Master of Science in Biomedical Sciences (MSc BMS)

CATALOG | ACADEMIC YEAR 2021-2022

MBRU

جامعة محمد بن راشد للطب و العلوم الصحية

MOHAMMED BIN RASHID UNIVERSITY OF MEDICINE AND HEALTH SCIENCES

College of Medicine

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES (MSc BMS)

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ACADEMIC CALENDAR

1. ACADEMIC CALENDAR (2021-2022)

The key dates relating to the Calendar for 2021 - 2022 are set out in the table below. MBRU adheres to the academic calendar requirements of the UAE Ministry of Education. Term dates only apply to didactic courses, MSc BMS students will be entitled to 15 annual leave days in addition to public holidays.

Semester 1	Dates
New Student Orientation	August 22 - 23, 2021
Classes Start	August 24, 2021
Semester 1	August 22 - December 16, 2021
Semester 1 – Final Exams	December 5 - 15, 2021
WINTER BREAK – 3 weeks	**December 19, 2021 - January 06, 2022**
Semester 2	Dates
Semester 2	January 9 - May 26, 2022
SPRING BREAK – 2 weeks	**March 27, 2022 - April 07, 2022**
Last date for submission of thesis	May 1, 2022
Semester 2 – Final Exams	May 15 - 25, 2022
SUMMER BREAK Start	**May 29, 2022**

UAE PUBLIC HOLIDAYS 2021-2022 (SUBJECT TO OFFICIAL CONFIRMATION)

Occasion	Dates
Hijri New Year	Thursday - August 12, 2021
Prophet's Birthday	Thursday - October 21, 2021
Martyr's Day	Wednesday - December 01, 2021
UAE National Day	Thursday & Friday - December 02 - 03, 2021
New Year's Day	Saturday - January 01, 2022
Ramadan Begins	Friday - April 01, 2022
Eid Al Fitr	Monday - May 02 to Thursday - May 05, 2022
Arafat & Eid Al Adha	Friday - July 08 to Tuesday – July 12, 2022
Hijri New Year	Friday - July 29, 2022

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

Any revisions to the teaching, examination timetables, public holidays, and closure periods, will be communicated via email or MBRU Student Portal.

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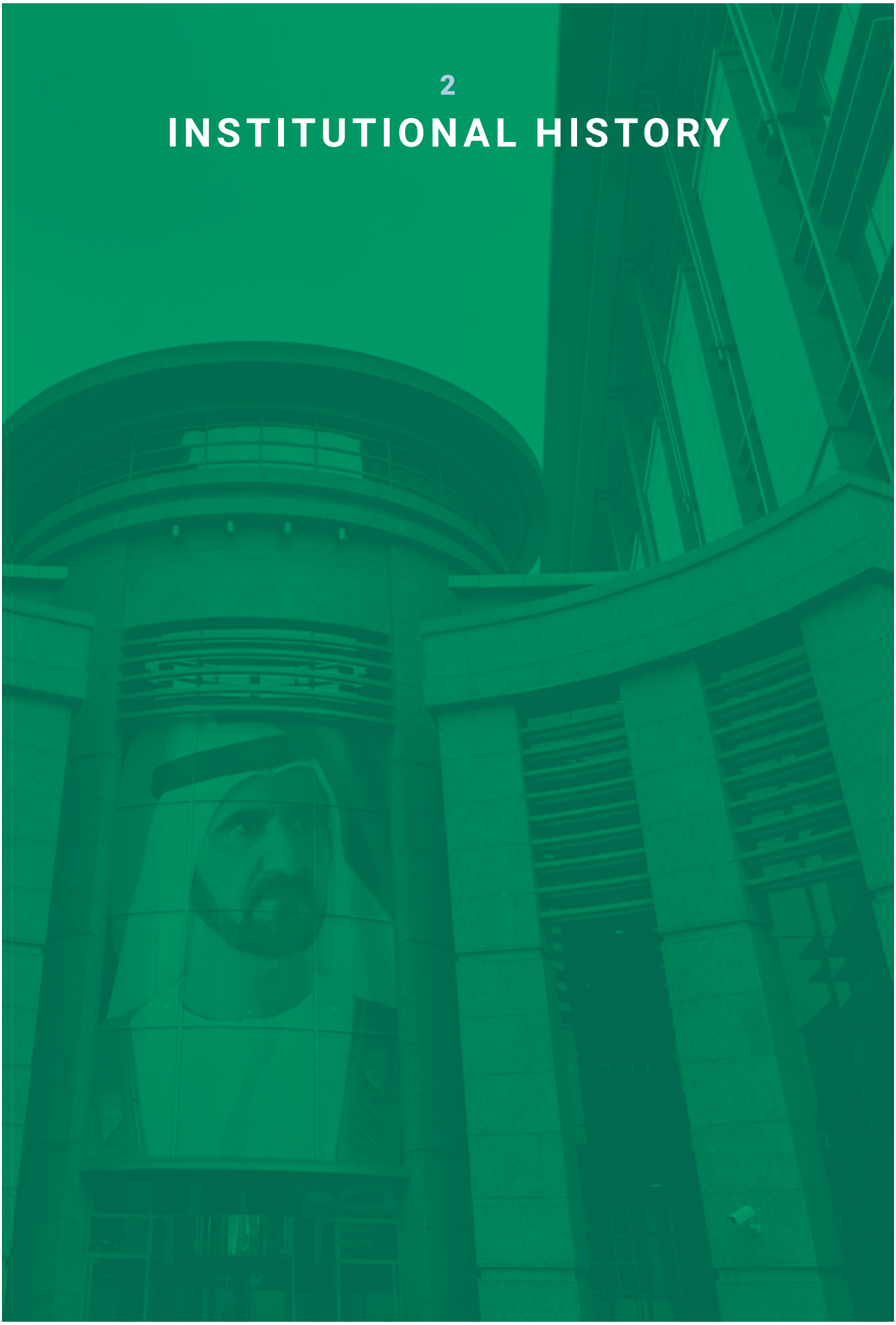
INSTITUTIONAL HISTORY



2. INSTITUTIONAL HISTORY

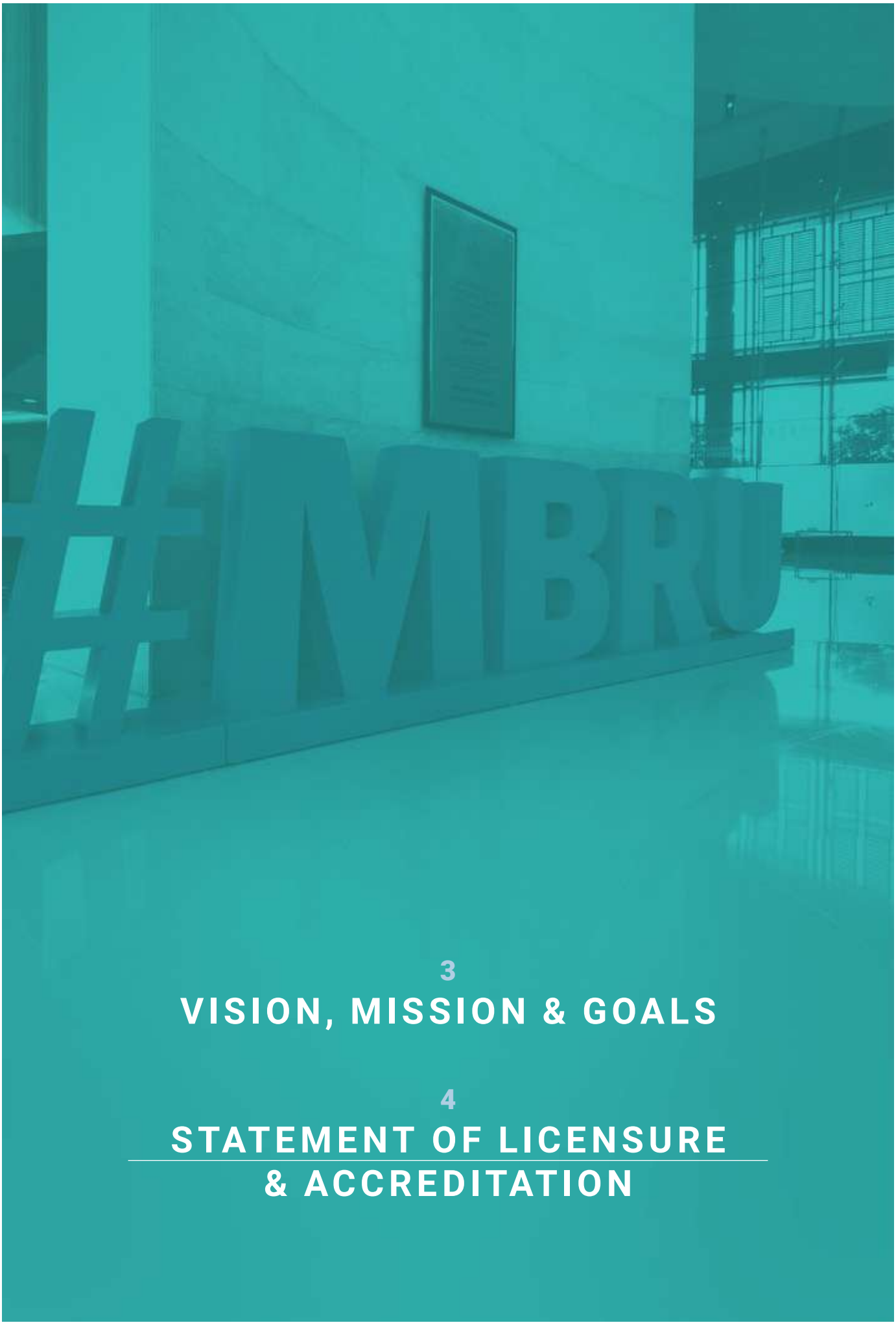
His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai announced the establishment of Mohammed Bin Rashid University of Medicine and Health Sciences (MBRU) in 2014. In June 2016, His Highness signed Decree number 7 for the formal establishment of the University.

