Akkreditierungsagentur
im Bereich Gesundheit und Soziales
Accreditation Agency in Health and Social Sciences

Assessment Report

for the Application of
Batterjee Medical College,
Medical College for Sciences and Technology
for the Accreditation of the Study Program "Radiological Sciences",
Bachelor of Sciences in Radiological Sciences

AHPGS Akkreditierung gGmbH
Sedanstr. 22
79098 Freiburg
Telefon: +49 (0) 761/208533-0
E-Mail: ahpgs@ahpgs.de

Expert group	**Mr. Arno Luis Fischer** EDU University, Malta
	Ms. Tina Hartmann Maerkische Clinics, Education Campus, Luedenscheid, Germany
	Dr. Ambili Mundethu University Medicine of the Johannes Gutenberg University Mainz
	Prof. Dr. Dr. Dennis Rottke University for Digital Technologies in Medicine and Dentistry, Luxembourg
	Prof. Dr. Waldemar Zylka Westphalian University, Campus Gelsenkirchen, Germany
Decision	February 15, 2024

Inhalt

1 Introduction

The Accreditation Agency in Health and Social Sciences (AHPGS) is an interdisciplinary and multi-professional organization. Its mission is to evaluate Bachelor and Master' programs in the fields of health and social sciences, as well as in related domains such as law or economics. By conducting accreditation and recommendation procedures, the AHPGS contributes to the improvement of the overall quality of teaching and learning. However, the higher education institutions remain responsible for implementing the quality assurance recommendations made by the AHPGS. Since 2004, the AHPGS has been a member of the European Consortium for Accreditation (ECA). In 2006, the AHPGS also joined the ENQA and became a member of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE) in 2009. Since 2012, the AHPGS has been a member of the Network of Central and Eastern European Quality Assurance Agencies in Higher Education (CEENQA). Furthermore, the AHPGS has been listed in the European Quality Assurance Register (EQAR) since 2009.

In carrying out accreditation procedures, the AHPGS follows the requirements of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). In the present case, the decision regarding the accreditation of the study program is carried out by the AHPGS Accreditation Commission based on the following accreditation criteria[1]:

1. Program aims and learning outcomes
2. Curriculum design
3. Personnel
4. Facilities and learning resources
5. Study process and student assessment
6. Program and quality management

[1] Approved by the AHPGS Accreditation Commission

I. The University's application

The AHPGS verifies the sufficiency of the documents submitted by the University, namely the Self-Evaluation Report and its corresponding annexes. These are to fulfil the assessment spheres as well as the AHPGS standards. With these information, the AHPGS produces a summary (see Sections 2-5), which is to be approved by the University and subsequently made available for the expert group, together with all other documentation.

II. Written review

The main documents are reviewed by the expert group assigned by the accreditation commission of AHPGS. This is done in order to verify the compliance of the study program with the above-mentioned criteria. Consequently, the experts comprise a short summary regarding the study programs.

III. On-site visit (peer-review)

The experts carry out an on-site visit at the University. During this visit, discussions are held with members of the University, which include University and department administration, degree program management, teachers, and students. These discussions provide the expert group with details about the study program beyond the written documents. The task of the experts during the on-site visit is to verify and evaluate the objectives of the program and its projected study results, its structure, staff, material resources, course of studies, methods of assessment (selection of students, assessment of achievements, students' support), as well as the program management (program administration, external assurance of study quality).

Following the on-site visit, the expert group writes the Expert Report. This report is based on the results of the visit, the written review of the study programs, and

the documents submitted by the University. Finally, the report is made available to the University for the opportunity to issue a response opinion.

The Expert Report as well as the University's response opinion – together with the provided documents – is submitted to the accreditation commission of the AHPGS.

IV. The AHPGS accreditation decision

The accreditation commission of the AHPGS examines the documentation made available in the process of application, namely the University's self-evaluation report, its annexes, the summary comprised by the AHPGS, the Expert Report, as well as the University's response opinion. These documents represent the foundation for the commission's decision regarding the recommendation for accreditation of the study program. Consequently, the decision – together with all other documentation – is forwarded to AHPGS Accreditation Commission for it to reach a decision regarding the accreditation of the study program.

2 Information about the Institution

The Batterjee Medical College (BMC) was founded in 2005. Currently, BMC offers nine study programs. All programs are located at the main campus at Jeddah, Saudi Arabia. There are currently 1,946 students at BMC.

The initial program in Radiological Sciences was called “Radiology” and was founded in June 2008. It was updated in 2015 with major changes referring to the external reviewers’ recommendations from three different institutes. It was thereby renamed into “Radiological Sciences””. The running Radiological Sciences program is currently limited to an undergraduate study program. However, the Master’s program application is under processing.

3 Overview

3.1 Procedure-related documents

The BMC delegated the task of accrediting its Bachelor study programs "Radiological Sciences" and "Dentistry".

The Self-Evaluation Report for accreditation (without the awarding of the official seal of the Accreditation Council of the Foundation for the Accreditation of Study Programs in Germany) of the above-mentioned study programs (hereinafter SER) of the Batterjee Medical College (hereinafter BMC) was submitted to the Accreditation Agency in Health and Social Science (AHPGS) in electronic format on December 20, 2022. The decision regarding the accreditation of a study program is carried out by the Accreditation Commission of AHPGS. The contract between the Batterjee Medical College and the AHPGS was signed on March 10, 2022.

