

# MEDICAL IMAGING SCIENCE

## Admission to Program

Admission to the program is explained in the HCT Admission Policy described in the Academic Policies section of this Catalog.

## Program Mission

To Prepare Emirati national students to practice competently and effectively as medical imaging professionals in diverse healthcare environments and meet the continuously thriving UAE stakeholder's demands for medical imaging human resources

## Program Description

### Medical Imaging Science Program

The Bachelor of Medical Imaging Science (BMIS) program includes a knowledge base that examines specializations of general, emergency and specialized Medical Imaging best practices. This is in alignment with the industrial multimodality medical imaging professionals characteristics.

The BMIS program offers students in Year 4 an option to follow one of three tracks in MRI, advanced CT applications or clinical mammography. Each track consists of 9 credits where students select specialized imaging modality. The track option will distinguish graduates from other competitor programs ones by equipping each BMIS graduate with a strong background to become ready for the high end specialized imaging job on the first day of employment.

The program provides a mix of education and training that equips graduates with the skills, knowledge and competencies to work within the UAE healthcare services system to effectively fulfil health care needs from the medical imaging perspective.

### Medical Imaging Technology Program

The Higher Diploma in Medical Imaging Technology (HDMIT) program prepares students for professional, general and emergency medical imaging practice and includes a mix of theoretical knowledge, skills and competencies required for graduates to work in the clinical or non-clinical setting. The Higher Diploma in Medical Imaging Technology program includes a knowledge base that examines specializations of General, and emergency Medical Imaging best practice.

**Both BMIS and HDMIT program credentials incorporate extensive supervised professional clinical placement in relevant healthcare settings.**

## Program Learning Outcomes

### Bachelor of Medical Imaging Science (NQF Level 7)

*On successful completion of this program the graduate will be able to:*

PLO1. Apply advanced knowledge, management and decision-making as member or technical leader within the national and global medical imaging context to provide quality healthcare services in clinical and non-clinical settings..

PLO2. Apply theoretical, practical and evidence based techniques to develop strategies and protocols that addresses challenges in

undertaking general, emergency and specialized imaging procedures and patient care.

PLO3. Evaluate diagnostic images produced to ensure diagnostic image quality, quality assurance and to promote patient safety within the ALARA and best practice frameworks.

PLO4. Demonstrate technical leadership attributes and be able to lead and work collaboratively within a multidisciplinary team in a diverse range of general, emergency and specialized medical imaging settings. (Technical leadership)

PLO5. apply professional competency and incorporate new solutions into general, emergency and specialized medical imaging practice.

PLO6. Demonstrate the ability to apply entrepreneurship and innovation skills to contribute to the improvement of general and emergency medical imaging practice. (Graduating Companies).

### Higher Diploma in Medical Imaging Technology (NQF Level 7)

*On successful completion of this program the graduate will be able to:*

PLO1. Apply advanced knowledge within the national and global medical imaging context to provide quality healthcare services in clinical and non-clinical settings.

PLO2. Apply theoretical, practical and evidence based techniques to develop strategies and protocols that addresses challenges in undertaking general and emergency and imaging procedures and patient care.

PLO3. Evaluate diagnostic images produced to ensure diagnostic image quality, quality assurance and to promote patient safety within the ALARA and best practice frameworks.

PLO4. Demonstrate and technical leadership attribute and be able to lead and work collaboratively within a multidisciplinary team in a diverse range of general, emergency and specialized medical imaging settings. (Technical leadership)

PLO5. Develop and maintain professional competence and incorporate new solutions into general and emergency medical imaging setting.

PLO6. Demonstrate the ability to apply entrepreneurship and innovation skills to contribute to the improvement of general and emergency medical imaging practice. (Graduating Companies).

