the Royal College of Surgeons of Edinburgh. Tutorials are aimed at consolidating knowledge and understanding in a wide range of subjects in prosthodontics and restorative dentistry in general. Emphasis is placed on interdisciplinary relationships. The course also aims to direct residents toward sitting the Royal College of Surgeons of Edinburgh specialty membership examination. The standard, content, structure and format of the exam will all be discussed with an explanation of the minimally competent candidate.

### Temporomandibular Disorders (PR366)

A series of lectures intended to expose the student to the core concepts and current information necessary for a thorough and appropriate assessment and examination of the patient to be able to diagnose oral parafunction and other factors in the development of dysfunction of mandibular movements and the TMJs.

Topics include anatomy, physiology and pathology of the Temporomandibular Joint and associated musculature, Radiographic imaging techniques, intraoral and extra-oral, their interpretation and assessment and occlusal splint designs, repositioning appliances and previsualization.

## Sequencing of courses

### Prosthodontics Study Plan

Year 1 Semester 1	12 credits	Course code	Duration	Prerequisite
Applied Basic Sciences I	2	CC510	16 weeks	None
Research Methodology and Biostatistics	2	CC502	16 weeks	None
Clinical Governance: Legislation and Ethics	1	CC503	16 weeks	None
Scientific Literature	1	PR321	16 weeks	None
Advanced Prosthodontics: Simulation Center Clinical Skills	3	PR331	16 weeks	None
Principles of Fixed Prosthodontics	1	PR346	16 weeks	None
Dental Biomaterials	1	PR347	16 weeks	None
Cariology, Tooth Wear, Compromised Dentitions and Restorations	1	PR367	16 weeks	None
Year 1 Semester 2	12 credits	Course code	Duration	Prerequisite

Applied Basic Sciences II	1	CC511	16 weeks	CC510
Radiology and Imaging	1	CC509	16 weeks	None
Oral Epidemiology	1	CC508	16 weeks	None
Research Dissertation	1	PR312	16 weeks	CC502/ Selection of research topic & supervisor team in Y1S1
Scientific Literature	1	PR322	16 weeks	None
Specialty Clinical Training - Clinic	5	PR332	20 weeks	PR331
Removable Prosthodontics: Complete Dentures	1	PR355	16 weeks	None
Basic Implant Surgical and Restorative Techniques	1	PR351	16 weeks	None
<b>Year 2 Semester 1</b>	<b>12 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Temporomandibular Disorders	1	PR366	16 weeks	None
Research Dissertation	1	PR313	16 weeks	None
Scientific Literature	1	PR323	16 weeks	None
Specialty Clinical Training - Clinic	5*	PR338	20 weeks	PR332
Advanced Implant Surgical and Restorative Techniques	2	PR352	16 weeks	PR351
Removable Prosthodontics: Partial dentures	1	PR354	16 weeks	None
Esthetics and Digital Dentistry	1	PR368	16 weeks	None
<b>Year 2 Semester 2</b>	<b>12 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Molecular Biology	1	CC504	16 weeks	None
Research Dissertation	2	PR314	16 weeks	None
Scientific Literature	1	PR324	16 weeks	None
Specialty Clinical Training - Clinic	7	PR338	20 weeks	None
Medical problems relevant to Prosthodontics	1	PR361	16 weeks	None
<b>Year 3 Semester 1</b>	<b>11 credits</b>	<b>Course code</b>	<b>Duration</b>	<b>Prerequisite</b>
Periodontics, Endodontics and Advanced Restorative Dentistry	1	PR370	16 weeks	None
Research Dissertation	2	PR315	16 weeks	None
Scientific Literature	1	PR325	16 weeks	None

Year 3 Semester 2	11 credits	Course code	Duration	Prerequisite
Specialty Clinical Training - Clinic	7*	PR339	20 weeks	PR338
Research Dissertation	3	PR316	16 weeks	None
Scientific Literature	1	PR326	16 weeks	None
Specialty Clinical Training - Clinic	6	PR339	20 weeks	None
Consolidation of Prosthodontic Training	1	PR364	16 weeks	PR346/PR347/ PR367/PR355/ PR351/PR366/ PR352/PR354/ PR368/PR361/ PR370

\*This is a CC course and will be graded at the end of Semester 2.

## Admission, withdrawal and enrolment policies

Please refer to the section [General Admission Requirements and Procedures](#).

## Student Assessment and Progression

Please refer to the section [Student Assessment and Progression](#) in this catalog.

## Faculty listing

### Full time faculty

Faculty Name	Area of Specialization	Degrees Held	Highest degree and University	Graduate Teaching Experience	Research Interests
Fatemeh Amir Rad	Prosthodontics	DDS, MSD, CAGS,	MSD in Prosthodontics, Boston University Institute of Dental Research and Education, Dubai	10 years	Dental Epidemiology, Dental Education and Dental Biomaterials
Haitham Elbishari	Prosthodontics	BDS, Mpros (RCSEd), FDS (RCSEd), PhD	PhD in Clinical Dentistry, University of Manchester,	11 years	Handling properties of resin-composite material. Bonding strength of fiber posts, Systematic reviews in different Prosthodontics

			School of Dentistry		(systematic and narrative reviews in different fields of restorative dentistry), Biomaterial.
Moosa Abuzayda	Prosthodontics	BDS, Post graduate certificate in Prosthodontics and Implantology, Dr.med. dent, Certificate in Oral Implantology, Certificate in Medical Education, German Board in prosthodontic and dental materials from DGZPW.	Doctorate in Dentistry (Dr Med Dent); RWTH University, Germany	9 years	Bonding strength of high strength ceramic after different surface treatment Evaluating the spread of aerosols during crown preparation Comparison of digital and conventional impression techniques for artificial maxillectomy defects Loss of pulp vitality following preparation of vital teeth for crown/FDPs restorations Radiological assessment of the submandibular fossa from CBCT and the correlation to implant placement. Dental Implant and Restoration Selection by Prosthodontists The convergence angle of full crown preparation in private practice The impact cantilever direction on the outcome of implant supported fixed prosthesis The evaluation of smile design by lay people and dentist in UAE Oral health problems among the labor group in UAE



# **College of Nursing and Midwifery**

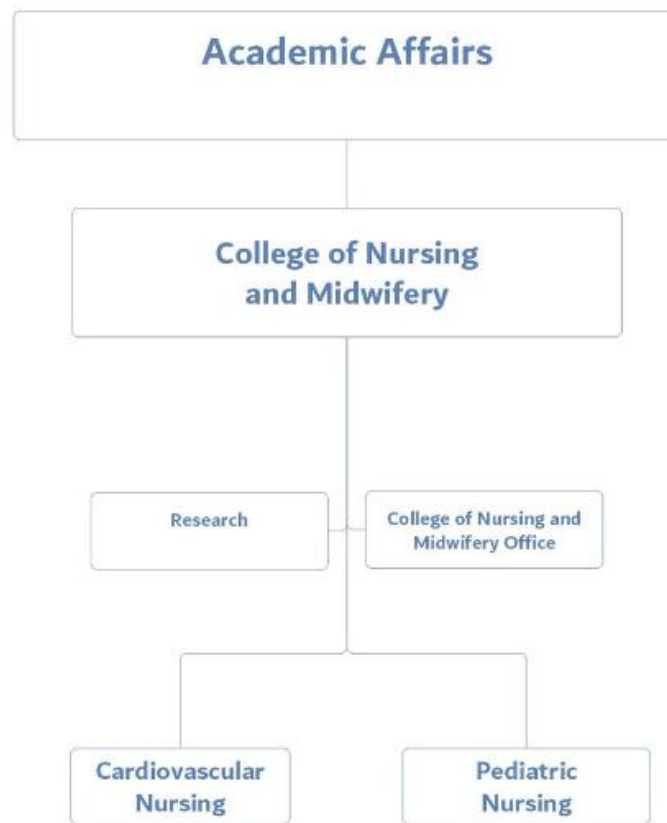
## Organizational structure of College

# COLLEGE OF NURSING AND MIDWIFERY

## Functional Structure

October 2022

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## College Goals and Outcomes

Goal 1	The College of Nursing and Midwifery will graduate highly skilled and competent nursing professionals who practice compassionately, ethically and maintain a high level of professionalism.
Outcome 1A	Graduates secure and complete competitive postgraduate training.
Outcome 1B	Graduates pursue successful careers in nursing and midwifery
Goal 2	The College of Nursing and Midwifery will create an environment conducive to impactful and innovative nursing and midwifery research.
Outcome 2A	Faculty, students and graduates secure internal and external funding for scholarly activities.
Outcome 2B	Faculty and students disseminate research findings through peer reviewed publications and presentations in professional meetings.
Goal 3	MBRU College of Nursing and Midwifery will actively engage with the community to preserve and promote health.
Outcome 3A	Faculty, staff and students organize and participate in health-related community activities.
Outcome 3B	Engagement in community activities results in positive change in the health of the community.

## International accreditations

Throughout the academic year 2023-24, the College of Nursing and Midwifery intends to seek international accreditations for its MSc nursing programs.

### Academic Calendar

Week #	Semester	Dates
Semester 1: Tuesday 29 August 2023 – Friday, 08 December 2023		
1 - 2	New Student Orientation	Tuesday 29 August 2023 – Friday, 08 September 2023
3	Classes Start New and Returning	Monday, 11 September 2023
15	Semester 1 – Assignment Submissions	Monday – Friday, 04-08 December 2023
21	Board of Examiners Meeting	Tuesday, 16 January 2024
21	SAPC Meeting	Thursday, 18 January 2024
34	Semester 1 - Remediation	Monday – Friday, 15-19 April 2024
WINTER BREAK – 3 weeks Monday, 18 December 2023 – Friday, 5 January 2024		
Week #	Semester	Dates
Semester 2: Monday, 08 January 2024 – Saturday, 31 August 2024		
2	OSCE	Thursday 15 February 2024
SPRING BREAK – 2 weeks Wednesday, 27 March 2024 – Sunday, 07 April 2024		
2	Semester 2 – Assignment Submissions	Monday-Friday, 15-19 April 2024
6	Board of Examiners Meeting	Tuesday, 14 May 2024

6	SAPC Meeting	Thursday, 16 May 2024
7 - 21	Clinical Placement UAE / Belfast Monday, 20 May 2024 – Saturday, 31 August 2024	
22	Clinical Placement Portfolio Submission	Wednesday, 04 September 2024
22	Semester 2 – Remediation	Monday-Friday, 02-06 September 2024
22	Dissertation Submission	Friday, 06 September 2024
28	Board of Examiners	Tuesday, 15 October 2024
28	SAPC Meeting	Thursday, 17 October 2024
	Dissertation Remediation	Friday, 13 December 2024
	SAPC Graduation Recommendation	Thursday, 16 January 2025

UAE Public Holidays (2023-24) (Subject to official confirmation)

Occasion	Dates	Occasion	Dates
Islamic New Year	Wednesday – 19 July 2023	New Year’s Day	Monday - 1 January 2024
Prophets Birthday	Thursday - 28 September 2023	Ramadan Begins	Monday – 11 March 2024
Martyr’s Day	Friday – 1 December 2023	End of Ramadan & Eid Al Fitr	Tuesday, 9 April – Friday, 12 April 2024
UAE National Day	Saturday, 2 December – Sunday, 3 December 2023	Arafat & Eid Al Adha	Sunday, 16 June – Wednesday, 19 June 2024
		Islamic New Year	Sunday, 7 July 2024

## Tuition fees

2023-2024	Amount	Schedule
Seat reservation fee (non-refundable) offer	AED 10,000	At time of acceptance of offer
Tuition fees	AED 130,000	July 26, 2023
Total annual tuition fee	140,000	

## Research policies

### Policies and Procedures on Projects, Theses and Dissertations

### Registration

Students will be enrolled for the dissertation at the commencement of the program.