On April 3, 2023 the AHPGS forwarded the open questions and explanatory notes (hereinafter OQ) regarding the Application for accreditation for the study programs to the BMC. On April 13, 2023 the BMC submitted the answers to the open questions and explanatory notes (hereinafter AOQ) to the AHPGS in electronic format.

The present document represents the summary of the AHPGS for the Bachelor study program "Radiological Sciences". The first cohort for this program was admitted in 2008.

The application documentation submitted by the BMC follows the outline recommended by the AHPGS. Along with the application request towards accreditation of the Bachelor study program "Radiological Sciences" the following additional documents can be found in the application package (the documents submitted by the BMC are numbered in the following order for easier referencing):

Specific documents for the study program “Radiological Sciences”

Annex	Description
1	Module Description
2	CV of Teachers
3	Program Study Plan
4	Teaching Matrix
5	Skill-oriented designed Exam System
6	Student Handbook
7	NQF Compatibility Report
8	Field Experience Handbook Guideline
9	External Reviewer Letters
10	Program Specification
11	Alignment Matrix
12	Curriculum, PLOs Course Mapping
13	Organization Chart
14	Quality Assurance Manual
15	Cohort and Enrollment

Alongside the study-program-specific documents, the following documents refer to all study programs submitted for external evaluation:

Annex	Description
A	Academic Advisors Policy
B	Academic Staff Development Plan
C	Admission Policy
D	Course Review Guidelines
E	Grievance, Appeal and Exam Policy
F	Hospital Affairs Policy and Procedures
G	HR Orientation Program Policy
H	Kingdom of Saudi Arabia National Qualification Framework
I	Library Guide

J	Program Graduate Attribute Plan
K	Recruitment Selection Policy
L	Research Unit Booklet
M	Research Unit Strategic Plan 2022
N	Student Rights
O	Teaching and Learning Management Manual

The application, the open questions (OQ) and the answer to the open questions (AOQ) as well as the additional documents build the basis for the present summary. The layout bears no significance, as it solely reflects the agreed standard within the BMC.

3.2 Structural data of the study program

Institution	Batterjee Medical College
Faculty/Department	Medical College for Sciences and Technology Department of Radiology
Cooperation partner	- Saudi German Hospital - Ministry of Defense Hospitals - Ministry of Health Hospitals - University of Jeddah - King Abdulaziz University
Title of the study program	“Radiological Sciences“
Degree awarded	Bachelor of Sciences in Radiological Sciences
Form of studies	Full-time, on-campus
Organisational structure	Sunday to Thursday from 08:30 am to 04:30 pm
Language of Studies	English
Period of education	8 Semesters

Credit Hours (CH) according to the internal Credit Hour System	170 CH (equals 227 ECTS Credit Points)	
Hours/CP	1 Theory Credit hour = 1 Hour 1 Practical Hour = 2 Hours 1 Clinical Hour = 3 Hours	
Workload	Total: Contact Hours: Individual work: Practice: Internship:	9,045 hours 2,270 hours 2,940 hours 1,755 hours 2,080 hours
CP for the graduation project	2 CH	
Launch of the study program	2008	
Time of admission	fall semester	
Number of available places on the program	60 places	
Number of enrolled students by now	217	
Particular enrollment conditions	- High school certificate - Academic transcript - interest in dealing with patients and working in hospital environments	
Tuition fees	55,000 SAR (13,871 Euro) per year	

Chart 1: Structural data of the study program

4 Expert Report

The site visit was carried out on November 13-14, 2023 according to the previously agreed schedule. Representatives from the head office of AHPGS accompanied the expert group.

The expert group met on November 12, 2023 for preliminary talks prior to the site visit. They discussed the submitted application documents and the results of the written evaluation as well as questions that had been raised prior.

Furthermore, they prepared the plan of the site visit at the Batterjee Medical College.

During the site visit, the experts conducted discussions with the College management, representatives of the Medical College for Sciences and Technology, the Chair, Vice Chair and the teaching staff of the program "Radiological Sciences" as well as with students currently studying in the program and alumni. Furthermore, they inspected the learning premises, such as lecture halls, seminar classrooms, library, and computer classes. Moreover, the experts had the opportunity to examine the equipment and the capacity of the laboratories.

In the course of the site visit, the BMC submitted the following additional documents at the request of the experts:

- Updated curriculum for "Dentistry"
- Updated curriculum for "Radiology"
- Statistics of outgoing and incoming students "Dentistry"
- Statistics of outgoing and incoming students "Radiological Sciences"

The Expert Report is structured in compliance with the "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG), established by the European Association for Quality Assurance in Higher Education (ENQA). The study program will be described and analyzed in a comprehensive manner below. The documents submitted by the BMC, the experts' feedback to the documents, the observations made during the site visit, the results of discussions with the representatives of the College, Medical College for Sciences and Technology and the Department of Radiological Sciences serve as the foundation for the statements made in the Expert Report.