## Requirements

### Completion Requirements

Bachelor of Medical Imaging Science

**Students must successfully complete a minimum of 126 credits as follows:**

Code	Title	Credit Hours
	Health Science Core Courses	24
	Medical Imaging Core Courses	51
	Medical Imaging Preceptorship Courses	18
	General Studies	33
	Total Credit Hours	126

## Higher Diploma in Medical Imaging Technology

**Students must successfully complete a minimum of 96 credits as follows:**

Code	Title	Credit Hours
Health Science Core Courses		15
Medical Imaging Core Courses		39
Medical Imaging Preceptorship Courses		9
General Studies		33
Total Credit Hours		96

## Bachelor of Medical Imaging Science

Code	Title	Credit Hours
<b>Health Science Core Courses</b>		
Required Credits: 24		
HSC 1023	Chemistry for Health Sciences	3
HSC 1033	Anatomy and Physiology	3
HSC 1113	Introduction to Healthcare Systems and Professional Practice	3
HSC 1123	Work Health and Safety	3
HSC 1803	Medical Terminology for Health Sciences	3
HSC 4003	Research Methods for Health Sciences	3
HSC 4006	Capstone Research Project for Health Sciences	6
<b>Medical Imaging Core Courses</b>		
Required Credits: 51		
HMI 2002	Medical Imaging Technology I	3
HMI 2003	Patient Care in Medical Imaging I	3
HMI 2102	Medical Imaging Technology II	3
HMI 2303	Medical Imaging Positioning and Procedures I	3
HMI 2403	Medical Imaging Anatomy and Pathology I	3
HMI 2503	Medical Imaging Positioning and Procedures II	3
HMI 2603	Medical Imaging Anatomy and Pathology II	3
HMI 3002	Medical Imaging Technology III	3
HMI 3003	Patient Care in Medical Imaging II	3
HMI 3103	Medical Imaging Positioning and Procedures III	3
HMI 3113	Specialised Imaging I	3
HMI 3213	Radiation Safety and Biology	3
HMI 3223	Cross Sectional Anatomy	3
HMI 4003	Quality Management in Medical Imaging	3
HMI 4013	Specialised Imaging II	3
HMI 4113	Specialized Imaging III	3
HMI 4203	Professional Practice	3
<b>Medical imaging Preceptorship Courses</b>		
Required Credits: 18		
HMI 2613	Clinical Preceptorship I	3
HMI 3013	Clinical Preceptorship II	3
HMI 3233	Clinical Preceptorship III	3
HMI 4023	Clinical Preceptorship IV	3
HMI 4106	Clinical Preceptorship V	6
<b>General Studies</b>		
Required Credits: 33		

## English, Arabic or other Languages

Required Credits: 12

## Humanities or Art

Required Credits: 3

## Information Technology or Mathematics

Required Credits: 6

## The Natural Sciences

Required Credits: 3

## The Social or Behavioral Sciences

Required Credits: 9

## Higher Diploma in Medical Imaging technology

Code	Title	Credit Hours
<b>Health Science Core Courses</b>		
Required Credits: 15		
HSC 1023	Chemistry for Health Sciences	3
HSC 1033	Anatomy and Physiology	3
HSC 1113	Introduction to Healthcare Systems and Professional Practice	3
HSC 1123	Work Health and Safety	3
HSC 1803	Medical Terminology for Health Sciences	3
<b>Medical Imaging Core Courses</b>		
Required Credits: 39		
HMI 2002	Medical Imaging Technology I	3
HMI 2003	Patient Care in Medical Imaging I	3
HMI 2102	Medical Imaging Technology II	3
HMI 2303	Medical Imaging Positioning and Procedures I	3
HMI 2403	Medical Imaging Anatomy and Pathology I	3
HMI 2503	Medical Imaging Positioning and Procedures II	3
HMI 2603	Medical Imaging Anatomy and Pathology II	3
HMI 3002	Medical Imaging Technology III	3
HMI 3003	Patient Care in Medical Imaging II	3
HMI 3103	Medical Imaging Positioning and Procedures III	3
HMI 3113	Specialised Imaging I	3
HMI 3213	Radiation Safety and Biology	3
HMI 3223	Cross Sectional Anatomy	3
<b>Medical imaging Preceptorship Courses</b>		
Required Credits: 9		
HMI 2613	Clinical Preceptorship I	3
HMI 3013	Clinical Preceptorship II	3
HMI 3233	Clinical Preceptorship III	3
<b>General Studies</b>		
Required Credits: 33		
<b>English, Arabic or other Languages</b>		
Required Credits: 12		
<b>Humanities or Art</b>		
Required Credits: 3		
<b>Information Technology or Mathematics</b>		
Required Credits: 6		
<b>The Natural Sciences</b>		
Required Credits: 3		