## **Proposal Submission & Approval**

Following commencement of the program, students will be requested to identify their area of nursing interest for the purposes of undertaking a dissertation.

## **Selection of Principal Supervisor**

One Supervisor will be appointed based on their clinical, research or scholarly interest in the identified area of nursing practice.

## **Research and Scholarly Activity Committee**

The Research and Scholarly Activity Committee at the College of Nursing and Midwifery monitors execution of all faculty and student research projects at the college to ensure that researchers have adhered to the stipulated standards and approved protocol. The committee also monitors the performance of graduate students in the College of Nursing and Midwifery through regular review of each student's progress, up to submission of thesis and satisfactory amendments following external reviews. Report the outcome of review of student progress to the Dean.

## **External Examiner**

All Dissertation following internal moderation will be made available for review by the appointed external examiner.

## **Revisions**

Amendments and revisions to the dissertation as outlined through internal and external moderation must be addressed prior to final submission. The final submission with amendment must be verified by the supervisor(s) before lodgment with the MBRU Library.

## **Award of Degree**

Students will be awarded the MSc Nursing following successful completion of all coursework, practice profile and dissertation.

## **Intellectual Property Rights and Copyrights**

MBRU encourages innovative work and supports its faculty researchers to capture the social and financial benefits of their inventions by offering them legal protection of IP and in the meantime ensure equitable returns to the University as well as the inventor(s), in case of commercialization of patents.

Ownership of any IP (i.e., inventions whether or not patentable, copyright materials, etc.) developed from the use of the University's equipment, supplies, facilities or trade secrets resulting from work performed for the University or during a research project at MBRU is

governed by the MBRU policies and procedures and the terms of the research agreement (in case of sponsored projects).

All research data collected at MBRU and IP (patents and copyright material) produced while at MBRU are owned by the University. In other words, the University shall be the sole owner of all IP created through the use of the University resources or facilities supported directly or indirectly by funds administered by the University. The IP may be co-owned by both the University and a third party (in case of collaborations with an industry, government agency, funding agencies, or individuals who have contributed significantly to the creation of the IP), based on a signed agreement between MBRU and the entity; under exceptional circumstances where the entity requests full ownership of the IP, endorsement by the Academic Council will be required prior to signing of the agreement.

For more information, please refer to the Intellectual Property (IP) and Technology Transfer (TT) Policy.

## General Information - Graduate Programs

### Outline of Programs

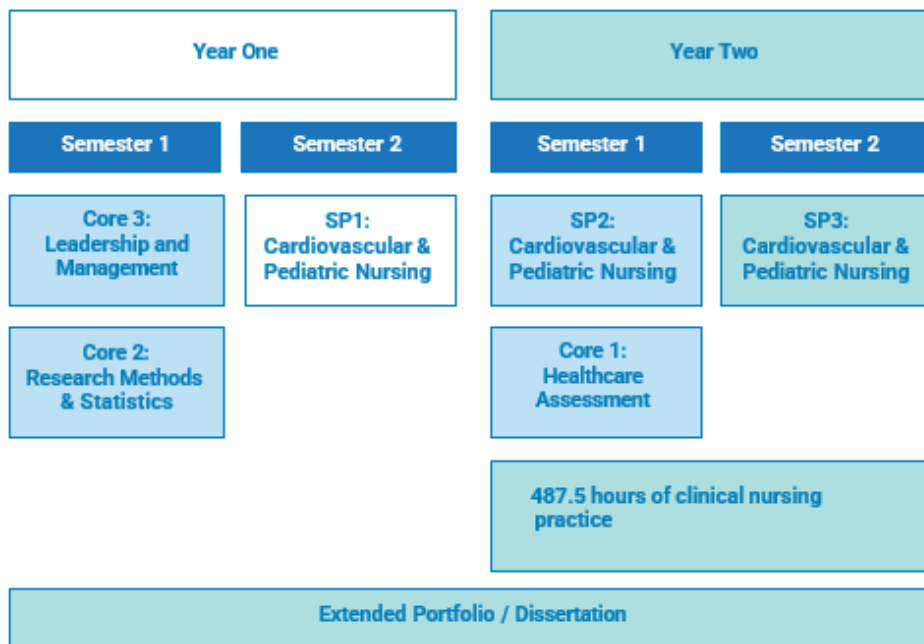
The MSc(s) in Cardiovascular Nursing and Pediatric Nursing programs can be completed in one year full-time or two years part-time. Each MSc nursing program comprises three core courses and three specialist courses.

The delivery of this program is through blended format as per CAA requirements. Instructional sessions are provided through a combination of Face to Face (F2F) and online (including both synchronous and asynchronous teaching) delivery, and at least 50% of instruction is delivered through F2F sessions, physically in the classroom (CAA 2022).

#### Full-Time Outline

MSc Cardiovascular Nursing		MSc Pediatric Nursing		Summer for both Master's Programs	
Semester 1	Semester 2	Semester 1	Semester 2	487.5 hours of Clinical Nursing Practice	Extended Portfolio / Dissertation
Core 1: Health Care Assessment	SP2: Cardiovascular Nursing	Core 1: Health Care Assessment	SP2: Pediatric Nursing		
Core 2: Research Methods & Statistics	SP2: Leadership & Management	Core 2: Research Methods & Statistics	SP2: Leadership & Management		
SP1: Cardiovascular Nursing	SP3: Cardiovascular Nursing	SP1: Pediatric Nursing	SP3: Pediatric Nursing		

## Part-Time Outline



## Programs Curriculum

The MSc in Cardiovascular and Pediatric Nursing programs are purposefully developed to meet the specific development needs of practitioners working at a senior or advanced level. The curriculum provides flexible options for study and is designed to support students to learn while applying their knowledge to practice.

Not only will the programs engage with, and support, practice; they will also enable students to review their own practice and share balanced and critical findings that contribute towards improving the quality and efficiency of clinical nursing practice provision. Courses will be delivered through a range of blended learning strategies with 'in person' and online teaching. Students will also benefit from an exciting and challenging educational experience to which the program teams will contribute through the organization of specialist innovative courses and support of focused clinical practice learning.

## Curriculum Structure

The MSc in Cardiovascular and Pediatric Nursing programs will be offered full-time over 12 months (plus 3 months' dissertation completion), and part-time over 24 months. The programs consist of six courses (three core courses and three specialist specific courses), supported clinical practice with portfolio completion (to be undertaken in either United Arab Emirates or the Belfast Health and Social Care Trust, Northern Ireland), and a dissertation evidencing a critical and detailed review of innovative or emerging areas of their professional work.

## Admissions Policy

MBRU's admissions policy and procedures are detailed in the Student Handbook (Section 4.1.1.4).

The general minimum admissions criteria for August 2023 entry are set out below:

### **Admissions Criteria to College of Nursing and Midwifery for MSc in Nursing Program:**

Potential students to the MSc Nursing Program must meet the academic entry criteria for postgraduate level study and be currently working in the relevant specialism. The admission requirements for the program are that applicants:

1. Hold a Registered Nurse License.
2. Minimum of one year (full time) post-registration experience.
3. Specific experience in the area of specialist practice being undertaken is preferred.
4. Hold a Bachelor of Nursing degree\* or equivalent with a minimum CGPA of 3.00 on a scale of 4.00 or equivalent. Applicants with CGPA between 2.5 – 2.99 or equivalent may be considered for conditional admission\*\*. Applicants with a cGPA of less than 2.5 will not be considered.

Evidence of these qualifications must be presented before an offer of admission is issued.

### **English Language Requirement**

#### Academic IELTS

- An overall band 6 with no skill less than 5.5
- IELTS Indicator' will not be considered for admission purposes.
- Must have been taken within the last two years.
- A single certificate to be submitted, combined scores are not accepted.

#### TOEFL

- IBT 80 with Writing score of 20
- PBT is not accepted.
- Must have been taken within the last two years.
- 'My Best Scores' will not be considered for admission purposes.

Note: All MSc Nursing applicants will need to go through an interview with a selection panel.

\* Applicants with university degree obtained outside the UAE, are required to submit an Educational Credential Evaluators (ECE) – General with Grade Average evaluation for US institutions when applying. This is to evaluate the transcripts and have a standard CGPA (<http://www.ece.org>)

\*\*If accepted, student must take a maximum of nine credit hours of courses during the period of conditional admission and must achieve a minimum cGPA of 3.0 on a 4.0 scale in these nine credits of courses studied or be subject to dismissal.



## **Withdrawal and Re-Enrolment Policies**

A student may withdraw for medical, military, personal/academic or other reasons. Withdrawal applies to a course, a number of courses or the whole academic year. A student who misses two consecutive weeks of required class work of a particular course without a valid excuse may be withdrawn from the registered courses he/she missed. Detailed information is provided in the Withdrawal Section in Student Handbook (4.3.5).

Students who were given a leave of absence from the university, or break from continuous enrolment in regular academic terms, may apply for reenrollment, contingent upon the following:

1. The student applies for re-enrollment within two years from the beginning of the first academic term of the break in registration.
2. The student is not dismissed from the University.
3. Students on suspension are eligible to apply for re-enrollment upon the completion of the period of suspension.
4. Students must comply with the academic, administrative, and financial policies of the University when submitting a request for re-enrollment. The request should be submitted two months in advance of the new semester.
5. Students eligible for re-enrollment into MBRU are required to complete and submit the change of status form along with any supporting documentation to SAR.
6. The final decision on re-enrollment remains with the Dean of the concerned college. SAR is responsible for facilitating the re-enrollment request from students, seeking the required approvals and communicating the final decision back to the students.