4.1 Program aims and their implementation

Summary

According to the Batterjee Medical College (BMC), the goal of the "Radiological Sciences" program is to provide high quality education and training which help in the preparation of technicians for entry level positions in radiological imaging technology in accordance with the appropriate national and international standards. The students should develop critical thinking, problem-solving skills, and the ability to retain lifelong learning. Moreover, the students should develop the ability to communicate and participate as an active health care team member. The students are prepared to meet the requirements established by SCFHS to practice as a certified radiological imaging technologist. The college works to ensure the program quality through assessment to measure the achievement of the program goals, learning outcomes, and plans for the improvement of the accreditation standards (SER 1.3.1).

The qualification objectives of the study program are divided into four categories: Scientific Qualification; Qualified Occupation; Social Responsibilities and Personal Development (SER 1.3.2).

1.Scientific Qualification: goal of graduating radiographers with the ability to:

- use critical thinking and independent judgment during the radiological diagnostic imaging study while maintaining patient care,
- minimize radiation exposure,
- use research skills to organize, evaluate, locate, and extract relevant information for a better understanding.

2.Qualified occupation: goal of giving the students the opportunity to:

- work in hospitals and other health care sectors providing medical imaging for patients,
- be employed in acute care settings, ambulatory care settings, physicians' offices, education, management, or sales positions.

3.Social responsibilities and personal development: goal of graduating students being able to:

- provide patient/public education related to radiological procedures and radiation protection/safety,
- provide the appropriate follow-up procedures.

4.Personal development: goal of graduating students being able to:

- communicate effectively with patients, physicians, and other members of the staff,
- display the attitudes and values appropriate to health care professionals,
- maintain the standards of hygiene and safety measures throughout their work area.

According to the College, graduates from the Radiological Sciences program may work in:

- Hospitals,
- Imaging Centers,
- Clinical Research Centers and Labs,
- Private Medical Clinics and Laboratories,
- Educational Institutions,
- Medical Office and Administration,
- Sales and Marketing (SER 1.4.1).

The number of employment opportunities for Radiological technicians has increased significantly in Saudi Arabia over the last few years. This is a result of the higher demand for health care service (SER 1.4.2).

Judgement

During the site visit, the experts inquire about the target group of students as well as the advantages compared to state universities. As the BMC states, choosing a private college presents several advantages. Governmental universities, with their stringent GPA requirements and limited available spots,

can pose challenges for prospective students. Moreover, addressing shortages in staff and graduates, particularly in specialized fields like Dentistry and Radiology, becomes more feasible within the private college setting.

The mix of students across different academic levels and cultures encourages robust interaction and foster interprofessional learning environment. This diverse student body enhances the overall educational experience. The College boasts a rich diversity with over 40 different cultures represented among both students and teaching staff. Additionally, there is an 'International Day' dedicated to celebrating the various cultures within the College, which the experts positively acknowledge.

The experts inquire about the hopes of the College which achieving international accreditation. As explained by the BMC, the international accreditation serves as a catalyst for positive transformation, providing several benefits for the educational institution. The increase in student enrollment, particularly as governmental scholarships declined, emphasizes the necessity to enhance program quality. Beyond the local context, accreditation enhances the institution's attractiveness, fostering competitiveness globally. The elevation of both national and international rankings becomes a tangible outcome, demonstrating a commitment to education. Moreover, it opens avenues for students to explore postgraduate opportunities internationally, enriching their educational experience. The experts can well comprehend the explanations provided by the College and support its intentions. Regarding specific aspects of the curriculum and the College's facilities, the experts offer recommendations later in the report to bolster the aforementioned plans *(see chapter 4.2 and 4.5)*.

On top of that, Batterjee Medical College (BMC) encourages international collaboration in various ways. Students have the opportunity to undertake elective periods in hospitals, both within and outside the Kingdom of Saudi Arabia (KSA). For placements in non-collaborating hospitals, individual collaboration letters are crafted. The college also hosts international students for internships, requiring the submission of their transcripts of records. The College explains that a majority of international students return to their respective home countries after graduation, contributing to the global exchange of medical knowledge and skills.

As the College states, the acquisition of a Saudi Commission License is a mandatory requirement for all students across all universities in KSA. It is an exam that assesses the readiness of Radiology Technology Specialists to practice and/or proceed to postgraduate training. BMC has consistently achieved a pass rate exceeding 90%, establishing itself as a leading institution in the private sector. To support students in preparation, BMC offers a dedicated course simulating the written, scenario-based licensure exam. Faculty members undergo training to develop questions aligned with the Saudi Commission standards. Throughout the program, adherence to the Saudi Commission's blueprints and recommended reference books is emphasized. This inclusive approach aims to ensure students' preparedness for the licensure exam and success in their professional pursuits.

From the experts' point of view the Bachelor study program "Radiological Sciences" focuses on specific qualification objectives. These objectives cover professional and interdisciplinary aspects and particularly refer to the domain of academic competences, competences necessary for a qualified employment, skills of social commitment and personal development.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

4.2 Structure of the study program

Summary

The program comprises 38 modules. Furthermore, there are five elective modules.

There are nine modules in total provided for each semester. All modules have to be completed within one semester. The Bachelor study program "Radiological Sciences" offers 18 credit hours (CH) per semester.