The College of Medicine offers undergraduate and postgraduate programs, the Bachelor of Medicine Bachelor of Surgery (MBBS) and a Master of Science in Biomedical Sciences. The Hamdan Bin Mohammed College of Dental Medicine (HBMCDM) offers a range of specialty postgraduate dentistry programs, in Endodontics, Orthodontics, Pediatric Dentistry, Prosthodontics and Periodontics. The College of Nursing and Midwifery offers a postgraduate program, a Master of Science in cardiovascular nursing or pediatric nursing. The College of Medicine offers a PhD in Biomedical Sciences.

The University is licensed by the Commission for Academic Accreditation in the Ministry of Education of the United Arab Emirates to award degrees and qualifications in higher education. All programs offered by MBRU are benchmarked against international standards to ensure a 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.

The College of Medicine is listed on the World Health Organization Directory of Medical Schools.

MBRU's Foundation for Advancement of International Medical Education and Research (FAIMER) ID is F0004132.



3. VISION, MISSION AND GOALS

Vision

A global hub for innovative and integrated healthcare education and research at the service of humanity.

Mission

To advance health in the UAE and the region through an innovative and integrated academic health system, that is nationally responsive and globally connected, serving individuals and communities.

Values

- **Respect** - Respect for other opinions and differences
- **Integrity** - Fostering honesty, openness, transparency and accountability
- **Excellence** - Embracing quality, motivation and creativity in our communications and services
- **Giving** - Creating a positive and happy relationship with our communities
- **Connectivity** - Building partnerships with local, regional and international organizations

Goals

- To establish the Emirate of Dubai as a hub for academic specializations in medicine and health sciences
- To contribute to achieving sustainable development through supporting scientific advancement in medicine and health sciences
- To provide the community with qualified medical and healthcare personnel who are able to efficiently address various health issues
- To create a favorable environment for conducting scientific research that enhances the health sector in the community, through supporting education, scientific research, and continued professional development in medicine and health sciences; and
- To achieve a leading position and excellence in medicine and health sciences at the local, regional, and international levels.

4. STATEMENT OF LICENSURE AND ACCREDITATION

MBRU is 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 MSc BMS program is developed in alignment with international quality standards and based on principles of continuous quality enhancement.

For now, the MSc BMS program is accredited by the CAA (Commission of Academic Accreditation), UAE. MBRU will work on obtaining the appropriate international accreditations.

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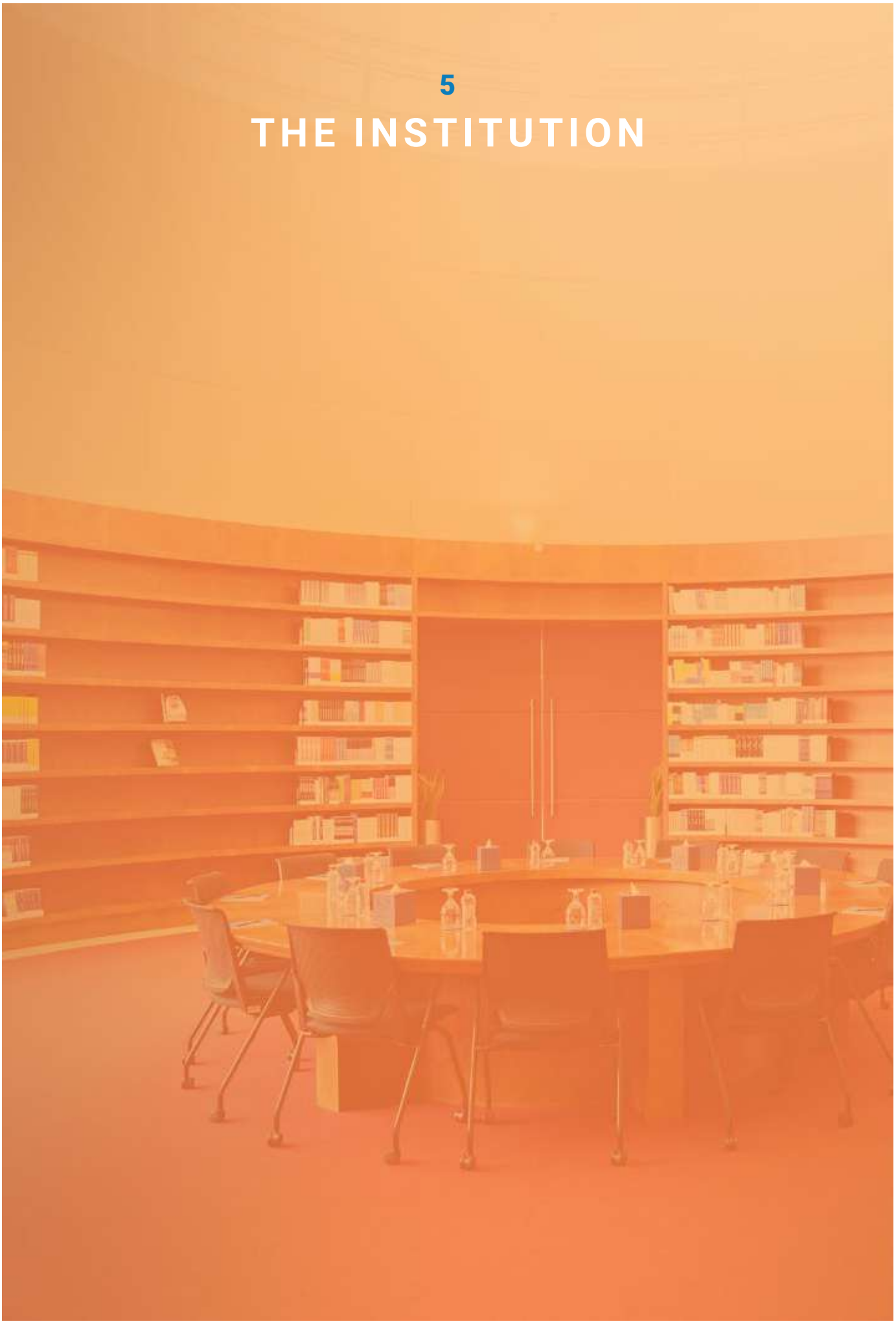
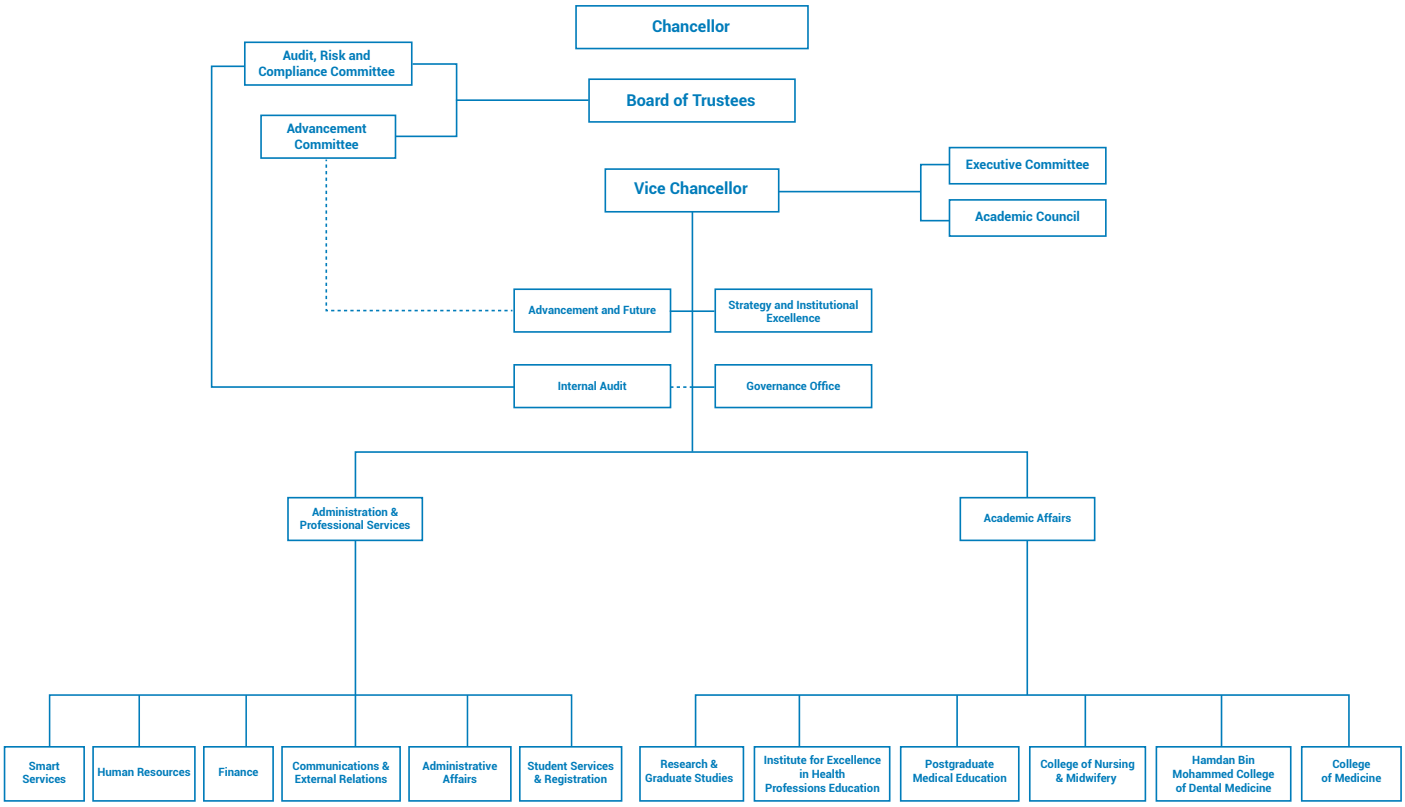
THE INSTITUTION