## **Probation**

If a student has been placed on probation (for academic or non-academic reasons), the academic advisor will initiate a report to the Dean of CoNM and document measures to monitor behavior.

## **Dismissal**

A permanent discontinuation of registration as a bonafide student is usually a disciplinary measure taken against a student found guilty of a serious offence following investigation. Dismissed students do not normally have the option of reenrollment.

## **Transfer Admissions and Recognition of Prior Learning Policy**

Transfer applications are considered on an individual basis and are screened like all other applicants as per graduate admission processes and deadlines. All applicants seeking transfer admission must meet the relevant admission criteria before consideration of credits by the relevant committee. If approved, consideration may be given for transfer credit as per the Recognition of Prior Learning Policy.

For a transfer admission request to be considered, where applicable:

- The student must be in good academic standing at his/her home institution and should not hold a GPA of less than 3.00 on a scale of 4.00 (or equivalent) in the last completed year.
- UAE institutions recorded in the National Register of Licensed HEIs, or other organizations in the UAE approved by the CAA, or recognized institutions of higher learning located outside the UAE, are eligible for transfer admission.
- The institution from where the transfer is being made must be a federal or licensed institution, recognized by the Ministry of Education, United Arab Emirates (UAE), or a foreign institution of higher education recognized by the Ministry of Education, UAE.

Transfer credits may be granted for courses if:

- The courses are relevant to the program and have comparable learning outcomes to courses offered at MBRU.
- For courses to be considered for transfer credit, they must have been completed in the previous 5 years.
- The student must have attained a minimum grade of B (or equivalent) for a graduate degree for courses to be considered for transfer credit.
- No transfer credit will be granted for graduation projects and thesis courses.
- The student may not receive credit twice for the same course taken at different institutions.
- MBRU does not recognize experiential or non-classroom based prior learning.
- Prior learning credits for clinical training are recognized only if the relevant training took place in the UAE, when applicable as per the Recognition of Prior Learning Policy. In exceptional circumstances a waiver may be granted by the Ministry of Education.
- All supporting documents will be presented to the relevant College Curriculum Committee for evaluation as per the Recognition of Prior Learning Policy. For approved transfer credit courses, the grade that appears on MBRU transcript is Transfer Credit (TC) and does not count towards the final GPA calculation.

Transferred courses should not exceed 25% of the total number of credits required to complete a degree for graduate programs.

Students can transfer only at the beginning of an academic year. Transfer students will be notified of the outcome of their admissions transfer evaluation, and how this will be applied to their application for the selected program at MBRU, in line with the general admissions process and deadlines.

The relevant committee's decision is final in the absence of new information or procedural errors.

## Student Assessment and Progression

The aim of student assessment is to satisfy student achievement and progression requirements, promote subsequent learning through feedback, improve the quality of the curriculum (courses and programs), and evaluate the effectiveness of the teaching process.

### Summary of Student Assessment and Progression Regulations

The assessment strategy for the MSc nursing program provides an approach that will deliver the optimum learning experience for students. It will promote independent learning and academic achievement. In implementing the assessment plan, the College aims to ensure that students are exposed to modern, effective assessment methods and that they get the best possible academic experience and results that reflect the individual effort and ability.

The assessment will continually change and emerge and will be informed by national and international best practices. It will include examinations, structured assignment, portfolio and OSCEs. Putting in place a clear assessment plan for the MSc programs, the University is purposefully noting that the role of assessment is not a singular activity to be undertaken on completion of a component course of study but rather a complex, joint activity between learner and teachers that supports student achievements and enhances their capacity to learn and the way that they learn. It also demonstrates institutional accountability by MBRU to each student in nurturing and facilitating progress and highlighting, where necessary, student learning challenges.

The dissertation or academic supervisor will help the student in the completion of the research work which will be based on course-learned theory and clinical placement practice. The supervisor should help the student in identifying a topic for his/her research, and closely supervise and advise the student on the research work.

The dissertation must be based on an original and creative body of research that makes a significant contribution to the applicable field. Upon completion of their research, students will prepare a written dissertation that will be internally and externally moderated.

### Authenticating Student Work

- The authenticity of student work at MBRU is ensured using technological platforms such as Turnitin, which is available within the Learning Management System. Program manuals outline expectations with regards to academic integrity, professionalism, and ethical conduct. Students will be oriented on the student disciplinary policy and will sign a contract.
- The award of the degree of MSc in Nursing is granted if the student successfully completes all phases of the program.
- As a general rule, the maximum duration within which to successfully complete the program is five years.

### Guidelines

The following guiding principles in designing assessments instruments are followed by course coordinators and clinical instructors at MBRU:

- Ensuring linkage of assessment to course learning outcomes (Knowledge, Skills, Competencies).
- Employing diverse assessment methods.
- Basing their marking and grading on pre-defined outcome criteria.
- Communicating assessment criteria to students.
- Providing timely, meaningful, and helpful feedback to students.
- Ensuring exams are proportionate to the course workload.
- Ensuring contextual use of assessment instruments.
- Ascertaining assessment tools are appropriate for the competencies being measured.
- Ascertaining standard setting is criteria-based (criterion-referenced standard).

### Weights of Assessments

The weight of assessment would depend on the nature of the course and will be in alignment with the aims and objectives of the program as approved by the Assessment and Progression Committee.

### Grading System

MBRU uses a letter-based grading system to report course grades. Assessments are typically recorded on a percentage scale (0-100) and converted into a letter grade as outlined below.

Performance	Grade	Score	Quality Points
Excellent	A	90-100	4.00
Excellent	A -	87-89	3.70
Very Good	B +	84-86	3.30
Very Good	B	80-83	3.00
Good	B -	77-79	2.70
Satisfactory	C +	74-76	2.30
Satisfactory (Pass)	C	70 -73	2.00
Unsatisfactory (Remediation)	C -	67-69	1.70
Unsatisfactory (Remediation)	D +	64-66	1.30
Unsatisfactory (Remediation)	D	60-63	1.00

Fail	F	0-59	0.00
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Note: Students who get a grade of C-, D+, D will be allowed to submit their assignment for a maximum of three attempts (initial submission plus 2 additional submission). Students who get an F or < 60 can also remediate.

Grade	Description
A, A-	Exceptional performance: all course objectives achieved; objectives met in a consistently outstanding manner
B+, B	Very good performance: significantly more than the majority of the course objectives achieved (majority being at least two thirds) objectives met in a consistently thorough manner
B-	Good Performance: at least the majority of course objectives achieved; objectives met satisfactorily
C, C+	Satisfactory performance: at least the majority of course objectives achieved; objectives met satisfactorily
C-, D+, D	Below acceptable performance: less than the minimum required some course objectives but met at a less than acceptable level. Would value remediation opportunity
F	Unacceptable performance: minimum required course objectives not met; objectives not met at a minimally acceptable level; no credit earned. Would value remediation opportunity

## Appealing an Assessment Process

A student may make a written appeal regarding the process of the assessment in any course. The appeal should be addressed to the Dean within 5 working days of the release of the examination results. The appeal should identify specific and objective grounds for the grievance as they pertain to the process of assessment. The Dean will direct the Student Assessment and Progression Committee to review the circumstances in consultation with the course coordinator and other relevant faculty before making a decision, typically within five working days (Further details are available in Student Handbook section 5)

## Responsibilities of the CoNM Student Assessment and Progression Committee (SAPC)

The SAPC is responsible for scrutinizing and monitoring of examination quality by:

1. Ensuring University and College regulations are adhered to.
2. Reviewing reports from course coordinators.
3. Reviewing external examiners' reports (if applicable) in matters related to the examination.
4. Verifying with course coordinators that examination papers are vetted.
5. Reviewing a sample of examination question papers.
6. Confirming that appropriate standard-setting procedures are adopted.
7. Reviewing examination 'item' performance.
8. Reviewing the distribution of grades.

9. Recommending improvements and ratifying changes to the examination process.
10. Approval of timetables and invigilation guidelines of final examinations.
11. Receipt and consideration of final examinations results.
12. Recommendation, in consultation with course coordinators, of supplementary examinations and/or re-sits.
13. Handling misconduct in examinations.
14. Liaising with appropriate bodies in cases of student appeals that relate to examinations.
15. Recommending amendments to the College examinations policy.
16. Any other duties that may, from time to time, be assigned to the Committee.

## **Assessment Guidelines Design**

Assessments should be both formative and summative. The methods of assessment used will be dictated by the purpose of the assessment.

Summative assessment is any form of assessment that will contribute to the final grade of a student. Guidelines for conducting summative assessments are as follows:

- a. Each course coordinator shall draw out a blueprint of course objectives and the assessment instruments to be used to test these objectives. Multiple methods are usually required to achieve blueprint objectives. The different assessment instruments allow a balance of strengths and weaknesses of each method.
- b. As much as possible, questions should assess higher order thinking and not just a simple recall of information.
- c. For skills and performance-based assessments, properly constructed checklists and/or rating scales should be used. Tasks should be clinically as authentic as possible.

## **Review of Examinations**

For all exams (in-course and final), exam questions/stations/cases should be reviewed and amended by the course coordinator in consultation with the Student Assessment and Progression Committee.

## **Standard Setting**

For each course, a defensible standard-setting method should be used by appointed faculty. Arbitrary methods should not be used. The standard-setting procedure should be declared to the College Examinations Committee.

## **Marking of Assessments**

Multiple choice questions (MCQs) shall be marked electronically and subjected to item analysis. For short notes and essays, model answers should be provided and used as the basis for marking and feedback to students. Several examiners should be available, but one examiner should mark the same question for all students for consistency. Double marking

is encouraged. For Objective Structured Clinical Examination (OSCE) stations and short cases, properly designed checklists and rating scales should be used. Several examiners should be available. Each OSCE station should be assigned to one examiner.

## **Grades and Grading**

Letter grades shall be used to describe the achievement level attained within a particular course. A final semester grade shall be based on continuous assessment throughout the semester as well as a final examination. A final examination is customary but may not be considered necessary in certain types of courses.

## **Item Analysis and Test Statistics**

Student performance on exam questions should be analyzed using appropriate item analysis software by the course coordinators. Results of these analyses should be discussed by the relevant committees to assist in making informed decisions about the assessment process. For all examinations used by instructors, reliability indices should be determined, and the data used to improve on the assessment process in the College.