The list of modules offered:

Nr.	Title	Sem.	CH
BIO101	Human Biology I	1	4

CHM101	General Chemistry	1	4
PHY101	General Physics	1	2
MAT101	Mathematics	1	2
ENGFY101	English I	1	2
COM101	Computer I	1	1
IMEFY101	Islamic Medical Ethics	1	2
SSK101	Study Skills I	1	1
MT101	Medical Terminology I	1	1
			19
BIO102	Human Biology II	2	4
CHM102	Introduction to Biochemistry	2	4
BIOPHY102	Biophysics	2	2
BIOSTAT102	Biostatistics	2	2
ENGFY102	English II	2	2
COM102	Computer II	2	1
ARFY102	Arabic Language	2	2
SSK102	Study Skills II	2	1
MT102	Medical Terminology II	2	1
			19
ANATR 200	Anatomy & Physiology	3	4
PATHR 201	Pathology	3	3
RAD211	Introduction to Radiological Sciences	3	2
RAD212	Radiation Physics	3	3
RAD213	X-ray Imaging Equipment	3	3
RAD214	Principles of Image Formation and PACS	3	3
			18
RAD221	Radiation Biology and Protection	4	3
RAD222	Radiographic Anatomy and Positioning I	4	4

RAD223	Patient Care in Medical Imaging	4	3
RAD224	Pharmacology and Contrast Media	4	3
RAD225	Sectional Anatomy	4	2
RAD226	Computed Tomography Physics and Equipment	4	3
			18
RAD311	Radiographic Pathology	5	2
RAD312	Radiographic Anatomy and Positioning II	5	4
RAD313	Special Radiography Techniques	5	3
RAD314	Nuclear Medicine Physics and Equipment	5	3
RAD315	Radiography Clinical Practice I	5	3
RAD316	Computed Tomography Imaging Techniques	5	3
			18
RAD321	Radiotherapy Physics and Equipment	6	3
RAD322	MRI Physics and Equipment	6	3
RAD323	Nuclear Medicine Imaging Techniques	6	3
RAD324	Ultrasound Physics and Equipment	6	3
RAD325	Radiography Clinical Practice	6	3
RAD326	Computed Tomography Clinical Practice	6	3
			18
RAD411	Radiotherapy Techniques	7	3
RAD412	Magnetic Resonance Imaging Techniques	7	4
RAD413	Advanced Imaging Pathology	7	3
RAD414	Ultrasound Imaging Techniques	7	3
RAD415	Research Methodology	7	2
RAD416	Nuclear Medicine Clinical Practice	7	3
			18
RAD421-425	One elective advanced course from five	8	3

RAD421-425	One elective advanced course from five	8	3
RAD426	Ultrasound Imaging Clinical Practice	8	3
RAD427	Magnetic Resonance Imaging Clinical Practice	8	3
RAD428	Quality Assurance in Radiological Imaging	8	2
RAD429	Radiological Sciences Seminar	8	2
RAD430	Research Project	8	2
			18
INTR510	Internship	9	12
INTR510	Internship	10	12
			24
	Total:		**170**

Chart 2: module overview

The module description/course syllabi cover the following aspects: class timing, venue, course description, prerequisite, credit hours, course learning outcomes, teaching strategies, course activities and assignments, team-based learning sessions, course work policy, class attendance policy, evaluation method (Annex 01).

The first year of study is a common preparatory year. It is a foundation year and a pathway into medical education. It comprises essentials of sciences like human biology, physics, mathematics, or biostatistics, etc. Moreover, there are two cycles of English language courses and some Islamic medical ethics and Arabic language courses.

During the second year of the "Radiological Sciences" program, students are guided towards the basic knowledge through the Introduction to Radiological Sciences. They begin to study more specific courses about Radiation Physics, Radiographic Anatomy, X-Ray Imaging Equipment, Computed Tomography Physics and Equipment, etc.

During the third and fourth year, students enhance their radiological skills through more specific courses including the study of Nuclear Medicine, MRI, Ultrasound and Special Radiography Techniques, Radiographic Positioning, etc. Furthermore, the fourth year includes a course about Research Methodology that prepares them for the final research project conducted at the end of the fourth year.

Practical training is a major curricular requirement. The final year of study (fifth year) is a 24 credit hours of field experience internship year. It is regulated by the Internship Committee that reports to the council and the Institutional Hospital Affairs Committee. The practical contents of the field experience are in alignment and in correlation with the program learning outcomes (PLO) and are reflected in the annual field experience specifications document. The Internship Committee:

- develops all documents referring to the quality assurance of the internship program (including the field experience handbook, logbooks, and reports),
- is responsible for alignment and mapping of practical contents with the intended objectives of the program,
- coordinates with practical instructors,
- conducts internal and external surveys,
- recommends curriculum changes to the curriculum review committee and program council (SER 1.2.6.1).

According to the College, the students are well informed about the PLOs that should be achieved during training in order to reach competency. To ensure that these objectives are met and that the required skills are fulfilled, students must take continuous assessments. These assessments prepare the students for the Saudi Commission for Health Specialties entry exam, which is an obligatory exam for them to professionally practice their specialty (SER 1.2.6.2).