**The Social or Behavioral Sciences**

Required Credits: 9

Description	Data
Total Required Credits	126
Maximum Duration of Study	6 years
Minimum Duration of Study	4 years
Cost Recovery Program	No
Program Code	BHMIU
Major Code	HMI

## Ideal Study Plan

### Recommended Sequence of Study

**Year 1**

Semester 1		Credit Hours
HSC 1013	Human Biology	3
HSC 1113	Introduction to Healthcare Systems and Professional Practice	3
HSC 1803	Medical Terminology for Health Sciences	3
LSC 1103	Professional Communication and Reporting	3
LSM 1113	Statistical Mathematics	3
	Credit Hours	15

**Semester 2**

HSC 1023	Chemistry for Health Sciences	3
HSC 1033	Anatomy and Physiology	3
HSC 1123	Work Health and Safety	3
LSS 1003	Life and Future Skills	3
LSS 1123	Basic Research Methods	3
	Credit Hours	15

**Year 2**

Semester 3		Credit Hours
AES 1013	Arabic Communications I	3
HMI 2002	Medical Imaging Technology I	3
HMI 2003	Patient Care in Medical Imaging I	3
HMI 2303	Medical Imaging Positioning and Procedures I	3
HMI 2403	Medical Imaging Anatomy and Pathology I	3
LSC 2223	Future Skills Capstone	3
	Credit Hours	18

**Semester 4**

AES 1003	Emirati Studies	3
HMI 2102	Medical Imaging Technology II	3
HMI 2503	Medical Imaging Positioning and Procedures II	3
HMI 2603	Medical Imaging Anatomy and Pathology II	3
HMI 2613	Clinical Preceptorship I	3
	Credit Hours	15

**Year 3**

Semester 5		Credit Hours
AES 1033	Islamic Culture	3
BUS 2403	Innovation and Entrepreneurship	3
HMI 3002	Medical Imaging Technology III	3
HMI 3003	Patient Care in Medical Imaging II	3
HMI 3013	Clinical Preceptorship II	3
HMI 3103	Medical Imaging Positioning and Procedures III	3
	Credit Hours	18

**Semester 6**

ICT 2013	Computational Thinking and Coding	3
HMI 3113	Specialised Imaging I	3
HMI 3213	Radiation Safety and Biology	3

HMI 3223	Cross Sectional Anatomy	3
HMI 3233	Clinical Preceptorship III	3
Higher Diploma in Medical Imaging Technology exit		
	Credit Hours	15

**Year 4****Semester 7**

HMI 4003	Quality Management in Medical Imaging	3
HMI 4013	Specialised Imaging II	3
HMI 4023	Clinical Preceptorship IV	3
HMI 4203	Professional Practice	3
HSC 4003	Research Methods for Health Sciences	3
	Credit Hours	15

**Semester 8**

HMI 4106	Clinical Preceptorship V	6
HMI 4113	Specialized Imaging III	3
HSC 4006	Capstone Research Project for Health Sciences	6
	Credit Hours	15
	Total Credit Hours	126

## Faculty and Academic Staff

**Majed Mohammad Hiasat**, Lecturer, MSc Radiation and Environmental Protection, Surrey University/ UK 1997

**Saleh Hussein Abuzeitoon**, Lecturer, PhD Curricula and Teaching methods/ Vocational Education, Amman Arabic University, Amman, Jordan , 2006

**Hind Abdulla Binjaffar**, Lecturer, Masters of Science in hospital management, Hamdan Bin Mohammed Smart university/UAE, 2015

**Mostafa Abdelrahman Abdelrahman**, Assistant professor, PhD University of Leeds/UK, 2012

**Collen Khulekani Mbambo**, Master's degree in Radiography, University of Johannesburg/South Africa, 2016

**Hussam Khalid Beituni**, Lecturer, Masters in medical imaging interpretation, Charles Sturt University/Australia, 2007

**Mohammed Hassan Aljallad**, Assistant Professor, Ph.D. Medical Imaging & Physics, University of Massachusetts /USA, 2009

**Shonelle Doreen Britton**, Clinical instructor, Masters of Technology (Radiography), University of Johannesburg/South Africa, 2017

**Fatmah Ali Al Sharqi**, Laboratory Assistant, Bachelor of medical imaging, HCT – FWC /UAE, 2016