## **Feedback to Students on Assessments**

Feedback will be provided to students after the release of grades.

## **Remediation**

Students may be permitted to remediate on obtaining unsatisfactory rating (score of 0-69 or grade of, C-, D+, D and F), subject to program regulations. If there is a case of a student who has obtained unsatisfactory rating in a course, CoNM should provide an opportunity for students to remediate which contributes to the requirements for passing the course, at or before the end of the academic year. When a course assessment is retaken through remediation the maximum grade awarded after remediation is 'B'. The actual grade obtained will be recorded in the transcript. Students will not be permitted to re-sit, or take as a first sit, courses which they have passed with a grade of B and above.

## **Absenteeism from Assessments**

Please refer to the attendance policy in the Student Handbook (Section 4.6)

## **Misconduct in Assessments**

Please refer to the section in the Student Handbook (Section 5).

## **Electronic Exams Applicable for both on-site and remote exams.**

- a. Transmission of examination questions should be carried out by the safest possible means during internal review including but not restricted to password protection.



Security of passwords by those given access to uploading questions, setting exams, and analyzing results must be ensured.

- b. Other procedures during examinations for safe conduct include:
  - Conduct the exam in a monitored room.
  - Enforce lockdown of software
  - Optimum seating distance with additional provision of side screens, if required
  - Randomization of questions and choices
- c. Storage of past examination questions: Electronic examination questions will be archived with due care for security. After item analysis, appropriate questions can be contributed to a question bank for use later.

## General Conduct of Students

- a. Students must not indulge in any behavior or conduct that may disturb other candidates or disrupt the smooth progress of an examination.
- b. Students are not permitted to smoke in any part of the examination room.
- c. Students must obey the instructions of any invigilator and their attention is drawn to the regulations governing admission to and departure from the examination room.
- d. Students are not allowed to take into the examination room any unauthorized books, manuscripts, notes, bags, cases, or any means whereby they may improperly obtain assistance in their work. All such materials, including handbags, must be placed on a table outside the examination room.
- e. Students are not allowed to take into the examination room electronic transmission devices such as mobile phones, pagers, PDAs, or any digital storage media such as flash drives or CDs.
- f. Students are not allowed to take into the examination hall paper of any sort. A plain sheet of paper (or similar material) shall be provided in the examination hall should any student require it.
- g. Students must be at the venue of the examination at least 10 minutes before exam commencement.
- h. Students can be allowed to enter the exam room up to 30 minutes after the start of an exam. If a student arrives after 30 minutes, they will not be allowed entrance and will be advised to email the course coordinator and the Student Admission and Registration (SAR) to inform them of the reason for being late.
- i. Before the commencement of the examination, the student must place on the top right-hand corner of the desk their ID card for inspection by one of the invigilators.
- j. Students must not use any means whatsoever to communicate or obtain, directly or indirectly, assistance in their work, or give or attempt to give, directly or indirectly, assistance to any other candidate.
- k. Any suspected breach of the foregoing regulations will be investigated by the College.



## MSc. in Cardiovascular Nursing

# Program learning outcomes and completion requirements

## Program Goals

The program goals of the MSc in Cardiovascular Nursing are to offer a high-quality supportive teaching and learning environment that provide graduates with:

1. Intellectual and practical skills necessary to promote and sustain innovative and emerging practice and leadership.
2. Intellectual and transferable skills necessary to function in positions of leadership and advanced practice.
3. Skills enabling graduates to critically review and introduce current evidence to practice or other investigative strategies relevant to practice and leadership roles.
4. Extensive research through execution of a Dissertation in Advanced Professional and Clinical Practice.

## Program Learning Outcomes (PLOs)

### A. Knowledge

On successful completion of this program the graduate will be able to:

- K1- demonstrate critical awareness and understanding of pathophysiology to support advanced clinical decision-making appropriate to advanced and specialist nursing practice for patients with cardiovascular disease and associated conditions.
- K2-critically evaluate and apply relevant research, national and international standards and guidelines to local care provision for patients with cardiovascular conditions.
- K3-critically appraise and synthesize sources of information when undertaking a systematic and comprehensive assessment of patients with cardiovascular disease, to support assessment and diagnostic investigations.

### B. Skills

On successful completion of this program the graduate will be able to:

- S1- interpret and critically evaluate the patients' response to pharmacological, non-pharmacological and self-management interventions relevant to the management of patients with specific cardiovascular conditions.
- S2-critically evaluate underlying cardiovascular risk factors and integrate these within the context of primary and secondary preventative health care systems.

### C. Competence

On successful completion of this program the graduate will be able to:

Autonomy and Responsibility

- Ca1- demonstrate leadership capacity and personal expertise to work independently and as part of a team in a range of cardiovascular-related clinical contexts.
- Ca2- Learn from experiences gained in different contexts and assimilate new knowledge and skills into the cardiovascular nursing environment.

(b) Self Development

- Cb1- explore the prevention, diagnosis, acute and long-term management of common cardiovascular disease and conditions.
- Cb2- develop and apply underpinning knowledge, skills and attitudes at an advanced and specialist nursing practice level to the management of patients with cardiovascular disease.

(c) Role in Context

- Cc-1-critically review the social, psychological and palliative care issues which can impact upon patients with cardiovascular disease and also review the implications for the patient and their families.
- Cc2- demonstrate a range of complex nursing skills, techniques and practices that lead and direct the care of patients with cardiovascular disease.

Mapping of PLOs to QFEmirates

Contribution of the Course to the overall program outcomes: Fully (F): Partly (P)

Level 9 QFEmirates Outcomes											
PLOs		QF1 Advanced problem-solving skills	QF2 The integration of and formulation of judgments	QF3 Taking account of social and ethical issues and responsibilities and reflecting experience of managing change in a highly complex, unpredictable, and unfamiliar context that requires new strategic approaches and/or intervention or conceptual abstract solutions	QF4 Planning skills to develop and execute a major project/activity outcome with appropriately selected research methodologies to produce sound conclusions	QF5 Presenting, explaining and/or critiquing highly complex matters	QF6 Managing professional activities in such context	QF7 Self-evaluating and taking responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts	QF8 Developing and implementing further learning consistently and sensitively	QF9 Consistently and sensitively managing highly complex ethical issues leading to informed, fair, and valid decisions	
	K1	F	F	F	F	F					F
	K2	F	F	F	F	F	F		F	F	F
	K3	F	F	F	F	F	F		F	F	F

	S1	F	F	F	F	F	F	F	F	F
	S2	F	F	F	F	F	F	F	F	F
	Ca1	F	F	F	F	F	F	F	F	F
	Ca2	F	F	F	F	F	F	F	F	F
	Cb1	F	F	F	F	F	F	F	F	F
	Cb2	F	F	F	F	F	F	F	F	F
	Cc1	F	F	F	F	F	F	F	F	F
	Cc2	F	F	F	F	F	F	F	F	F
K-Knowledge		S-Skills				C-Competencies				

## Program Completion Requirements

Graduation with an MSc Cardiovascular Nursing degree requires the student to successfully complete all core and specialist practice courses, a practice portfolio, and a dissertation.

For the award of a Master of Science in Cardiovascular Nursing:

- Meet attendance requirement for all courses.
- Students must successfully complete at least 30 credits points of taught courses on the program.
- Submit a Dissertation (15,000 words).
- Complete 487.5 hours of clinical practice met all proficiencies and competencies.
- Submit two reflective accounts of clinical practice (3000 words each).

## Course information

Following is information on the Cardiovascular Nursing program:

MSc Cardiovascular Nursing																	
Course Title	Course Code	Credits	Availability	Duration	Prerequisite	Course Type	Total Contact Hours	Course Delivery Format (Blended)					Clinical Practice	Assessments			
								Face to Face (Contact Hr.)		Synchronous Online on MS Teams (Contact Hr)		Asynchronous Online on LMS Self-Directed		1-4	Assignments%	Practice Based	Examination
								Lecture (1:1)	Tutorial (1:2)	Lecture (1:1)	Tutorial (1:2)						
Advanced Clinical and Physiological Assessment Skills	NURS7301	3	S2	16 Weeks	Prerequisite for Clinical Practicum(NURS7610)	Core	48	20	20	8	0	30	80%	20% OSCE			
Applied Research methods and Statistics in Healthcare	NURS7302	3	S1	16 Weeks	Co-requisite for Dissertation (NURS7601)	Core	48	19	10	13	6	24	70%		30%		
Successful Leading for Health and Social Care Professionals	NURS7303	3	S1	16 Weeks	None	Core	48	19	10	13	6	24	100%				
Acute Care of the Cardiovascular Patients	NURS7307	3	S1	16 Weeks	None	Specialist	48	21	11	11	5	24	30%		70%		
Specialist Cardiovascular Nursing of Patients with Heart Failure, Arrhythmia and Inherited Diseases	NURS7308	3	S2	16 Weeks	None	Specialist	48	20	10	12	6	24	70%	30%(Seminar)			
Optimizing Cardiovascular Health and Preventing Disease	NURS7309	3	S2	16 Weeks	None	Specialist	48	20	11	13	3	24	100%				
Dissertation	NURS7601	6	S1,S2	One Calendar	None	Core	40	40		0		0	100%				
Clinical Practicum & Portfolio	NURS7610	6	S2	487.5Hours	None	Core	487.5			0		0	390	100% 3000-word reflection (2)	Pass/Fail Practice Portfolio		

Note: The MSc Cardiovascular Nursing Program is a blended program, which includes 65% F2F and 35% Online (Synchronous and Asynchronous)

### Core Course 1 – NURS7301 Advanced Clinical and Physiological Health Assessment Skills

The purpose of this course is to develop and enhance the students’ knowledge base and practice of health assessment. In doing so the course will facilitate the development of

problem-solving skills in order to ensure that appropriate client interventions and management can occur. Students are encouraged to use the course content as a base upon which to build further skills within their own specialist areas (pediatrics and cardiovascular nursing). The course involves the process of accurate history-taking and consideration of the effects of environment and verbal/non-verbal behavior when undertaking a physiological health assessment. The student will be encouraged to recognize the client as an individual taking into account their environmental, familial cultural and societal situation. In conducting a physical examination, the student will be encouraged to use physical examination skills, including inspection, palpation, percussion and auscultation. They will be expected to conduct examinations of different physiological systems (for example, the cardiovascular and respiratory systems), and use appropriate assessment equipment. In addition, students will be expected to demonstrate potential differential diagnoses and knowledge of when to refer for further tests and investigations, or when to consult with other appropriate members of the multidisciplinary team.