Regarding the quality assurance of the internship, the students are supervised by qualified clinical supervisors and instructors from both the Hospital and the College to ensure mentoring and support. The academic advisors are responsible for providing support, assistance and guidance needed during the training.

Online meetings are organized frequently, and site visits can be organized if needed. The Internship Tracking System is also used to supervise the progress of the students. The internship handbook contains all information needed for students regarding training, supervision, regulations, and policy related to the training period. Students have to pass a clinical evaluation form with specific categories of each radiological specialty. They also have to fill in a logbook and complete all sessions as evidence of their achievement and completion of the PLOs (SER 1.2.6.3).

The research project is a required course to develop the students' research capacity and innovation. A research manual is provided by the Research Unit to help students to design and manipulate the project with consideration to ethical approval and all required documentation before conducting the project. The students are encouraged to look for an opportunity to submit their projects to a local conference and/or publication. The Program Research Committee:

- sets research strategic plan of program and follows up its implementation,
- uses up-to-date research database and calculates the research KPIs of the program,
- guides the students to be involved in and contribute to the research,
- encourages faculty and students to participate in conferences,
- identifies research lines for each faculty according to specialty in order to develop a research plan and publish the work (SER 1.2.7).

The method of teaching used is traditional face-to-face teaching. This includes classroom lectures with smartboards and projectors, laboratory and clinical sessions. According to the College, the teaching staff uses all available new learning methods including e-learning, virtual tools, and the use of online resources to keep the students updated with the latest news in the field. In addition, small group discussions, webinars as wells as seminars are arranged as a practice to educate the students in taking an active part in debates. Moreover, laboratory practice, clinical demonstrations, team-based learning, and psychomotor skills teaching are provided (SER 1.2.4).

During the Covid-19 pandemic, the lectures were conducted via e-Learning Management System of Blackboard (eLMS) and online learning. eLMS Blackboard is also used for plagiarism check. *Examsoft* was used to improve student learning with secure assessment tools and software that provide valuable data, insights, and reports. Students are also encouraged to use electronic resources helping in learning radiography, such as *Radiopaedia*, *Sonoworld* or *123sonsography*. These platforms are used by both students and instructors in arranging group discussions, assignments submissions and blog sharings. The College established a new system during the year 2021-2022 to track students' performance and competency in the internship. This system is known as Clinical Training Tracking. It is used to keep a record of the current intern students' information and performance as well as the rotations they obtain during their training. It also keeps a record of information about the students' clinical supervisors and instructors as well as from the clinical evaluation of student performance for each month of training (SER 1.2.5).

According to the College, ideas for collaboration and student exchanges are still under consideration. As for now, the students can do their internship training year at any local or international health institute. Planned double/joint degrees in collaboration are not applicable but this is under consideration. According to the College there is a proposal to accommodate the students from public and private health colleges and institutes as a bridging program (SER 1.2.9).

Judgement

The Bachelor study program "Radiological Sciences" has a course-based structure and a course-related examination system. The combination and succession of the courses of the study program are consistent with the specified qualification objectives (described earlier). The integration of various modalities in radiology is commendable, and the elective focus on radiation protection is well-received by the experts, but it should be considered for mandatory inclusion.

It is assured that students receive the support and guidance they need for the organization and accomplishment of assignments and the learning process in general.

The experts acknowledge the very detailed course files with its contents and aims, which allows a high level of transparency. In the experts' opinion, the structure of the curriculum seems to make the workload manageable.

The selection of hospitals for clinical training involves various criteria, including contractual agreements, staff training, collaboration with Ministry of Health hospitals, the presence of licensed specialists, ensured patient flow, and feedback from departments on student satisfaction. From the experts' point of view the focus on clinical training, particularly in the area of radiotherapy, should be sharpened to establish a unique selling proposition. Additionally, the experts appreciate the emphasis on imaging, at least in the theoretical realm, and recommend enhancing clinical training in this area.

The experts learned that the research project is a compulsory element designed to enhance students' research capabilities and innovation. The Research Unit offers a research manual to assist students in planning and executing their projects, ensuring adherence to ethical standards and necessary documentation. Students are encouraged to seek opportunities to present their projects at local conferences and pursue publication. However, from the experts' point of view, the research component within the study program should be strengthened. The College agrees and states that a new curriculum is going to be implemented, which incorporates additional research courses, along with comprehensive offerings in AI, Leadership, and Critical Thinking. In the Radiology program, there is an expansion of elective courses, totaling five. The experts positively acknowledge that.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

4.3 Admission and Feasibility

Summary

To be admitted to the "Radiological Sciences" program, the applicants must meet all the College admission requirements. Moreover, the students must show interest in dealing with patients and working in hospital environments, which may appear during the admission interview conducted by the Admission

Committee and the program Faculty. The requirements are divided into four categories:

1.Saudi high school applicant (Saudi curriculum)

- High school certificate in sciences,
- High school certificate not older than 5 years,
- Applicant must have Qudrat and Tahsili results.

2.Saudi high school applicant (International curriculum)

- British curriculum: O level transcript must include the following subjects: biology, chemistry, mathematics, physics, and English,
- AS/A level transcript must include two subjects: biology and chemistry/physics,
- High school certificate not older than 5 years.