5. THE INSTITUTION

5.1 MBRU's Structure

The structure of the University is shown in the chart below. The Board of Trustees is the highest governing body of MBRU and equates to "The Board" in the Commission for Academic Accreditation Standards.

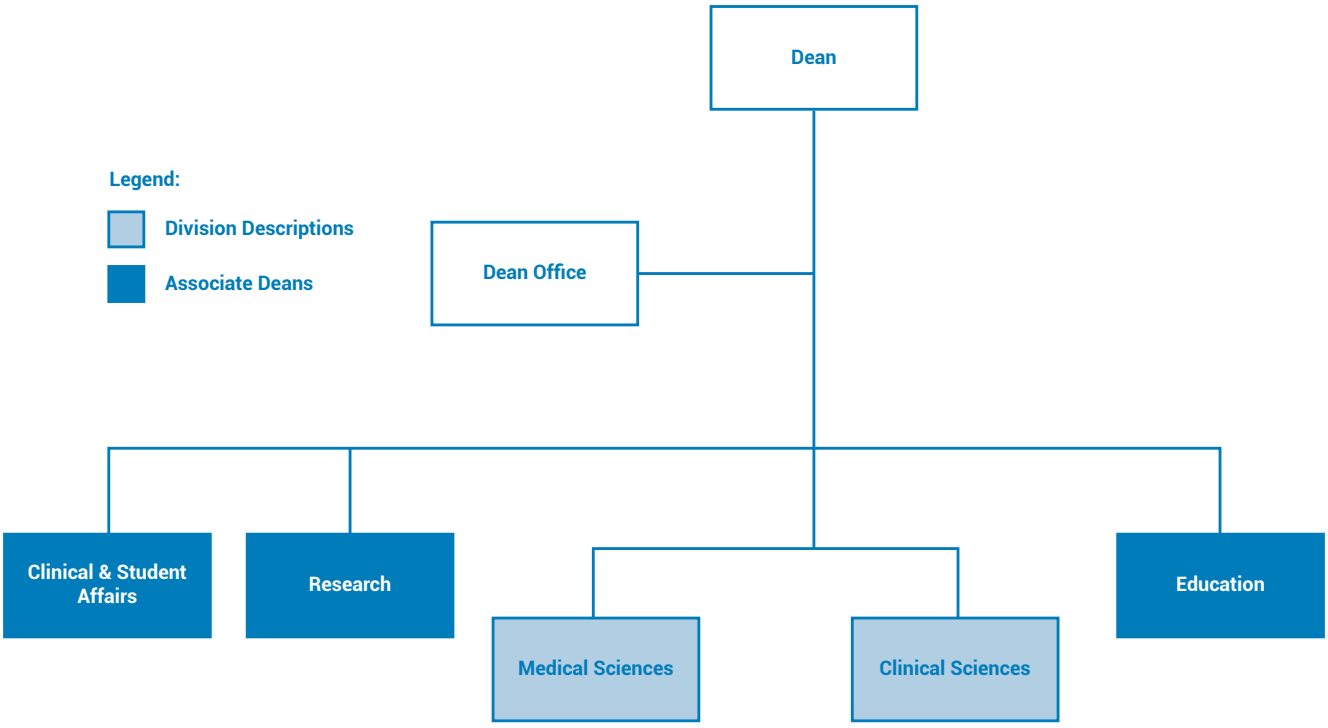


The MSc BMS Program sits under the College of Medicine.

5.2 College of Medicine structure

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:



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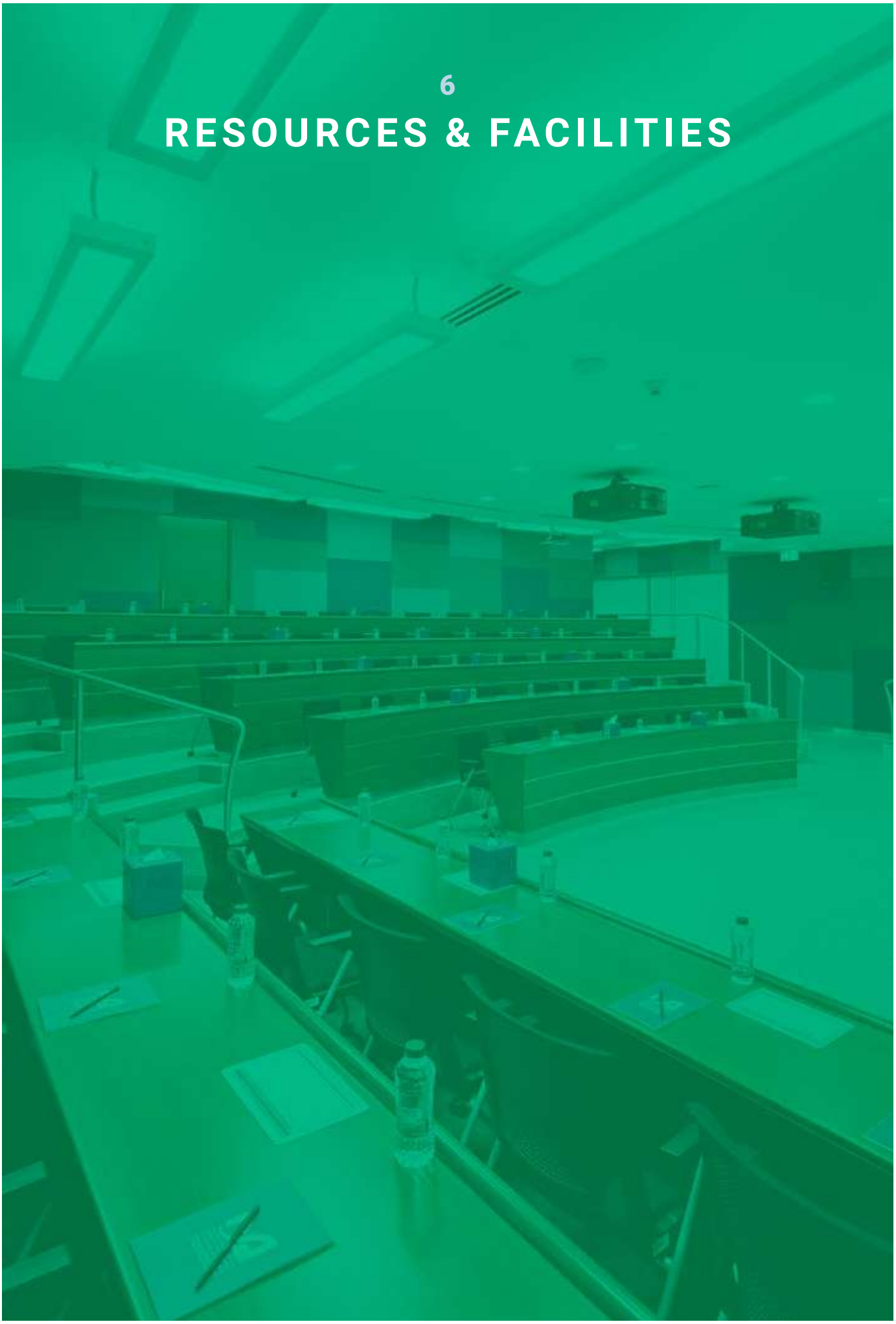
RESOURCES & FACILITIES