### **Core Course 2 – NURS7302 Research Methods and Statistics Applied to Clinical Practice**

This course provides the background for an understanding of research methodology and the implementation of research into nursing practice. Students will be introduced to the fundamental principles and methods of research, data collection, interpretation and presentation. Students will be able to recognize the role of quantitative methods in understanding clinical nursing questions, especially in the context of responsible decision-making for the specialist nurse practitioner.

### **Core Course 3 – NURS7303 Successful Leading for Health and Social Care Professionals**

This course provides the background for understanding leadership as an integral component of specialist nursing practice. An essential part of leadership and management is engaging with, working with and coordinating care and treatment activities with the patient and other members of the team. The specialist nurse has a key role in helping to direct the efforts of team members toward the goals and objectives of person-centered care and the needs of the service and organization. This involves the process of applying different leadership approaches, skills and behaviors to multiple and variable contexts. Effective nurse leaders and managers must be able to understand the nature of leadership and critically consider the factors which may determine the quality of strong and effective leadership in clinical practice.

### **Clinical Practicum & Portfolio – NURS7610**

Students are expected to attend and treat patients in health care setting in Dubai and the Belfast Trust. Practice placement is an integral element of the MBRU MSc course. This opportunity allows students to experience and be involved in the delivery of an evidence-based, holistic nursing care for patients in Belfast. As part of the program, students be placed in a specialist health care facility in the UAE for two weeks (75 hrs.), before spending 412.5 hours spread over two clinical placements in the Belfast Health and Social Care Trust. While on placement students will have the opportunity to provide hands-on nursing care to patients in the clinical setting.

### **Dissertation – NURS7601**

The dissertation is the final stage of the MSc degree and provides the student with the opportunity to show that they have gained the necessary skills and knowledge in order to organize and conduct a substantive investigative project.

### **Specialist Course 1 – NURS7307 Acute Care of the Patient with Cardiovascular Illness including Surgery and Interventional Procedures**

This course will introduce the students to the principles and concepts of specialist cardiac nursing. Its main focus is acute care of the patient with cardiovascular illness who requires interventional procedures and/or surgery. Students will be introduced to the normal structure and function of the heart, the pathophysiology of atherosclerosis and acute coronary syndrome. Key clinical investigations including ECG and ABG interpretation will be covered in-depth, and students will gain a comprehensive understanding of various cardiac interventions and the associated nursing care. Principles of cardiac surgery and care of the patient requiring surgery will be addressed. The course will incorporate recognition of the deteriorating cardiac patient and management of a cardiac arrest. Lectures and tutorials will address theoretical content utilizing case studies to assist with the application of theory to practice. Practical application of assessment, emergency and non-technical skills will be conducted through a practical face-to-face workshop incorporating simulation. Designed for registered practitioners in cardiac healthcare, this course will help develop nurses' knowledge, expertise and understanding in this specialist area.

### **Specialist Course 2 – NURS7308 Specialist Cardiovascular Nursing of Patients with Heart Failure, Arrhythmia and Inherited Disease**

This course aims to provide an understanding and critical appraisal of the care of patients with long term cardiovascular conditions. Students will be introduced to the evidence-based management of a range of conditions with particular reference to establishing the link between genetics and cardiovascular disease, exploring the management and optimization of the health of patients presenting with myocardial dysfunction including the use of pharmacotherapeutics. The course will furthermore critically appraise the Specialist Nurses' role in the management of the target client group.

### **Specialist Course 3 – NURS7309 Cardiovascular Disease Prevention and Rehabilitation**

Advanced, high-technological cardiac services are available to meet the needs of the public in maximizing their health potential and do not work in isolation. Social, economic and environmental factors are recognized as contributing causes of ill health. Nurses need to help in the empowerment of patients, encouraging partnership in accessing appropriate care packages, bridging the gap to ensure the patient is cared for holistically within a cohesive multi-disciplinary service. From primary preventative care to tertiary care, the nurse in cardiology plays a vital role in contributing to a seamless service throughout the patient's journey. The aim of this course is to advance the student's knowledge and skills in cardiovascular disease prevention and rehabilitation. The specialist nurse practitioner requires to empower the patient and their family in every phase of their care, at the hospital and community level. This course builds upon the other specific specialist practice courses and emphasizes the importance of communication skills, health promotion and rehabilitation strategies when caring for the cardiac patient.

## Sequencing of courses

### Full Time Program (Part Time Pro Rata: 2 Years)

#### Semester 1: AY 2023-2024

Course	Code	Credits	Course Coordinator	Duration	Mode of Delivery
Research Methods and Statistics	NURS7302	3	Loreena Hill	16 weeks	Blended
Successful Leading for Health and Social care Professionals	NURS7303	3	Barry Quinn	16 weeks	Blended
Acute Care of the Patient with Cardiovascular Illness including Surgery and Interventional Procedures	NURS7307	3	Billiejoan Rice	16 weeks	Blended
Dissertation (Phase 1)*	NURS7601	3	Kevin Gormley	16 weeks	Blended

#### Semester 2: AY 2023-2024

Course	Code	Credits	Course Coordinator	Duration	Mode of Delivery
Advanced Clinical and Physiological Health Assessment Skills	NURS7301	3	Iseult Wilson	16 weeks	Blended
Nursing of Patients with Heart Failure, Arrhythmia and Inherited Disease	NURS7308	3	Niall McKenna	16 weeks	Blended
Cardiovascular Disease Prevention and Rehabilitation	NURS7309	3	Paul Tierney	16 weeks	Blended
Dissertation (Phase 2)*	NURS7601	3	Kevin Gormley	Jan - Aug	Blended
Clinical Practicum and Portfolio**	NURS7610	6	Jolly Isaac/Kevin Gormley	487.5 hrs.	Clinical

\*Dissertation Phase 1: Preparatory work (e.g., title, search strategy, research methodology, literature review, ethics and planning of dissertation).

Phase 2: Reporting and writing up of dissertation.

\*\* Summer



## Admission, withdrawal and enrolment policies

Please refer to section on [Admission Policy](#) in this catalog.

## Student Assessment and Progression

Please refer to section on [Assessment and Progression](#) in this catalog.

## Faculty listing

MBRU College of Nursing and Midwifery is committed to recruiting qualified, experienced, and dedicated faculty to set a foundation and culture of excellence. Full- time faculty members will, as core teachers, have a major role in the design and delivery of teaching. In addition, MBRU College of Nursing and Midwifery will seek and recruit adjunct and part-time faculty members to contribute to teaching and assessment, as appropriate.

Criteria for appointment of faculty are described in the University’s Policy and Procedures on Recruitment and Appointment of Faculty and are based on the standards set by UAE Commission for Academic Accreditation. The table below lists full-time QUB faculty members who will teach part-time on the MSc Clinical Nursing, as well as full- time MBRU faculty members with academic appointments in the College of Nursing and Midwifery who will support the programs, at the time of this writing. New faculty members are expected to join as the College continues its recruitment campaign.

Name	Position	Degree and Conferring Institution	Years of Experience	Research Interest	Research Supervisor/Co-Supervisor
Kevin Gormley	Dean of CoNM/ Professor	PhD (2003) Ulster University, Northern Ireland  MSc Social Policy & Healthcare Administration (1993) Ulster University, Northern Ireland  BA Majoring in Healthcare Policy (1990)	40	Nursing Policy, Leadership, Nursing education	Research Supervisor
Jolly Isaac	Lecturer/ Education Lead	EdD (2015) Walden University, USA  MSc Nursing (Medical Surgical Nursing) 2000-	25	Nursing, Education, Simulation, Leadership and Management	Research Supervisor Co-




		<p>SNDT Women's University, India</p> <p>BSc Nursing 1996 - Pune University, India</p>			
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Adjunct Faculty						
Name	Position	Degree and Institution	Conferring	Years of Experience	Research Interest	Research Supervisor/Co-Supervisor
Iseult Wilson	Adjunct Associate Professor	<p>PhD (2011) - Ulster University, Ireland</p> <p>MSc in Advanced Practice Physiotherapy (2002)-Ulster University, Northern Ireland</p> <p>Diploma in Physiotherapy (1983) Trinity College Dublin</p>	Ulster Northern	36	Musculoskeletal conditions, Qualitative Research	Research Supervisor
Loreena Hill	Adjunct Associate Professor	<p>PhD (2015), Ulster University, Ireland</p> <p>MSc In Nursing (2006), Queens University Belfast, Northern Ireland</p> <p>BSc (Hons) Degree in Nursing (1991) Ulster University, Northern Ireland</p>	Ulster Northern	30	Cardiology/Hear t Failure	Research Supervisor
Barry Quinn	Adjunct Associate Professor	<p>PhD (2011) Kings College, London</p> <p>MSc In Health Studies (2000), University of</p>		23	Cancer, palliative care, leadership and management	Research Supervisor

		Manchester, UK			
Paul Tierney	Adjunct Assistant Professor	MSc Advanced Practice Professional (2013) Queens University Belfast, Northern Ireland  BSc Specialist Nursing Practice: Cardiology Nursing (2005) Queens University Belfast, Northern Ireland	31	Nursing/Cardiac Nursing	Research Supervisor
Niall McKenna	Adjunct Assistant Professor	MSc Nursing (2012) Queens University Belfast, Northern Ireland  BSc in Specialist Nursing Practice (2003) Queens University Belfast, Northern Ireland	20	Nursing/Cardiac Nursing	Research Supervisor
Billiejoan Rice	Adjunct Associate Professor	EdD (2018) Queens University Belfast, Northern Ireland  MSc Nursing (2006) Queens University Belfast, Northern Ireland  BSc (Hons) Nursing (1993) Ulster University, Northern Ireland	18	Nursing/Cardiac Nursing	Research Supervisor
Annelie Florence Shaw	Adjunct Lecturer	MSc in Gastroenterology (2018) Queen Mary University, London  BSc (Hons) Dietetics (2011) Ulster University	8	Nutrition and Dietetics	Research Supervisor Co-