3.Bridging applicants:

- Applicants with diploma in all programs except Medicine program,
- Applicants can only join the program in which they have earned their previous diploma,
- Applicants having a diploma of 3 years or more may join from the 3rd year of the program,
- Applicants with a diploma of less than 3 years may join from the 2nd year of the program.

4.Transfer applicants

- High school certificate
- Academic transcript
- Course syllabus for completed subjects by the applicant (SER 1.5.1).

The feasibility of the program is aligned with the NQF-KSA that states a minimum of 120 credit hours for a level 6 undergraduate. Information can be found in the Annex 21: National Qualifications Framework for KSA (SER 1.6.5).

The grading system is as follows:

Academic Standing	Mark	Letter Grade	Points (5)
Exceptional	95 – 100	A+	5.00
Excellent	90 – 94.99	A	4.75
Superior	85 – 89.99	B+	4.50
Very Good	80 – 84.99	B	4.00
Above Average	75 – 79.99	C+	3.50
Good	70 – 74.99	C	3.00
High Pass	65 – 69.99	D+	2.50
Pass	60 – 64.99	D	2.00
Fail	0 – 59.99	F	1.00
In-Progress	-	IP	-
In-Complete	-	IC	1.00
Deprived/Denied	-	DN	1.00
No Grade-Pass	60 – 100	NP	-
No Grade-Fail	0 – 59.99	NF	-
Withdrawn	-	W	-

GPA Graduation Categories	
4.50 – 5.00	Excellent
3.75 – 4.49	Very Good
2.75 – 3.74	Good
2.00 – 2.74	Pass

Program-level information is disseminated through academic advisory services, including the assignment of an academic advisor (mentor) for each student group. Additionally, institutional support is offered through the BMC Counseling Unit, which provides services ranging from academic and career guidance to psychological and social support, with a specific focus on assisting low-achieving students. To facilitate communication between instructors and students,

dedicated office hours are allocated for each instructor, publicly announced for student access. Furthermore, a regular semester meeting is organized with the Vice Dean of Academic and Students' Affairs to address various academic matters.

Judgement

The admission policies and procedures along with the requirements are properly documented and made publicly available. The experts determine the admission procedures and requirements to be appropriate, as they correspond to the standards of the study program.

The experts confirm that the BMC takes good measures to guarantee the feasibility of the study programs despite the high workload. The organization of the education process ensures the successful implementation of the study programs. The experts appreciate the fact that students with disabilities or chronic illness are offered compensatory measures when writing exams, such as extra time or the possibility to write the exam in another room.

On site, it became obvious that the teaching staff follows an “open-door-policy”. In the first week of each year, students undergo an orientation which familiarizes them with available support services and where the colleges and departments are introduced. The experts appreciate that the College also provides housing options for the students. During the round of talks, the students confirm that the housing options are adequate and affordable. However, they express concern about the unstable Wi-Fi connection in the accommodations. From the experts' perspective, the College should ensure that students have a stable internet connection.

As another support mechanism, an academic advisor is responsible for a group of students from the beginning of each semester. Students are supported through advisors with financial and personal issues and their performance during the semester. If the students have problems besides academic issues, a social support unit is installed at the College. The experts find the support services at the BMC to be conducive to the health and success of the student body.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

4.4 Examination system and transparency

Summary

The skill-oriented design of the College is overseen by the Assessment Committee through regulation of exam rules for designing skill-oriented exams, review of exams and review of post-exam psychometric item analysis.

The type of exam and the requirements depend on the course. Overall, midterms, practical, and written final exams are used during the first year, and then the teaching staff also uses quizzes, practical/verbal and written final exams during the three other study years.

The quizzes are usually arranged in week 6 and week 12. The practical exam is conducted over one week in week 17 or 18 before the final exam.

The repeatability of exams is governed by the institutional exam and excuse policy which can be upscaled to the appeal and grievance policy if necessary. In case of a remedial exam, the student's excuse has to be accepted by the committee and the exam is then conducted before the final exam has been scheduled in the semester. If a student fails a course, a re-sit exam is arranged six or seven weeks after the end of the second semester.

According to the College, compensations for students with disabilities are discussed and considered by the program. Personal consultation for students with disabilities is offered by the examination management or program advisory committee to advise students on applications for examination arrangements (SER 1.2.3).

Judgement

The BMC uses a continuous assessment process to ensure the quality of education for its students. The study programs have a course-related examination system. Its implementation, including the grading system, course load regulations, repetition of courses and exams is regulated and transparent for the students. These examinations are focused on students' knowledge and competences. The transparent information of examination methods and of the examination schedule at the beginning of each term makes the high number of

assessments during and at the end of each semester manageable. Thus, the experts conclude that the examinations, although numerous, serve to determine whether the envisaged qualification objectives have been achieved or not and are focused on students' knowledge.

The requirements to students' performance in examinations are regulated and published. The frequency of examinations, as well as their organizations, is appropriate. The BMC guarantees that students with disabilities or chronic illnesses receive compensation regarding time limits and formal requirements of the study process, as well as all final and course-related performance records.