6. RESOURCES AND FACILITIES

The table below provides a summary of the available learning facilities at MBRU:

Venue	AV/IT	*Additional Comments
Basement 1 Right Wing		
Khalaf Al Habtoor Medical Simulation Center (KHMSC) Accident & Emergency	IP Camera	Simulation Center
Ground Floor Right Wing		
Case Method Hall	Ultra-Wide Screen Video Conferencing Audio Conferencing Lecture Capture	75 – 85 Seats
Anatomy Dissection Hall	10 TV Screens 2 Projections Content Sharing with Case Method Hall	10 Tables
Ahmed Siddiqui Auditorium	Wide Screen Video Conferencing	330 Seats
First Floor Right Wing		
Lecture Hall 1 & 2	Dual Rear Projection	40 – 50 Classroom
Lecture Hall 3	Single Front Projection	40 Classroom
Lecture Hall 4	Dual Rear Projection Video Conferencing	60 – 70 Classroom
Lecture Hall 5	Dual Rear Projection	60 – 70 Classroom
Case Method Hall	Dual Rear Projection Video Conferencing Audio Conferencing Lecture Capture	65 Seats
Small Meeting Rooms 1 & 2	TV Screen	6 – 10 Seats
Video Conference Room	Video Conferencing	6 – 8 Seats
First Floor Left Wing		
Al Maktoum Medical Library (AMML) Meeting Room 1 & 2	TV Screen	8 – 10 Seats
Second Floor Right Wing		
KHMSC Training Room	Portable Screen & Projector	40 Classroom
KHMSC Ward	IP Camera	Simulation
KHMSC ICU	IP Camera	Simulation

Venue	AV/IT	*Additional Comments
KHMSC OR	IP Camera	Simulation
KHMSC Debriefing Room	Portable Screen & Projector	
KHMSC Dental Simulation	Nil	Simulation
KHMSC Part Task Trainer Room	Nil	Simulation
MBRU Design Lab supported by Wasl	VR and AR	Capacity: 32
Second Floor Left Wing		
AMML Group Study Rooms 1-7	Interactive TV's	6 – 10 Seats
Third Floor Right Wing		
Lecture Halls 6 -11	Provisions Only (Front Projection Screens Planned)	30 – 35 Seats in each hall
Tutorial Rooms 1-10	Provisions Only (TV's Planned)	8 Seats in each room
Clinical Consulting Rooms 1 -12	Provisions Only (IP Cameras, TV's Planned)	Simulation
Fourth Floor Left Wing		
Computer Lab	70 Desktops 3 Front Projection Screens (Right Side)	Computer Based Teaching - Pathology, Histology, Biochemistry, Pharmacology & Molecular Biology Computer Examination Center
Multidisciplinary Lab	Nil	Wet Lab - Biochemistry, Physiology, Pharmacology & usage of wet biological specimens.
Computer Assisted Lab	2 Interactive Displays	Physiology Practicals Biochemistry Demonstrations Molecular Biology Pathology

6.1 Physical Teaching Resources and Facilities

6.1.1 Classrooms

6.1.1.1 The Mohammed Bin Rashid Academic Medical Center is the home base for MBRU. Currently, it houses multiple large classrooms accommodating up to 100 students*, all dedicated for use by the College of Medicine. Most classrooms are equipped with double presentation screens and up to date audiovisual equipment. There is also electronic connectivity to the large 350-seater* auditorium, with an internet port connection for each student.

6.1.1.2 In addition, 10 tutorial rooms each accommodating 8-10 students* and the tutor will be added for small group learning.

6.1.1.3 The entire building has a wireless connection to the Internet. The students are expected to bring to class either an electronic tablet or a laptop.

6.1.2 Case Demonstrations

MBRU houses two state-of-the-art case method halls classroom designed for case demonstrations. Each can accommodate 65 students*. The acoustics are such that the speaker in the central part is clearly audible in all parts of the hall without the need for a microphone. The hall has connectivity to the main 350-seater* auditorium.

6.1.3 Teaching Laboratories

MBRU has three teaching laboratories. Each can accommodate 50 students* at a time. A ‘dry’ teaching laboratory is dedicated for projection and demonstrations in Histology, Pathology, and Microbiology. The ‘wet’ teaching laboratory is for practical sessions in subjects that involve wet preparations.

6.1.4 Computer Assisted Learning Laboratory

MBRU has a 60 station* computer laboratory designed for teaching Pathology, Hematology and Anatomy through digital microscopy.

6.1.5 Anatomy Lab

MBRU has an Anatomy Lab that serves as a dissecting room for teaching Anatomy and related subjects. It has 10 dissecting tables (each accommodating 8 students*), a morgue for cadavers and body parts, a storage facility, student lockers, two debriefing rooms, two faculty offices, technician offices, and a case method hall for demonstrations.

6.1.6 Research Laboratories

The Khalaf Ahmad Al Habtoor Medical Simulation Center (KHMSC), located on the second floor is a training facility where healthcare professionals will receive training to improve the quality of care and teamwork in a simulated environment with no risk to patients. 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.

6.1.6.1 The Mohammed Bin Rashid Medical Research Institute

The Mohammed Bin Rashid Medical Research Institute on the 7th floor of Al Jalila Foundation has a collaborative area, 3 meeting rooms, 5 faculty offices, and an extensive write-up area with desks and computer terminals to accommodate 60 graduate students*, post-doctoral fellows and laboratory assistants.

Entry to the laboratory section of the 7th floor is regulated by an access control system. The layout includes a large (320 M2) open laboratory fully equipped with state-of-the-art instrumentation and fitted with 10 large island benches which can each accommodate 6 persons*. The facility also has 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 molecular pathology and genetics. A basement facility incorporates a space for animal facilities.

6.1.6.2 MBRU Research Labs

The 4th floor of the MBRU building houses a suite of 2 research laboratories.It also includes a tissue culture suite with 2 rooms, as well as a cold room, chemical and consumable stores.

* To comply with social distancing rules, there will be a reduction in the capacity of students in classrooms and labs.

6.2 Clinical Teaching Facilities

6.2.1 Simulation and Clinical Skills Training Center

The Khalaf Ahmad Al Habtoor Medical Simulation Center (KHMSC), is a training facility where healthcare professionals will receive training to improve quality of care and teamwork in a simulated environment with no risk to patients. 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, lumber puncture). In the basement is a complete Emergency Room with facilities for imaging.

An additional twelve consultation rooms are in the stage of development.

6.2.2 Affiliated Healthcare Providers and Clinical Facilities

MBRU is located in the heart of Dubai Healthcare City (DHCC) which is home to over 150 medical facilities, 4,000 physicians and three full size hospitals that are fully operational and open to patients. MBRU has already developed a number of agreements and partnerships with key providers in DHCC, Dubai and the UAE.

These agreements underscore the desire of the parties to collaborate on matters of medical education, research and service provision. Currently, there are agreements with, or letters of support from Dubai Health Authority, Mediclinic Middle East, Moorfields Eye Hospital and Sulaiman Al Habib Hospital.

Academic partnerships and affiliation agreements are in place with Mediclinic Middle East and Al Jalila Children's Specialty Hospital. Similar agreements are being developed with the Dubai Health Authority and Ministry of Health and Prevention.

6.3 MBRU Design Lab supported by Wasl

The MBRU Design Lab supported by Wasl is an evolving space where students are empowered to move around and create their own content for learning rather than just memorizing facts delivered from faculty. The Design Lab hosts lectures and events to pursue and encourage innovation, including health design bootcamps, healthcare innovation seminars and workshops, and undertakes both faculty and student research projects while building communities of practice. The Design Lab' interests notably include: improving the patient experience, increasing medical outcomes, changing lifestyle behaviors, educating innovators, rethinking processes and ultimately connecting patients with physicians.

6.4 Library Resources

The Al Maktoum Medical Library (AMML) supports MBRU's students, medical and academic 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 floor of MBRU, the state-of-the-art library offers a collection of point of care resources and medical education databases and provides spaces for

The Library's hours of operation	
Sunday - Wednesday	8:00 am – 9:30 pm
Thursday	8:00 am – 5:00 pm
Saturday	8:30 am – 4:00 pm
Friday and Public Holidays	Closed

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.

The Library is a modern 30,000 square feet facility. AMML maintains over 3000 print books, more than 250 print journals and subscription to a range of electronic resources including e-Journals and eBooks covering a wide range 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. Library resources include: More than 24 databases covering 11,000 electronic journals, 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. The Library databases also have 18 Core Databases including Acland Anatomy, Visible Body, BMJ Clinical Summaries and Web of Science.New students will receive an induction into using the Library and its online facilities as part of orientation, and librarians are available throughout the academic 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. Library services include reference service, scanner, information literacy sessions, research support, interlibrary loans and document delivery, remote access, technology hub and wellness services.