<p>Dr Sumaya Al Blooshi</p>	<p>Adjunct Associate Professor  Associate Dean Academic Partnerships (Honorary Title)</p>	<p>PhD in Nursing (2015) Jordon University, Jordon  MSc In Critical Care Nursing (2010) Jordon University, Jordon  MA in Quality Management (2004) Wollongong University, UAE  Bachelor's in nursing, University of Sharjah, UAE</p>	<p>14</p>	<p>Leadership, Nursing strategy, Nursing Research</p>	
<p>Mr. Wesley Sterling</p>	<p>Adjunct Lecturer</p>	<p>Master's Biomedical Science (1995) Queens University Northern Ireland</p>	<p>43</p>	<p>Biomedical Science and Clinical Skill</p>	
<p>Katie Hanafin</p>	<p>Adjunct Assistant Professor</p>	<p>MSc Nursing (2018) University of Southampton, UK,  MSc Prescribing (2014) University of Teesside, UK  Child Nursing (2004) St Bartholomew School of Nursing, UK</p>	<p>16</p>	<p>Children's Nursing</p>	<p>Research Supervisor Co-</p>
<p>Meghana Sudhir</p>	<p>Lecturer</p>	<p>MBA (2013), Sikkim Manipal University, India  MSc Nursing (2007), Rajiv Gandhi University for Medicine and Health Sciences, India  BSc Nursing (1999), Mahatma Gandhi University, India</p>	<p>21</p>	<p>Simulation based education, Human Patient simulation (simulated patients), Professionalism, Human Factors.</p>	<p>Research Supervisor Co-</p>

Sharon Mascarenhas	Lecturer	MSc Nursing (2007), SNDT Women's University, India  BSc Nursing (2002), K.L.E Institute of Nursing Sciences, India	18	Communication, Debriefing, Community engagement using simulation	Research Supervisor  Co-
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MSc. In Pediatric Nursing

## Program learning outcomes and completion requirements

### Program Goals

The program goals of the MSc in Pediatric Nursing is to offer a high-quality supportive teaching and learning environment that provide graduates with:

Intellectual and practical skills necessary to promote and sustain innovative and emerging practice and leadership.

Intellectual and transferable skills necessary to function in positions of leadership and advanced practice.

Skills enabling graduates to critically review and introduce current evidence to practice or other investigative strategies relevant to practice and leadership roles.

Extensive research through execution of a Dissertation in Advanced Professional and Clinical Practice.

### Program Learning Outcomes (PLOs)

#### A. Knowledge

On successful completion of this program the graduate will be able to:

- K1- assess the health and development of children in different age groups.
- K2- identify factors which contribute to or inhibit health in childhood, including the effects on the family and the wider environment.
- K3- recognize the signs of acute and chronic illness in childhood and the significance of these towards developing child health and potentially in later life.
- K4- assess, plan, implement and evaluate care formulated from decisions based on nursing principles and up-to-date evidence/research.

#### B. Skills

On successful completion of this program the graduate will be able to:

- S1- demonstrate safe and effective practice in the administration and disposal of drugs used in the care of the sick child and manage multiple therapies in the context of continuously evolving patient and family needs.
- S2- competently attain physiological, psychosocial, cultural, developmental, and spiritual data based on the patient's condition using all available and appropriate resources.
- S3- communicate with the child and family in ways that are appropriate, and take specific account of their age, ability, language, culture and the context of the situation, including the degree of anxiety and stress.
- S4- demonstrate empathy with the child's and family's situation and promote coping and adaptation whenever possible.

## C. Competence

On successful completion of this program the graduate will be able to:

### Autonomy and Responsibility

- Ca1- demonstrate leadership capacity and personal expertise to work independently and as part of a team in a range of pediatric related clinical contexts.
- Ca2- promote the participation of the child in decisions that affect them, according to their age and ability.

### Self-Development

- Cb1- support the child's family to share in decision-making about the child's care and to take responsibility for their health.
- Cb2- analyze and implement management and leadership theories and demonstrate their application to specialist nursing practice.

### Role in Context

- Cc1- critically review professional and legal issues for children's nursing and apply these to clinical practice.

## Mapping of PLOs to QFEmirates

Contribution of the Course to the overall program outcomes: Fully (F): Partly (P)

Level 9 QF Emirates Outcomes												
PLOs	QF1 Advanced problem-solving skills			QF2 The integration of and formulation of judgments			QF3 Taking account of social and ethical issues and responsibilities and reflecting experience of managing change in a highly complex, unpredictable, and unfamiliar context that requires new strategic approaches and/or intervention or conceptual abstract solutions			QF4 Planning skills to develop and execute a major project/activity outcome with appropriately selected research methodologies to produce sound conclusions		
	QF5 Presenting, explaining and/or critiquing highly complex matters			QF6 Managing Professional Activities In Such Context			QF7 Self-evaluating and taking responsibility for contributing to professional knowledge and practice including unfamiliar learning contexts			QF8 Developing and implementing further learning consistently and sensitively		
QF9 Consistently and sensitively managing highly complex ethical issues leading to informed, fair, and valid decisions												
K1	F	F	F	F	F	F						
K2	F	F	F	F	F		P	F		F	F	
K3	F	F	F	F	F		F	F		P	F	
K4	F	F	F	F	F			F		P		
S1	F	F	F	F	F		F		F	F	F	
S2	F	F	F	F	F		F	F			F	
S3	F	F	F	F	F		F	F			F	
S4	F	F	F	F	F		F	F			F	
Ca1	F	F	F	F	F		F	F	F	F	F	
Ca2	F	F	F	F	F			F			F	
Cb1	F	F	F	F	F			F			F	
Cb2	F	F	F	F	F			F	F	F	F	
Cc1	F	F	F	F	F			F	F	F	F	
K-Knowledge			S-Skill			C- Competencies						

## Program Completion Requirements

Graduation with an MSc Pediatric Nursing degree requires the student to successfully complete all core and specialist practice courses, a practice portfolio, and a dissertation.

For the award of a Master of Science in Pediatric Nursing:

- Meet attendance requirements for all courses.
- Students must successfully complete 30 credits points of taught courses on the program.
- Submit a Dissertation (15,000 words)



- Complete 487.5 hours of clinical practice met all proficiencies and competencies.
- Submit two reflective accounts of clinical practice (3000 words each).

## Course information

The following is information on the MSc. In Pediatric Nursing Program.

MSc Pediatric Nursing																
Course Title	Course Code	Credits	Availability	Duration	Prerequisite	Course Type	Total Contact Hours	Course Delivery Format					Clinical Practice (14)	Assessments		
								Face to Face (Contact Hr.)		Synchronous Online on MS Teams (Contact Hr)		Asynchronous Online on LMS (Contact hr)		Assignments%	Practice Based %	Examination
								Lecture (1:1)	Tutorial (1:2)	Lecture (1:1)	Tutorial (1:2)	Self-Directed (1:3)				
Advanced Clinical and Physiological Assessment Skills	NURS7301	3	S2	16 Weeks	Prerequisite for Clinical Practicum(NURS7610)	Core	48	20	20	8	0	30		80%	20% OSCE	
Applied Research methods and Statistics in Healthcare	NURS7302	3	S1	16 Weeks	Co-requisite for Dissertation (NURS7601)	Core	48	19	10	13	6	24		70%		30%
Successful Leading for Health and Social Care Professionals	NURS7303	3	S1	16 Weeks	None	Core	48	19	10	13	6	24		100%		
Promoting Children and Young People's Healthcare in the Hospital and the Community	NURS7304	3	S1	16 Weeks	None	Specialist	48	21	9	11	7	24		70%	30% Oral Presentation	
Care of Critically ill child	NURS7305	3	S2	16 Weeks	None	Specialist	48	16	17	12	7	24		100%		
Palliative Support for Children and their families	NURS7306	3	S2	16 Weeks	None	Specialist	48	19	11	13	5	24		100%		
Dissertation	NURS7601	6	S1,S2	One Calendar year	None	Core	40	40		0		0		100%		
Clinical Practicum & Portfolio	NURS7610	6	S2	487.5Hours	None	Core	487.5			0		0	390	100% 3000-word reflection (2)	Pass/Fail Practice Portfolio	

Note: The MSc Pediatric Nursing Program is a blended program , which includes 65 % F2F and 35 % Online (Synchronous and Asynchronous)

### Core Course 1 – NURS7301 Advanced Clinical and Physiological Health Assessment Skills

The purpose of this course is to develop and enhance the students’ knowledge base and practice of health assessment. In doing so the course will facilitate the development of problem-solving skills in order to ensure that appropriate client interventions and management can occur. Students are encouraged to use the course content as a base upon which to build further skills within their own specialist areas (pediatrics and cardiovascular nursing). The course involves the process of accurate history-taking and consideration of the effects of environment and verbal/non-verbal behavior when undertaking a physiological health assessment. The student will be encouraged to recognize the client as an individual taking into account their environmental, familial cultural and societal situation. In conducting a physical examination, the student will be encouraged to use physical examination skills, including inspection, palpation, percussion and auscultation. They will be expected to conduct examinations of different physiological systems (for example, the cardiovascular and respiratory systems), and use appropriate assessment equipment. In addition, students will be expected to demonstrate potential differential diagnoses and knowledge of when to refer for further tests and investigations, or when to consult with other appropriate members of the multidisciplinary team.

### Core Course 2 – NURS7302 Research Methods and Statistics Applied to Clinical Practice

This course provides the background for an understanding of research methodology and the implementation of research into nursing practice. Students will be introduced to the fundamental principles and methods of research, data collection, interpretation and presentation. Students will be able to recognize the role of quantitative methods in

understanding clinical nursing questions, especially in the context of responsible decision-making for the specialist nurse practitioner.

### **Core Course 3 – NURS7303 Successful Leading for Health and Social Care Professionals**

This course provides the background for understanding leadership as an integral component of specialist nursing practice. An essential part of leadership and management is engaging with, working with and coordinating care and treatment activities with the patient and other members of the team. The specialist nurse has a key role in helping to direct the efforts of team members toward the goals and objectives of person-centered care and the needs of the service and organization. This involves the process of applying different leadership approaches, skills and behaviors to multiple and variable contexts. Effective nurse leaders and managers must be able to understand the nature of leadership and critically consider the factors which may determine the quality of strong and effective leadership in clinical practice.

### **Clinical Practicum & Portfolio – NURS7610**

Students are expected to attend and treat patients in health care settings in Dubai and the Belfast Trust. Practice placement is an integral element of the MBRU MSc course. This opportunity allows students to experience and be involved in the delivery of an evidence-based, holistic nursing care for patients in Belfast. As part of the program, students be placed in a specialist health care facility in the UAE for two weeks (75 hrs.), before spending 412.5 hours spread over two clinical placements in the Belfast Health and Social Care Trust. While on placement students will have the opportunity to provide hands-on nursing care to patients in the clinical setting.

### **Dissertation – NURS7601**

The dissertation is the final stage of the MSc degree and provides the student with the opportunity to show that they have gained the necessary skills and knowledge in order to organize and conduct a substantive investigative project.