From the experts' point of view, the relevant information concerning the study program, the process of education as well as the admission requirements are documented and published.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

4.5 Teaching staff and material equipment

Summary

Currently, the "Radiological Sciences" department has twelve faculty members (two professors, two associate professors and four assistant professors). Moreover, there are four lecturers and one clinical instructor. Besides that, there are twelve adjunct professors from the preparatory year teaching staff and three adjunct professors from the medical program staff. All the study program requirements are taught by faculty members (SER 2.1.1).

The full teaching load of all regular academic staff members per week is 10 credit hours for professors, 12 credit hours for associate professors, 14 credit hours for assistant professors, 16 credit hours for lecturers and 18 credit hours for instructors.

In the academic year 2021/2022, there were 63 students in the program. The faculty-to-student ratio is 1:5.

The recruitment process is regulated by the human resources policy. The human resources department oversees the procedures of hiring and recruitment and assembles technical committees for the staff hiring based on the demand. Furthermore, human resources along with the recruitment party from BMC use an interview evaluation form to assess the criteria of selection such as:

- Job Knowledge,
- Work Experience,
- Communication Skills,
- Related Trainings/Courses Attended,
- English Proficiency,
- Decision Making Abilities,
- Self-Confidence,
- Personality,
- Initiative,
- Computer skills (SER 2.1.2).

The measures for human resources development and qualification, as well as the opportunities for didactic continuing education are governed by the Institutional Quality and Accreditation Unit through the health professions education division within the staff development policy. The Unit:

- collects information,
- assesses program needs regarding training courses and staff development,
- conducts training sessions with all the related logistic preparation,
- collects feedback through post-event surveys,
- analyses the results,
- reassesses the needs.

The Unit also works in collaboration with the E-learning Department to provide training for teaching staff on Blackboard ELMS. In addition, the BMC Quality and Development Department is responsible for offering educational workshops, like portfolio workshops, course report workshops or psychometric analysis of MSQ workshops.

The plan and arrangements for academic and professional development of teaching staff are as follows:

- encourage the participation in extra curriculum that could benefit to the teaching skills,
- encourage the attending of seminars, conferences, and symposiums in relation with the specialty of the teaching staff,
- promote collaborations with adjunct professors from other institutes,
- monitor the faculty performance internally and externally,
- provide instructive advice,
- incentives and rewards (SER 2.1.3).

Concerning the medical facilities, student insurance program and student immunization records are kept updated with the related members of the student affairs. Moreover, a regular in-campus immunization is planned and coordinated yearly for the members, teachers/staff, and the students of the College without any extra economic burden on the receiver's side. An in-campus physician has been appointed to address the emergency needs of students and staff. A clinic is established with enough supplies to face the requirements of the students during the working hours of the BMC.

The radiology laboratory is used for practical work, training, and research. The lab is equipped with the following rooms:

- Radiology reception,
- Ultrasound room (ultrasound machine, different ultrasound blue phantoms and reporting station),
- X-ray room (x-ray unit and different x-ray phantoms),
- PACS room with four different computer stations (MRI, Nuclear Medicine, CT and general x-ray)
- CT and Control room (x-ray and CT simulator),
- Storage room.

The classrooms include seminar halls, lecture halls, projectors, and smart blackboards (SER 2.3.1).

The College's library system consists of two libraries which provide information resources for faculty, staff, and students of the College community. It offers access to books, references, and scientific journals. Access to different databases is provided, as well as access to nine journals in the Saudi digital library. The library is located on the first floor in both male and female sections. It is open from 8:00 am to 4:00 pm from Monday to Friday. Weekend access is possible via the online library services. There is also an online booking system for the study rooms which is available on the mobile phone. Each library has:

- 19 study rooms,
- one photocopy room,
- wi-fi services,
- computer labs with 20 computers,
- over 5,000 medical books, with around 42 diagnostic radiology books and multiple copies (SER 2.3.2).

All faculty members are equipped with computers. Both libraries have computer stations available for student use. There is a wi-fi in all college premises for student use. Moreover, classrooms are equipped with data shows, presenters, and smartboards. Electronic tablets (iPad) are used for final exams (SER 2.3.3).

BMC is privately funded. There are research funds for all faculty members working on research. The BMC Research Unit offers grants for research to motivate the faculty members to conduct scientific research and to publish high quality scientific journals, books, theses, and patents that are competitive in local and international universities (SER 2.3.4).

Judgement

New teaching staff is thoroughly briefed about the programs and their teaching responsibilities before they start teaching. Overall, the teaching and academic staff at the Batterjee Medical College shows a very high level of commitment and potential for the execution as well as further development of the study program they are responsible for. The experts conclude that there is a strong corporate

identity and positive group dynamics among the BMC and the faculty administration. As motivations to teach at the Batterjee Medical College the faculty also cites the good working environment and the options for staff development. The BMC informs its employees about opportunities for personal and professional development transparently, and actively encourages their participation in workshops, training courses and conferences intended to improve their abilities.

The experts find the amount of human resources allocated to the program to be sufficient to carry out its functions. The teaching staff is well qualified and in possession of academic and technical credentials and experience adequate to their tasks.