6.5 Educational Technology

6.5.1 E-Learning Management System (LMS): The University has subscribed to 'Desire2Learn' as the platform for the LMS.

6.5.2 Registration and enrollment: All students management records will be on an electronic platform called 'PowerCampus'.

6.5.3 ExamSoft platform is used for conducting electronic examinations, archiving question banks and analyzing results.

6.5.4 PathXL software provides virtual microscopic teaching in histology, anatomic pathology and hematology.

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PARTNERSHIPS & COLLABORATIONS

7. PARTNERSHIPS AND 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 its collaborations to date, 10% of MBRU's collaborations are between academic and corporate entities and 82% with international entities.

MBRU faculty collaborate with researchers from other institutions in successfully seeking research grants from Al Jalila Foundation, Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences, Terry Fox Foundation, and MBRU-AlMahmeed Collaborative Research Award. MBRU faculty members serve on multiple national entities devoted to high-quality research such as the Mohammed bin Rashid Academy of Scientists MBR Academy of Sciences, and Emirates Scientists Council.

MBRU has a number of collaborative agreements and partnerships with educational, research and service institutions nationally and internationally. Such partnerships aim at enhancing the quality of MBRU's educational programs, widening the University's network, expanding MBRU's outreach. The following is the list of partnerships that MBRU currently has with other institutions, indicating relationships with opportunities for research collaboration and, therefore, relevant to the MSc BMS Program:

Al Mahmeed[R]	^ The MBRU-AlMahmeed Collaborative Research Award
Fakeeh University Hospital in Dubai	^^Letter of Engagement
Queen's University BelfastR	*Academic Partnership
Al Jalila Children's Specialty Hospital (AJCH)[R]	**Affiliation Agreement
Mediclinic Middle East	**Affiliation Agreement
Dubai Dental Hospital	**Affiliation Agreement
Dubai Health Authority (DHA)	***Memorandum of Understanding
University of Jordan	***Memorandum of Understanding
Jordan University of Science & Technology	***Memorandum of Understanding
University of Jordan – School of Dentistry	***Memorandum of Understanding
Saudi Commission for Health Specialties	***Memorandum of Understanding
United Arab Emirates University (UAEU)[R]	***Memorandum of Understanding

Royal College International – Canada	***Memorandum of Understanding
ERADA Center for Treatment and Rehab[R]	***Memorandum of Understanding
Kuwait Institute for Medical Specialization (KIMS)	***Memorandum of Understanding
The Royal College of Surgeons in Ireland (RSCI)	***Memorandum of Understanding
Hamdan Bin Mohammed Smart University (HBMSU)	***Memorandum of Understanding
Emirates Scientists Council[R]	***Memorandum of Understanding
Jaseng Hospital of Korean Medicine[R]	***Memorandum of Understanding
Seoul National University Hospital[R]	***Memorandum of Understanding
Dubai Healthcare City AuthorityR – DDH[R]	***Memorandum of Understanding
Cleveland Clinic Abu Dhabi	***Memorandum of Understanding
Drägerwerk AG & Co. KGa[A]	***Memorandum of Understanding
Ministry of Health and Prevention (MOHAP)	***Memorandum of Understanding
Dubai Institute of Design and Innovation (DIDI)	***Memorandum of Understanding
Al Jalila Foundation[R]	***Memorandum of Understanding
Abu Dhabi Health Services Company - SEHA	***Memorandum of Understanding
King Saud University	***Memorandum of Understanding

Definitions
^ Al Mahmeed Research Award Agreement: Academic collaborations with contractual obligations
^^Letter of Engagement: Similar to the agreement below
* Academic Partnership: Co-development and delivery of training
** Affiliation Agreement: Organizations support training programs by one complementing the contribution of the other
*** Memorandum of Understanding: Two institutions that have mutual academic interests and are willing to work further to actualize the interests [R] **Relationships with opportunities for research collaboration and, therefore, relevant to the MSc BMS Program**

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ADMISSIONS POLICIES

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REGISTRATION, RE-ENROLLMENT, WITHDRAWAL, PROBATION AND DISMISSAL POLICIES

8. ADMISSIONS POLICIES

8.1 Postgraduate Admission

Admission into the MSc. 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.

General minimum admissions criteria for the academic year 2021-2022 entry are set out below:

ITEM		QUALIFICATION/CRITERIA
Degree		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 Average of 75%. Applicants with cGPA between 2.5 - 2.99 OR Average of 70 – 74.99% may be considered but will be placed on probation until a GPA of 3.0 in the first semester is obtained.
English Language Requirements	Academic IELTS	• An overall band 6 with no skill less than 5.5 • Original certificate will be required if the offer is accepted • Must have been taken within the last two years • A single certificate to be submitted, combined scores are not accepted.

ITEM		QUALIFICATION/CRITERIA
English Language Requirements	TOEFL	• iBT 80 • PBT is not accepted • Original certificate will be required if the offer is 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 on campus.	

Note:

- Qualifications obtained outside UAE require authentications from the embassy, Foreign Affairs, and equivalency from the Ministry of Education.
- Applicants with a university degree obtained outside the UAE, are required to submit an Educational Credential Evaluators (ECE) - General with Grade Average evaluation when applying to evaluate the transcripts and have a standard GPA (http://www.ece.org)
- Students having proven previous laboratory research experience will be given preference. Prospective students who are suitably qualified will be interviewed by members of the Program Steering Committee. 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 biomedical research interest. The interview panel will also be looking for evidence of commitment to an arduous training program.
- MBRU's admissions policy and procedures is detailed in the Student Handbook (Section 2.1). Please refer to 2.1.1 Postgraduate Admissions: MSc. in Biomedical Sciences

8.2 Transfer Admissions, Transfer Credit and Advanced Standing

Transfer of admissions, transfer of credits, or awarding of credit from external institutions will not be permitted in the MSc BMS program.

8.3 Application Fee

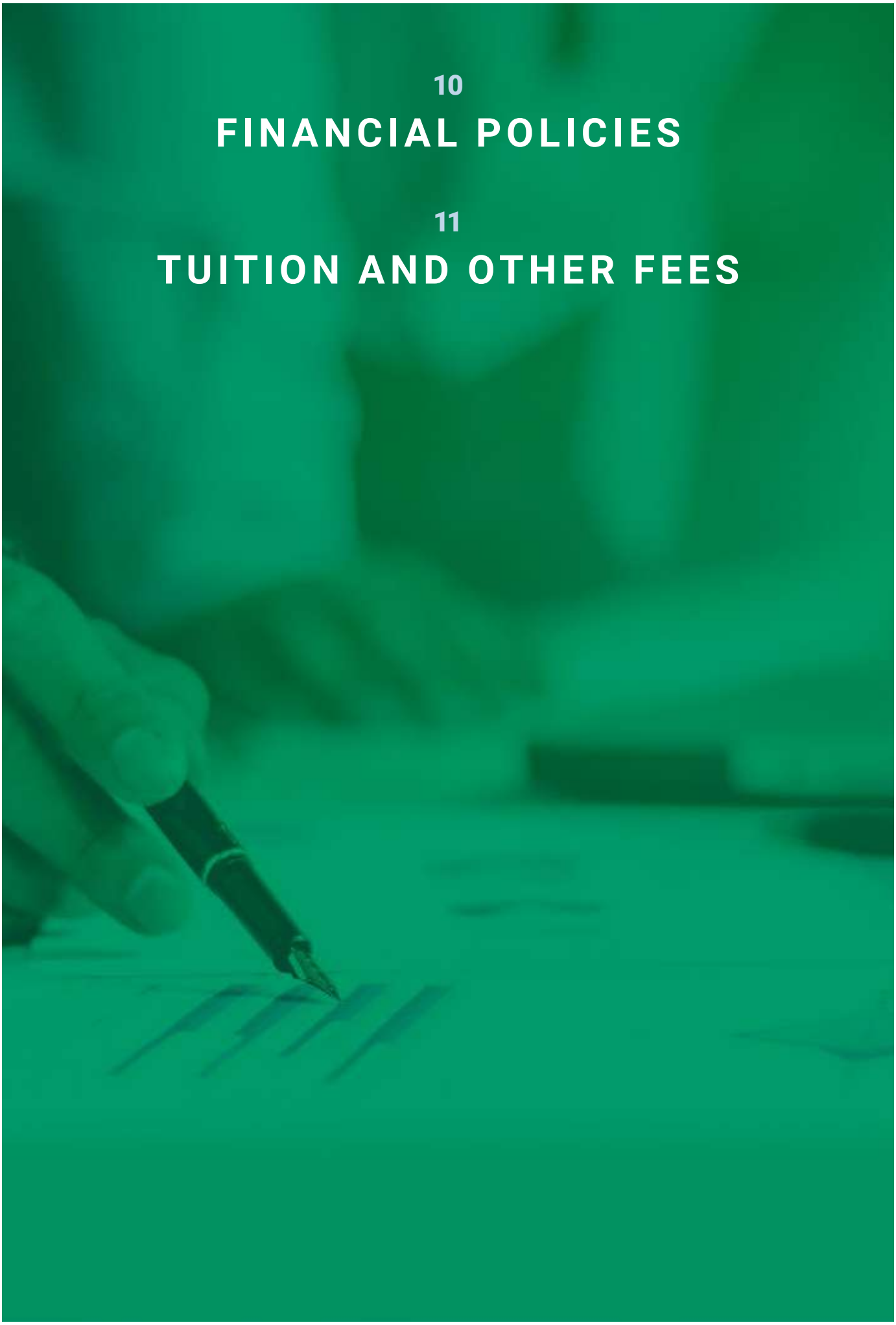
There is a non-refundable application fee of AED 1,050. The tuition rate for the MSc BMS program is based on the cost per credit set at AED 3,450 which amounts to AED 117,300 for the entire program (34 credit hours).