### **Specialist Course 1 – NURS7304 Care of the Critically Ill Child**

Taking a life span approach, this course builds on the knowledge which the students will bring from their undergraduate nursing degrees. The epidemiological underpinnings of infant, child and young person's health will be explored, with strategies to promote physical, emotional, spiritual, and mental health discussed.

### **Specialist Course 2 – NURS7305 Palliative Support for Children and their Families**

This course explores the pathophysiology that leads to critical illness in infants, children and young people. It examines the evidence base underpinning complex decision making related to critical care and the range of nursing skills required to provide holistic care to infants, children, young people and their families.

### **Specialist Course 3 – NURS7306 Promoting Children and Young People's Healthcare in the Hospital and the Community**

This course aims to enhance students’ knowledge and understanding of caring for children and families requiring a palliative approach to care. Students will be able to explore, in-depth, the experience of families from the point of diagnosis and throughout the illness trajectory. Emphasis will be on reflecting on and developing practice. Drawing on recent research, students will have the opportunity to critically discuss the complexity of care in addition to the challenges for children and families as well as professionals who care for them.

## Sequencing of courses

### Full Time Program (Part Time Pro Rata: 2 Years)

#### Semester 1: AY 2023-2024

Course	Code	Credits	Course Coordinator	Duration	Mode of Delivery
Research Methods and Statistics Applied to Clinical Practice	NURS7302	3	Loreena Hill	16 weeks	Blended
Successful Leading for Health and Social care Professionals	NURS7303	3	Barry Quinn	16 weeks	Blended
Promoting Children and Young People’s Healthcare in the Hospital and Community	NURS7304	3	Breidge Boyle	16 weeks	Blended
Dissertation (Phase 1)*	NURS7601	3	Kevin Gormley	16 weeks	Blended

#### Semester 2: AY 2023-2024

Course	Code	Credits	Course Coordinator	Duration	Mode of Delivery
Advanced Clinical and Physiological Health Assessment Skills	NURS7301	3	Iseult Wilson	16 weeks	Blended
Care of the Critically Ill Child	NURS7305	3	Breidge Boyle	16 weeks	Blended
Palliative Support for Children and their Families	NURS7306	3	Sonya Clarke	16 weeks	Blended
Dissertation (Phase 2)*	NURS7601	3	Kevin Gormley	Jan - Aug	Blended
Clinical Practicum and Portfolio**	NURS7610	6	Jolly Isaac/Kevin Gormley	487.5 hrs.	Clinical

\*Dissertation Phase 1: Preparatory work (e.g., title, search strategy, research methodology, literature review, ethics and planning of dissertation Phase 2: Reporting and writing up of dissertation.

\*\* Summer

## Admission, withdrawal and enrolment policies

Please refer to section on [Admission Policy](#).

## Student Assessment and Progression

Please refer to section on [Assessment and Progression](#).

## Faculty listing

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Name	Position	Degree and Conferring Institution	Years of Experience	Research Interest	Research Supervisor/Co-Supervisor
Kevin Gormley	Dean of CoNM/ Professor	PhD (2003) Ulster University, Northern Ireland  MSc Social Policy & Healthcare Administration (1993) Ulster University, Northern Ireland  BA Majoring in Healthcare Policy (1990)	40	Nursing Policy, Leadership, Nursing education	Research Supervisor
Jolly Isaac	Lecturer/ Education Lead	EdD (2015) Walden University, USA  MSc Nursing (Medical Surgical Nursing) 2000-SNDT Women's University, India  BSc Nursing 1996 - Pune University, India	25	Nursing, Education, Simulation, Leadership and Management	Research Supervisor Co-

Adjunct Faculty					
Name	Position	Degree and Conferring Institution	Years of Experience	Research Interest	Research Supervisor/Co-Supervisor
Iseult Wilson	Adjunct Associate Professor	PhD (2011) - Ulster University, Northern Ireland  MSc in Advanced Practice Physiotherapy (2002)-Ulster University, Northern Ireland  Diploma in Physiotherapy (1983) Trinity College Dublin	36	Musculoskeletal conditions, Qualitative Research	Research Supervisor

Loreena Hill	Adjunct Associate Professor	PhD (2015), Ulster University, Northern Ireland  MSc In Nursing (2006), Queens University Belfast, Northern Ireland  BSc (Hons) Degree in Nursing (1991) Ulster University, Northern Ireland	30	Cardiology/ Heart Failure	Research Supervisor
Barry Quinn	Adjunct Associate Professor	PhD (2011) Kings College London  MSc In Health Studies (2000), University of Manchester, UK	23	Cancer, palliative care, leadership and management	Research Supervisor
Briedge O'Boyle	Adjunct Associate Professor	PhD (2013) Ulster University, Northern Ireland  MSc In Childrens Health Nursing (2001), City University, UK  BSc Neonatal Studies (1999) Southampton University, UK  BSc Health (1994), University of Manchester, UK	24	Childrens Nursing	Research Supervisor
Patricia McNeilly	Adjunct Associate Professor	PhD (2014) Queens University Belfast, Northern Ireland  Masters in Social Research (2009) Queens University Belfast, Northern Ireland  MSc Nursing (2007) Queens University Belfast, Northern Ireland	36	Childrens Nursing	Research Supervisor
Annelie Florence Shaw	Adjunct Lecturer	MSc in Gastroenterology (2018) Queen Mary	8	Nutrition and dietetics	Research Co-Supervisor

		University, London BSc (Hons) Dietetics (2011) Ulster University			
Dr Sumaya Al Blooshi	Adjunct Associate Professor Associate Dean Academic  Partnerships (Honorary Title)	PhD in Nursing (2015) Jordon University, Jordon  MSc In Critical Care Nursing (2010) Jordon University, Jordon  MA in Quality Management (2004) Wollongong University, UAE  Bachelor in Nursing, University of Sharjah, UAE	14	Leadership, Nursing strategy, Nursing Research	
Mr. Wesley Sterling	Adjunct Lecturer	Master's Biomedical Science (1995) Queens University Belfast, Northern Ireland	43	Biomedical Science and Clinical Skill	
Katie Hanafin	Adjunct Assistant Professor	MSc Nursing (2018) University of Southampton, UK,  MSc Prescribing (2014) University of Teesside, UK  Child Nursing (2004) St Bartholomew School of Nursing, UK	16	Children's Nursing	Research Co-Supervisor
Sonya Clarke	Adjunct Associate Professor	EdD (2019) Queens University Belfast, Northern Ireland  MSc Nursing (2006) Queens University Belfast, Northern Ireland  BSc Hons Specialist Practice in Orthopedic Nursing, (2000) Queens University Belfast, Northern Ireland	17	Children's Nursing, Palliative Nursing	Research Supervisor

		Diploma in Children's Nursing (1996) Queens University Belfast, Northern Ireland			
Meghana Sudhir	Lecturer	MBA (2013), Sikkim Manipal University, India  MSc Nursing (2007), Rajiv Gandhi University for Medicine and Health Sciences, India  BSc Nursing (1999), Mahatma Gandhi University, India	21	Simulation based education, Human Patient simulation (simulated patients), Professionalism, Human Factors.	Research Co-Supervisor
Sharon Mascarenhas	Lecturer	MSc Nursing (2007), SNDT Women's University, India  BSc Nursing (2002), K.L.E Institute of Nursing Sciences, India	18	Communication, Debriefing, Community engagement using simulation	Research Co-Supervisor



# **Academic Information**

## Academic Integrity

Students are members of the academic community and have both rights and responsibilities. While the student's most essential right is the right to learn, the University is responsible for providing its students opportunities and experiences that best promote the learning process in all its aspects, enabling them to achieve their maximum potential.

MBRU places strong emphasis on attainment and expression by its students of those values and attitudes. To this end, students are always expected to always conduct themselves in a professional manner in all their associations with the faculty, peers, other personnel, patients and staff. They are required to function according to the highest academic, ethical, and professional standards. All students should familiarize themselves with MBRU policies on personal conduct and academic dishonesty.

At MBRU, all cases of academic dishonesty or academic misconduct, plagiarism, failure to properly cite other work, as well as breach in professional behavior will be handled according to MBRU Policies and Procedures. MBRU upholds and enforces these policies and the consequences of academic misconduct are severe.

Details on the students' expected behavior and the policies related to discipline, appeals and resolution of complaints are described in Section 5 of the MBRU Student Handbook, which will be made available to students after enrolment.

## Definition of Credit Hour

At MBRU, a credit hour is defined by the total number of contact hours made with a learner over the duration of one semester to complete the requirements of particular course. This total time covers the following methods and settings:

Lecture: Scheduled didactic instruction in class/online

Tutorial: Scheduled small group activities in class/online

Research: Scheduled research-based activities

Practical/On campus: Scheduled activities in labs

Practical/Workplace: Scheduled activities in clinical settings.

For courses delivered F2F on the campus, credit hours are calculated according to the type of teaching and learning method as follows:

For a lecture, one credit hour = 1 contact hour per week

(Example: a 16-week course would have a total of 16h contact hours)

For a tutorial, one credit hour = 2 contact hours per week

(Example: a 16-week course would have a total of 32h contact hours)

For research, one credit hour = 6 contact hours

(Example: 6 contacts hours with the research supervisor corresponds to 1 credit)

For a practical/on campus, one credit hour = 2 contact hours per week

(Example: a 16-week course would have a total 32h contact hours)

Due to the uniqueness and differences in the programs, clinical settings and experiences, practical/workplace credit hours will be dependent on the schedule of each program.

Courses delivered through blended learning will require amendment in F2F sessional time, synchronous and asynchronous sessional time for academic credit calculations.

**Blended Learning Credit Hour:** Credit hour for blended learning is the amount of work represented in intended learning outcomes and verified by evidence of student achievements, both F2F and Online (synchronously and asynchronously).

**F2F and Synchronous:**

Lecture credits

For a lecture, one credit hour (F2F or Synchronous) = 1 contact hour per week (Example: a 16-week course would have a total of 16h contact hours)

Tutorial: Scheduled small group activities

For a tutorial, one credit hour (F2F or Synchronous) = 2 contact hours per week (Example: a 16-week course would have a total of 32h contact hours)

Asynchronous: 1 credit = 2 to 3 online hours depending on the activity involved.

For example, in the College of Nursing, 1 credit hour – 3 online hours; in the College of Medicine, 1 credit hour = 2 online hours.