9. REGISTRATION, RE-ENROLLMENT, WITHDRAWAL, PROBATION AND DISMISSAL POLICIES

MBRU's admissions policy and procedures are detailed in the Student Handbook (Section 2.1). The registration, re-enrollment and withdrawal policies and procedures are detailed in the Student Handbook (Section 2.3), and the dismissal policy and procedures are detailed in the Student Handbook (Section 3).

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.

For probation and dismissal please refer to section 21.3 in this catalog.



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FINANCIAL POLICIES

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TUITION AND OTHER FEES

10. FINANCIAL POLICIES

The Department of Student Services and Registration (DSSR) in collaboration with the Finance Department and the Advancement and Future Office, supports students with completion of financial status and can advise on issues relating to tuition fees and scholarships.

11. TUITION AND OTHER FEES

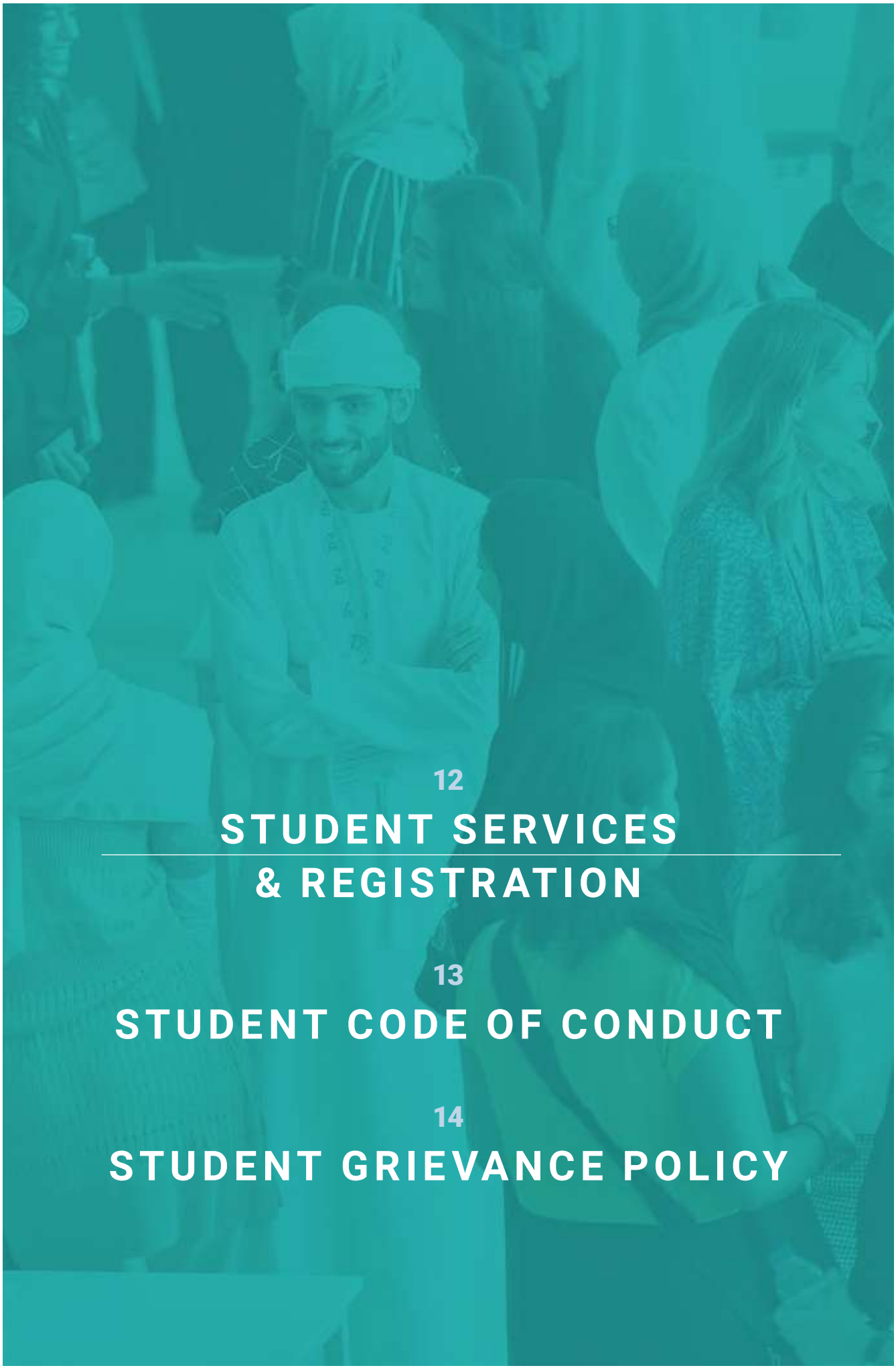
MBRU annually publishes the tuition and fees schedule. Any changes in tuition and fees are approved by the University Academic Council and the University Board of trustees and communicated to students at least six months before taking effect. Below is the tuition and fees schedule for Academic Year 2021-2022:

2021-2022	Tuition & Fee	Payment Schedule
Seat reservation fee (non-refundable)	AED 10,000	At time of acceptance of offer
Tuition fees	AED 107,300	July 26, 2021
Total annual tuition fee	**AED 117,300**	

Note:

- Students facing financial hardship may request from DSSR to reschedule payments on an exceptional basis.
- Students with external scholarships for tuition charges 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 enrollment 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.

All additional policies on tuition fee refunds are detailed in the Student Handbook (Section 2.2).



12. STUDENT SERVICES AND REGISTRATION

The Department of Student Services and Registration (DSSR) provides assistance on admissions, scheduling, registration, student records, counseling, accommodation, student events and activities, sports and recreation, career development, and student support. Detailed information on each service is provided in the Student Handbook.

13. STUDENT CODE OF CONDUCT

The Student Handbook sets out details on what students can expect from MBRU and the College of Medicine during their time of study in the University, and what their responsibilities are; please refer to Students' Rights & Responsibilities. Details on General Conduct, Dress Code policy, co-education conduct and conduct in the classroom are also presented in the Student Handbook (Section 2.11).

14. STUDENT GRIEVANCE POLICY

The Student Grievance and Appeals are provided in Section 4 in the Student Handbook.

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ACADEMIC INTEGRITY

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DEFINITION OF A CREDIT HOUR

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ACADEMIC TERMINOLOGY

15. ACADEMIC INTEGRITY

The Student Disciplinary and Appeals Procedures relating to both academic and non-academic offenses are available within the Student Handbook (Section 3). In brief, MBRU expects its postgraduate students 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, etc. will be handled according to MBRU Policies and Procedures. The consequences of academic misconduct are severe and the College of Medicine at MBRU upholds and enforces these policies.

16. DEFINITION OF A CREDIT HOUR

The credit system conventionally uses hours (contact and credit) per week to measure student load.

One credit hour is equal to one contact hour (60 minutes) of lecture time, 2 contact hours (120 minutes) of a Practical or a Tutorial, or three-four contact hours (180-240 minutes) of Field Work or clinical work in a 15-17 week semester. A team-based learning (TBL) session is considered to be a tutorial.

For example, in a 15-week semester, a course of three credits where there are two lectures and one tutorial every week will have 30 contact hours of lecture time and 30 contact hours of tutorial time (i.e. 60 contact hours per semester). A similar three credit hour course but with three lectures per week will have 45 contact hours per semester.

17. ACADEMIC TERMINOLOGY

MBRU General Courses: These courses are required by all students in any MBRU postgraduate program (8 Credit Hours).

Core Courses in MSc BMS: These are required core courses for MSc BMS students (14 Credit Hours). Thesis Research Course: 12-credit research thesis .

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MsC BMS PROGRAM LEARNING OUTCOMES AND COMPLETION REQUIREMENTS

18. MSc BMS PROGRAM GOALS, LEARNING OUTCOMES AND COMPLETION REQUIREMENTS

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

18.1 MSc. in Biomedical Sciences Goals

The goals of the MSc. in Biomedical Sciences 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 problem, 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.

18.2 MSc. in Biomedical Sciences 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 QFEmirates". 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 principals 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.

18.3 Program Completion Requirements

18.3.1 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.

18.3.2 Thesis

Please see the Student Assessment and Progression section (Section 22) in this catalog.

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STRUCTURE OF THE MSc BMS PROGRAM

19. STRUCTURE OF THE MSc BMS PROGRAM

19.1 MSc. in Biomedical Sciences Curriculum

The MSc BMS program takes a minimum of two years to complete. The program requires a total number of 34 credit hours (beyond the bachelor's degree) for graduation. Out of these credit hours, a minimum of 22 credit hours must be graduate-level courses. The remaining 12 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 Steering Committee will aid MSc BMS students to identify a thesis supervisor following the laboratory rotations.

19.2 Curriculum Structure

Students are required to successfully complete 8 credit hours (CH) of general courses, 14 credit hours of MSc. biomedical sciences core courses and a 12-credit research thesis (Please see the table below). In addition, students will be required to undergo Laboratory Rotations prior to selecting their thesis supervisors.

	Credit Hours
General Courses*	8 CH
Core Courses in Biomedical Sciences	14 CH
Thesis Research	12 CH
TOTAL	**34 Credit Hours**

Table 1: Structure of the MSc. BMS

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

Year 1	Coursework	Credit Hours
Semester 1	Research Methodology & Ethics*	4 CH
	Biostatistics*	2 CH
	Innovation and Entrepreneurship in Health Sciences*	1 CH
	Special Topics in Biomedical Sciences	3 CH
	Advanced Molecular and Cellular Biology	3 CH
	Laboratory Rotations	0 CH
	Total	**13 CH**
	Selection of the supervisor and formation of the Thesis Advisory Committee (following Laboratory Rotations)	
Semester 2	Leadership in the Biomedical Sciences*	1 CH
	Genomics and Bioinformatics	3 CH
	Techniques in Biomedical Sciences	3 CH
	Biomedical Sciences Seminars & Journal Club	2 CH
	Research in Biomedical Sciences	**CC**
	Total	**9 CH**
Year 2	**Coursework**	**Credit Hours**
Semester 3	Research in Biomedical Sciences	CC
	Total	**0 CH**
Semester 4	Research in Biomedical Sciences	12 CH
	Total	**12 CH**

Table 2: Sequencing of Courses for the MSc. BMS

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COURSE DESCRIPTIONS

20. COURSE DESCRIPTIONS

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 MSBS 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 length of the course, the application of the different techniques will be explored through the discussion of research articles published in peer-reviewed journals of repute. Students will also 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 stem into 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 and Bioinformatics (MSBS7232)

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. This course will teach the application of bioinformatics to manipulate and analyze large scale datasets using established bioinformatics tools and programming languages. The bioinformatics module will also provide an overview of approaches and techniques for clinical application.

Special Topics in Biomedical Sciences (MSBS7233)

This course will provide students the chance to spend time in a particular laboratory to learn about the various projects in progress in that laboratory with emphasis on acquainting themselves with the literature in that research area and techniques being used in the laboratory. Students should study the literature provided by their respective faculty principal investigators and familiarize themselves with the research activities being carried out in the laboratory.

In this course, students will learn how to devise hypotheses, design experiments that test their hypotheses, record their data in laboratory notebooks, critically analyze the results of their analyses, and present their findings to others. Students enrolled in this course will demonstrate a deep understanding of their research projects and scientific communication skills through oral presentations. Students enrolled in this course will be exposed to a wide variety of research areas through participation in laboratory group meetings and peer presentations.

Regular attendance (at least 6 hours per week) and active participation of the student in observing and learning about these projects as well as starting to work on specific projects within the laboratory is of great importance.

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.

Research in Biomedical Sciences (MSBS7312)

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.

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STUDENT ASSESSMENT & PROGRESSION

21. STUDENT ASSESSMENT AND PROGRESSION

21.1 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 14 credit hours (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 14 CH 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.

21.2 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.

21.3 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 able to defend their research work.

21.4 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.

Towards graduation requirements, research work leading to a thesis, which is a scholarly and original study that contributes to the knowledge in a chosen discipline, is required. 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).

22.5 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 develop 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 .

21.6 Master's 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 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.

  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. .

21.7 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 of 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.

21.8 Responsibilities of the Program Examination Committee

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 examinations and/or resits
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

21.9 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.

21.10 Review of Examinations

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

21.11 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.

21.12 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.

21.13 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.

21.14 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.

21.15 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.

21.16 Access to Old/Previous Exams

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

21.17 Absenteeism from Examinations

Please refer to the attendance policy in the Student Handbook (2.6). 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.

21.18 Misconduct in Examinations

Please refer to the policy in the Student Handbook (Section 3). 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.

21.19 Online Exams

21.19.1 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 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.

21.20 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.

21.20.1 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.

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STATEMENT ON THE RESEARCH POLICY OF THE INSTITUTION

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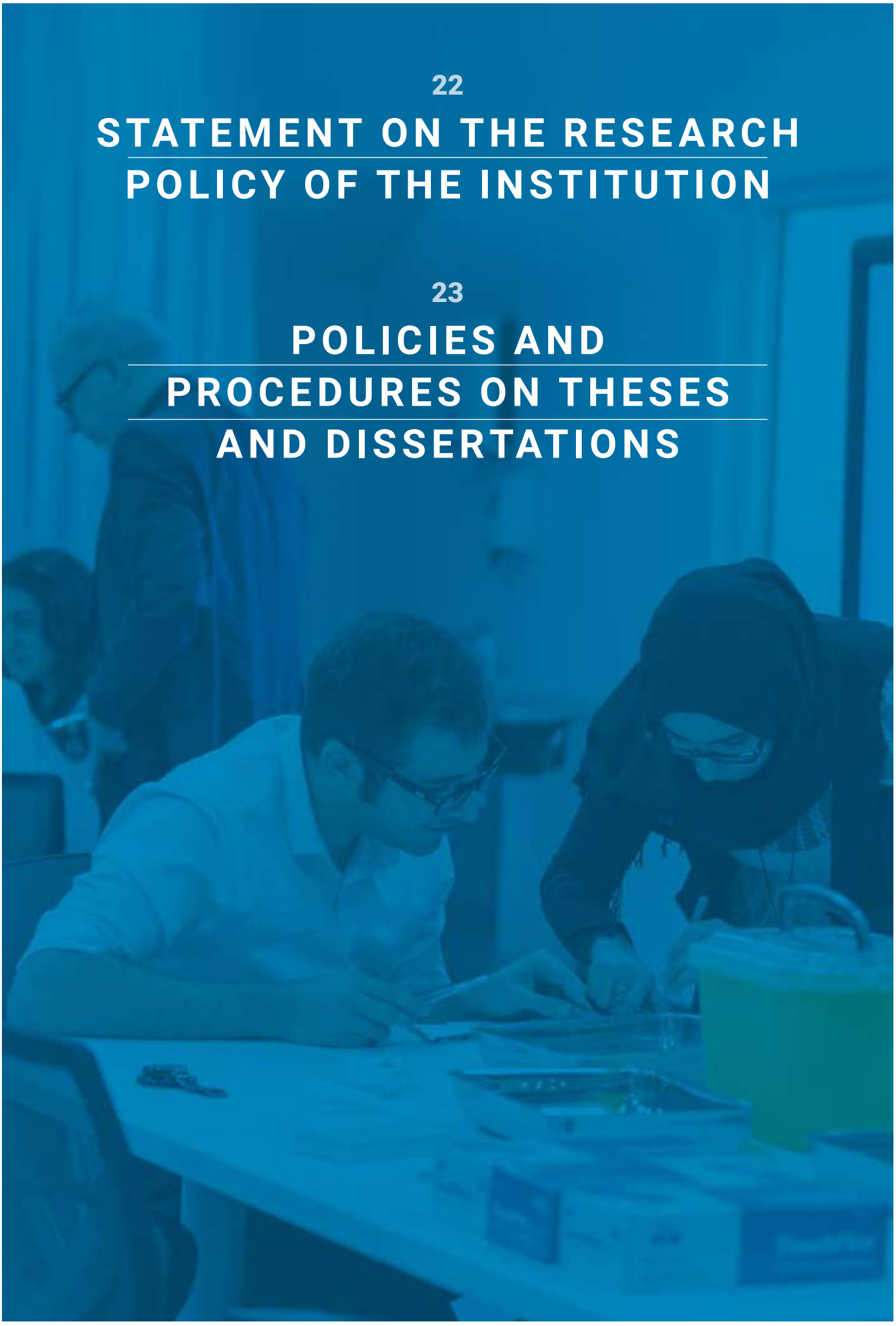
POLICIES AND PROCEDURES ON THESES AND DISSERTATIONS



22. STATEMENT ON THE RESEARCH POLICY OF THE INSTITUTION

MBRU is committed to support research activities and has budgeted 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 and Research Assistants and provides research bench spaces, consumables heavy 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 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 (DHCC) and the establishment of an Integrated Academic Health System will be an important strategic step in this direction.

In order to attract top-quality scientists and researchers, MBRU has set up state-of-the-art research facilities. These cutting-edge research infrastructures 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, research assistants, post-doctoral fellows, laboratory technologists and graduate students have access to scholarships.