## Academic Terminology

ABG	Arterial Blood Gas
cGPA	Cumulative Grade Point Average
CLOs	Course Learning Outcomes
CoNM	College of Nursing and Midwifery
Core Course	A mandatory course to be taken by a student to meet the requirements of the program.
CVD	Cardiovascular disease.
ECG	Electrocardiogram
General Course	A course that is required to be taken by students enrolled in an MBRU postgraduate program.
GPA	Grade Point Average
MMI	Multiple Mini Interview
MSc	Master of Science
PLOs	Program Learning Outcomes
QFEmirates	Qualifications Framework Emirates
QUB	Queens University Belfast
SAPC	Student Assessment & Progression Committee
SAR	Department of Student Admissions & Registration
SL	Department of Student Life

# **Student Information**

## **Student Services and Registration**

The Department of Student Admissions and Registration (SAR) and the Department of Student Life (SL) provide assistance to students in the fields of admissions, scheduling, registration, student records, graduation, counseling, accommodation, student events, activities, sports and recreation, career development, and student support services.

SAR and SL is home to all students, it is a place where students can receive support for all their needs, interests, and development. The University has an open-door policy and students are encouraged to visit the Departments at any time or call in to ask about anything they are unsure of. The departments welcome suggestions and ideas on how to enrich students' experience while studying at MBRU.

# Student Code of Conduct, Professional Behavior and Fitness to Practice

The Student Code of Conduct is detailed in the Student Handbook (Section 4.11).

Students of MBRU are expected to demonstrate the highest standard of professional and social behavior, they are required to respect the ethos of UAE society and to ensure behavior that does not offend cultural sensitivities. The Student Handbook sets out details on what students can expect from MBRU and the colleges during their time of study, and what their responsibilities are, including general conduct, dress code policy, co-education conduct and classroom etiquette on campus or online.

Students enjoy special privileges, which come with responsibilities and expectations from society. Because of this, they need to be aware of the higher standards of professional behavior. MBRU will ensure that students are aware of this relationship with society and provide them with opportunities to learn and practice the expected standards of professional behavior.

This guidance considers MBRU students' fitness to practice in relation to their behavior and in relation to their health when appropriate. Poor health can affect a student's fitness to practice either directly or by being a cause of misconduct.

Expectations for appropriate 'Fitness to practice'

## Displaying professional conduct

Students should acquire and demonstrate the types of behavior that mark them as fit to practice as healthcare professionals by:

- Maintaining the standards of competence and care that will not put patients and the public at risk.
- Striving for high ethical standards in their professional and personal lives

## Providing good clinical care

Being able to provide good clinical care is fundamental to becoming a healthcare professional. This objective should guide a student's behavior in both their clinical and academic work. They should reflect on how they can support and promote good clinical care as part of their education.

In order to demonstrate that they are fit to practice, students should:

- Recognize and work within the limits of their competence and ask for help when necessary.
- Accurately represent their position or abilities.
- Make sure they have the necessary supervision for the clinical task they perform.
- Respect the decisions and rights of patients.

- Be aware that treatment should be based on clinical needs and the effectiveness of treatment options, and that decisions should be arrived at through assessment and discussion with the patient.
- Not discriminate against patients by allowing their personal views to affect their professional relationship or the treatment they provide or arrange (this includes their views about a patient's age, color, culture, disability, ethnic or national origin, gender, lifestyle, marital or parental status, race, religion or beliefs, sexual orientation, or social or economic status).
- Behave with courtesy.
- Report any concerns they have about patient safety to the appropriate person.

### **Maintaining good clinical practice**

Students must be aware of their responsibility to maintain their knowledge and skills throughout their careers.

Students are expected to keep up to date and to apply the knowledge necessary for good clinical care. They should understand that as a clinician they will have to participate in audit, assessments and performance reviews throughout their careers as part of re-licensing.

In order to demonstrate that they are fit to practice, students should:

- Reflect regularly on standards of medical practice in accordance with locally agreed and adopted guidance by MBRU and clinical sites.
- Attend required learning sessions.
- Complete and submit course work on time.
- Be responsible for their own learning.
- Reflect on feedback about their performance and achievements and respond constructively.
- Be familiar with guidelines of local healthcare providers.
- Respect the knowledge and skills of those involved in their education.
- Make sure they can be contacted and always respond to calls in relation to care of patients or their own education.
- Appreciate the significance of their role when engaging in teaching activities that involve patients and their families.

### **Building ethical and respectful relationships with patients**

Students will have extensive contact with patients during their program and must build relationships with patients based on openness, trust and good communication.

Students should maintain a professional boundary between themselves and their patients. They must not use their professional position to cause distress or to exploit patients.

Students should obtain patient consent for any treatment or research.



Patients have the right to expect information about them to be held in confidence. A patient's case must not be discussed in a way that would identify them with anyone not directly involved in their care, or in a public place. Academic work that contains specific information about a patient must not identify the patient if it is to be seen outside the patient's care team. This includes case or log reports that are submitted as part of the student's course work or assessment.

In order to demonstrate that they are fit to practice, students should:

- Respect patients and treat them with dignity.
- Be aware of ethical issues in their professional behavior with patients.
- Be open and honest when dealing with patients, their carers, relatives, or anyone else close to them.
- Make sure that patients have consented to a students' involvement in their care.
- Make sure they are clearly identified as students in clinical training.
- Dress in an appropriate and professional manner.
- Make sure they follow the clinical sites' adopted guidance on consent and confidentiality.

### **Working collaboratively with colleagues**

Students need to be able to work effectively with colleagues inside and outside of healthcare facilities in order to deliver a high standard of care and to ensure patient safety.

Students must develop skills to work in multi- disciplinary teams. This involves respecting the skills and contributions of colleagues and other professionals and developing effective communication with other members of the team and with patients.

It is also important that students protect patients from harm posed by another colleague's behavior, performance or health. They should take steps to raise any concerns with the appropriate person.

In order to demonstrate that they are fit to practice, students should:

- Demonstrate skills that allow them to deal with uncertainty and change in the workplace.
- Be able to work effectively in a team and to take on different roles as appropriate, including taking responsibility for tasks.
- Develop and demonstrate teamwork and leadership skills.
- Be aware of the roles and responsibilities of other people involved in delivering healthcare.
- Respect the skills and contributions of colleagues and other professionals and not discriminate against them.
- Raise concerns about overall practice in a healthcare setting or about colleagues, including other students, practitioners and other healthcare workers, with the appropriate person if patients are at risk.

## **Demonstrating ethical behavior**

Good clinical practice requires students to make sure that their behavior at all times justifies the trust that patients and the public place in the healthcare profession.

In order to demonstrate that they are fit to practice, students should:

- Bring attention to any concerns about, or errors in, their clinical work.
- Be honest, genuine and original in their academic work, including when conducting research, and take effective action if they have concerns about the honesty of others.
- Be honest and trustworthy when writing reports and logbooks, and when completing and signing forms.
- Be honest in citing their qualifications and not misrepresent their qualifications, position or abilities.
- Not plagiarize others' work or use their own work repeatedly in a way that could mislead.
- Be honest and trustworthy in any financial dealings, and make sure that any funds are used for the purpose they were intended for.
- Cooperate with any formal inquiry by the University or clinical site into their health, behavior or performance, or that of anybody else.
- Comply with the laws of the UAE and other countries where relevant.
- Comply with the regulations of the University and other clinical sites.

## **Understanding risks associated with their own health**

It is important that students are aware that their own poor health may put patients and colleagues at risk.

Good medical practice requires healthcare providers to seek and follow advice from a suitably qualified professional about their health. This is particularly important if they have, or suspect they have, a serious condition that could be passed to patients, or if they are receiving treatment that could affect their judgement or performance.

In order to demonstrate that they are fit to practice, students should:

- Be aware that their own health problems may put patients and colleagues at risk.
- Seek medical or occupational health advice, or both, if there is a concern about their health, including mental health.
- Accept that they may not be able to accurately assess their own health and be willing to be referred for treatment and to engage in any recommended treatment programs.
- Protect patients, colleagues and themselves by being immunized against common serious communicable diseases if vaccines are available and are recommended by the relevant health authority.
- Not rely on their own or another student's assessment of the risk posed to patients by their health, and should seek advice, when necessary, from a qualified clinician or other qualified healthcare professional.

- As a practicing healthcare professional, the individual is responsible for informing their employer or other appropriate person if their health poses a risk to patients or the public.

### **Demonstrate appropriate social behavior.**

Students are viewed as representatives of the university and should not allow their actions to reflect negatively upon the university or upon their profession.

In order to demonstrate fitness to practice, the student is expected to:

- Recognize the right of all individuals to be treated with respect without regard to race, age, gender, disability, national origin, position, or religion.
- Avoid physical, verbal, written or sexual harassment.
- Avoid obstruction of due process through lying, using pressure, threat, abuse, or similar practices against any person, or withholding of pertinent information.

### **Consequences of breaching the fitness to practice**

If there are grounds for concern as to the fitness of the student for practice and upon investigation the student was found to be in breach of the fitness to practice code, the student will be referred to an ad hoc Fitness to Practice Committee.

Policies and procedures for dealing with suspected breaches of fitness to practice.

A case of concern needing reference to the Fitness to Practice Committee will be identified by any one of the following routes:

- An outcome of a previous Disciplinary Committee proceeding.
- Self-reporting of health conditions by a student.
- Reporting of health condition of a student by any member of the MBRU community.

The handling of an allegation of misconduct and therefore consideration of whether or not a student is fit to practice must be done confidentially, expeditiously, and strictly in accordance with the following process.

- Preliminary Evaluation
- Investigation
- Decision making/ Adjudication.
- Appeal

No member of the Fitness to Practice Committee who has had any involvement or interest in a particular case will take part in the investigation.

Students who receive a sanction, short of expulsion, may also receive ongoing supervision or monitoring, pastoral support, or both until graduation; the frequency of which will be determined on a case-by-case basis.

Students who return after suspension must be admitted back through the Admissions committee to ensure sanctions have taken place and concluded correctly.

## **Student Grievance Policy**

The Grievance policy and the mechanisms for appeals are provided in the Student Handbook (Sections 6 and 7).

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# **Board of Directors and Senior Leadership**

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Chancellor of MBRU  
Chairman of the Board of Directors



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**Professor Alawi  
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Provost of MBRU



**Hassan AlMazmi**  
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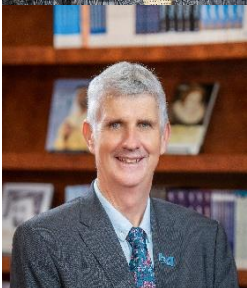
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