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.

23. POLICIES AND PROCEDURES ON THESES AND DISSERTATIONS

Described in section 22.

24. MSc BMS PROGRAM FACULTY

MBRU regularly evaluates the output of its research and scholarly activities at the University level to help the University take necessary decisive actions to further enhance the quality of its research and scholarship. To date, 26% of MBRU's publications have been in the top 10% Journals. Both quality and quantity aspects of research publications are considered while measuring impact of publications. MBRU also engages in special Research retreats at intervals to ensure that research efforts are aligned with national needs and are of global relevance. Faculty members are encouraged to seek research grant support from agencies whose areas of interest manifestly aligns with declared national interests, e.g., Al Jalila Foundation.

Based on statistics available by the end of the academic year 2019, MBRU's total faculty strength stood at 54 with research output and scholarly activity in peer-reviewed publications like Nature Neuroscience, Scientific Reports, Health Policy and Cardiology at over 260.

Abiola Senok
Microbiology

Alawi Alsheik-Ali
Cardiology

Homero Rivas
Surgery

Ahmad Abou Tayoun
Genetics

Amar Omer
Biostatistics

Ibrahim Inuwa
Anatomy

Ahmed Ghoneima
Orthodontics

Bakhrom Berdiev
Physiology

Jahanzeb Chaudhry
Maxillofacial Radiology

Aida Azar
Epidemiology

Fahad Ali
Molecular Biology

Leonard Lipovich
Molecular Biology

Manal Al Halabi
Pediatric Dentistry

Rajan Radhakrishnan
Pharmacology

Samuel Ho
Gastroenterology

Mohamed Jamal
Endodontics

Reem AlGurg
Public Health
& Nutrition

Stefan Du Plessis
Physiology

Mohammed Uddin
Genetics

Reem Jan
Pharmacology

Thomas Adrian
Physiology

Momen Atieh
Periodontics

Riad Bayoumi
Biochemistry

Tom Loney
Public Health

Moosa Abuzayda
Prosthodontics

Richard Kandasamy
Molecular Biology

Yajnavalka Banerjee
Biochemistry

Nabil Zary
Medical Education

Ritu Lakhtakia
Pathology

Zaid Baqain
Oral & Maxillofacial

Nerissa Naidoo
Anatomy

Saba Al Heialy
Immunology

25. GRADUATE FACULTY

MBRU is committed to recruiting the best faculty to set a foundation and culture of excellence. The process for recruitment, compensation, promotion and termination are described in the Faculty Handbook and the previously approved MBRU Policies on Faculty Affairs.

Fulltime faculty members will, as core teachers, have a major role in the design and delivery of teaching. In addition, the College of Medicine and Hamdan Bin Mohammed College of Dental Medicine will seek and recruit adjunct and part-time faculty members to contribute to teaching and assessment. 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 CAA.

Experience of the Graduate Faculty Members in Research Student Supervision and Graduate Student Teaching is mentioned in the table in the previous section (24. MSc BMS Program Faculty).

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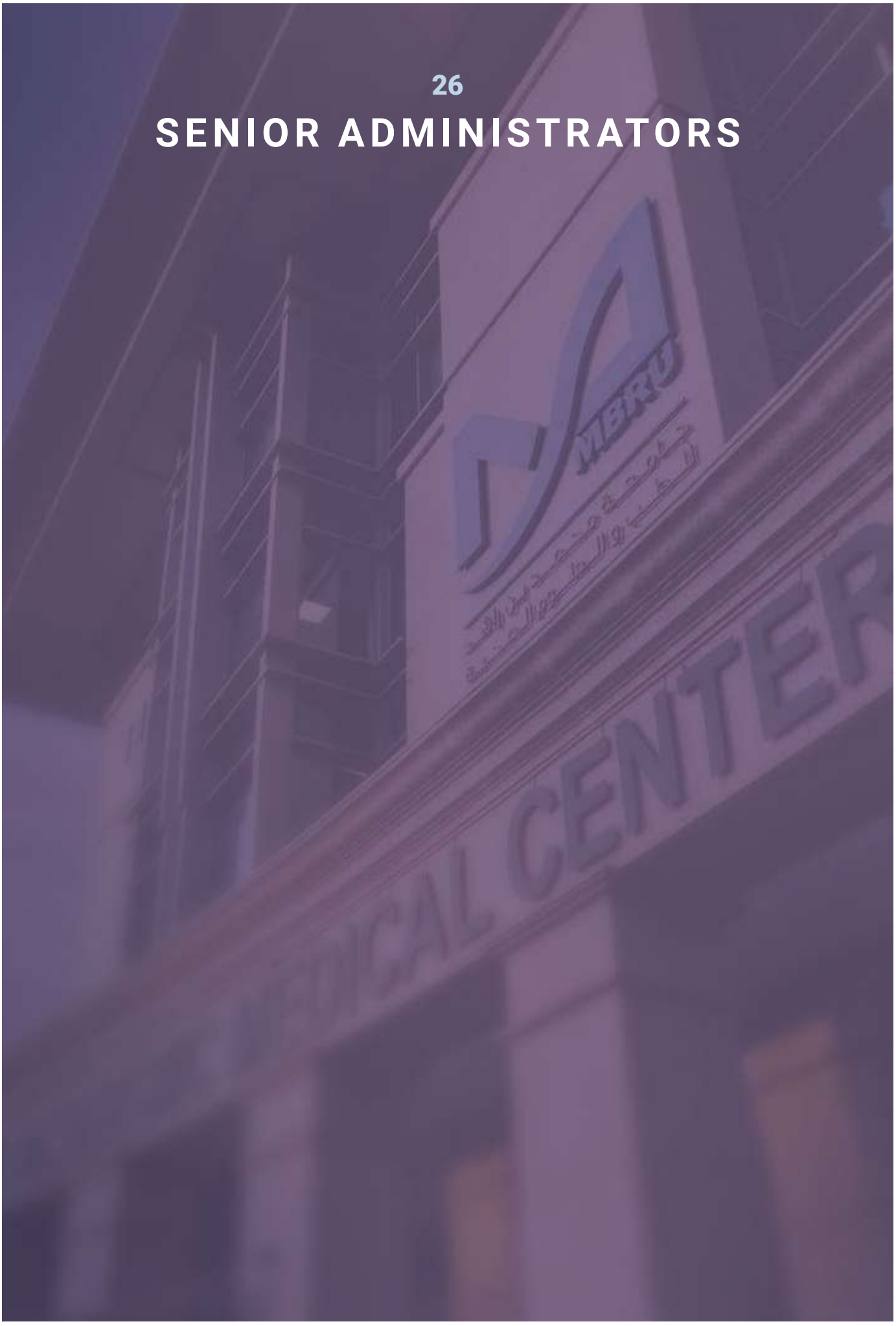
SENIOR ADMINISTRATORS



26. SENIOR ADMINISTRATORS

Amer Sharif
Vice Chancellor

Zaid Baqain
Provost

Professor – Oral and Maxillofacial Surgery

Mutairu Ezimokhai
Senior Advisor – Vice Chancellor's Office

Professor – Obstetrics and Gynecology

Amer Al Zarooni
Deputy Vice Chancellor - Administration

Kevin Gormley
Dean – College Nursing & Midwifery

Manal AlHalabi
Dean – Hamdan Bin Mohammed College of Dental Medicine

Associate Professor – Pediatric Dentistry

Suleiman Al-Hammadi
Dean – College of Medicine

Stefan Du Plessis
Professor – Physiology

Dean – Research and Graduate Studies

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BOARD OF TRUSTEES

27. BOARD OF TRUSTEES

H.H. Sheikh Ahmed bin Saeed Al Maktoum
Chancellor of MBRU
Chairperson of the Board of Trustees

H.E. Dr. Abdulla Mohamed Al Karam
Chairman of the Board of Directors and Director General of the Knowledge and Human Development Authority (KHDA)

H.E. Dr. Raja Easa Al Gurg
Vice Chairperson of the Board of Trustees

Dr. Amer Ahmad Sharif
Vice Chancellor
MBRU

H.E. Abdul Rahman bin Mohammed Al Owais
Minister of Health and Prevention

Professor Alawi Alsheikh-Ali
Deputy Director General of Dubai Health Authority

Professor - Cardiovascular Medicine
MBRU

H.E Awadh Seghayer Al Ketbi
Director General of Dubai Health Authority

Professor Ian Greer
President and Vice - Chancellor
Queens University Belfast

H.E. Abdullah Abdul Rahman Al Shaibani
Former Secretary - General of The Executive Council-Dubai

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CONTACT INFORMATION

28. CONTACT INFORMATION

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College of Medicine: dean.medicine@mbru.ac.ae

PHONE NUMBERS

800-MBRU (800-6278)

جامعة محمد بن راشد للطب و العلوم الصحية

MOHAMMED BIN RASHID UNIVERSITY OF MEDICINE AND HEALTH SCIENCES

College of Medicine

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES (MSc BMS)