The experts visited the premises where the skills labs of the Bachelor study program "Radiological Sciences" are located. The skills labs are equipped with relevant devices. Nevertheless, from the experts' point of view, the quality of the laboratories and clinical areas used to train students in the program should be updated. Specifically, the equipment should be renewed, for instance by: a state-of-the-art x-ray system, distinguished image post-processing units, dose-measuring devices and experimental set-ups to demonstrate radiation protection, e.g. electronic dosimeters (EPD), virtual linear accelerator.

In summary, it was ascertained by the experts that the Bachelor study program "Radiological Sciences" has ample teaching facilities at its disposal, especially considering that students also acquire practical skills in the surrounding hospitals. However, to align with the mission of national and international competitiveness and to meet the needs of master's students in the future, the equipment in the skills labs should be improved.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

4.6 Quality assurance

Summary

Every course of the program undergoes a review by the Quality Assurance Team. The quality assurance is regulated internally via the Institutional Quality and

Accreditation Unit (IQAU) headed by the Vice Dean for Quality and Development and its specialized Health Profession Education Unit. They are both governed by the quality assurance policy and manual to guide the programs at the College. The quality assurance is also measured by 17 annual key performance indicators. The Radiology program has an internal quality assurance cycle executed by a committee which has issued a quality manual specific to the program for guidance. The committee:

- reports to the IQAU and to the program council,
- guides faculty members, course directors and coordinators on documents and quality cycles to be followed,
- coordinates with the assessment and curriculum review committees,
- requires, facilitates, and is audited annually by the external quality assurance through a review process by an appointed external reviewer (SER 1.6.1).

The review targets two aspects: revised CLOs to confirm their alignment with all curriculum elements, and teaching effectiveness of the course by direct and indirect assessment. Quality assurance measures the program by the functions enlisted in the quality committee terms of references and:

- implements quality activities and requirements,
- prepares NCAA, SCFHS, Academic program and institutional documents,
- performs quality reviews,
- promotes awareness and appreciation of quality activities among staff through training sessions and workshops,
- strives towards the fulfillment of the missions, visions, and goals,
- ensures quality submissions through overseeing document audits,
- develops, discusses, and reviews processes of improvement,
- encourages and oversees the program progress in quality, accreditation, and improvement of activities.

The quality assurance also appoints a member for Quality and Development to act as the program quality coordinator. The coordinator keeps the committee informed about discussions and decisions from the Quality and Development

members, informs program head and committee of any news or revised Academic/NCAAA documents, and maintains the program documents in soft & hard copies in the Quality and Development rooms. (SER 1.6.2)

The college has a policy for the course review process to ensure the quality and standards of individual courses. The responsibility of the course review lies with the head of programs and faculties. This course review is used to improve teaching, to develop a portfolio for job applications and to gather data as part of personnel decisions such as reappointment or promotion and tenure. The course review is done through a course design review and through the completion of course documents that are sent to the Quality Assurance and Development Unit. To evaluate the range of instructional activities, the following data can be used:

- instructional delivery,
- course planning,
- grading and assessing student learning,
- support for student internships, experiential learning, and service learning,
- department and curricular work,
- advising and mentoring,
- professional development and innovation around teaching.

The course learning outcomes are aligned with the Radiological Sciences program outcomes through continuous meetings and course review documents. The course report is conducted for each course at the end of the academic year. The collected data is presented in the course report and can lead to an action plan that is to be implemented in the following academic year. It also leads to a reflection on the planning of the course for the following year to ensure closing the modular evaluation loop (SER 1.6.3).

The practical relevance of the study program is evaluated annually through a group of selected (KPIs), reflecting the graduate employment levels one year after graduation and percentages of enrollment in postgraduate studies. Moreover, different surveys are conducted to evaluate the practice relevance:

- graduate satisfaction survey,

- employment survey,
- employer survey,
- internship survey,
- field experience survey for clinical supervisors, instructors, and students in training hospital,
- course evaluation survey,
- program evaluation survey,
- student satisfaction survey,
- exit survey (evaluating the program learning outcomes for students in fourth year),
- PLOs achievement survey (evaluating the learning outcomes in second and third year) (SER 1.6.4).

At the College, information is provided at the program level through academic advisory and appointments with the academic advisor for each group of students. At the institutional level, there is a Counseling Unit which supports low achievers and includes academic, career, psychological and social services. The communication between instructors and students is possible during the dedicated office hours allocated to every instructor and publicly announced to students. Moreover, a regular meeting is arranged every semester with the Vice Dean of Academic and Students' Affairs (SER 1.6.8).

The actual enrollment statistics can be seen in the following table:

Academic year 2021-2022	Total	Male	Female
Number of enrolled students in each group	R1 (YEAR 2) = 25	2	23
	R2 (YEAR 3) = 19	7	12
	R3 (YEAR 4) = 13	5	8
	R4 (YEAR 5) = 6	1	5

Judgement

From the experts' point of view, the BMC has a well-structured system of quality assurance spread across all of its unit. The BMC has developed and documented a concept of quality assurance in the education process, teaching and research,

which serves as the basis for the quality-oriented development and implementation of the study program “Radiological Sciences”.

The results of the internal quality assurance management are applied for the continuous development of the study program. In doing so, the BMC takes into close consideration the quality evaluation results as well as the analyses of students’ workload, their academic accomplishments and feedback from graduates. The experts appreciate that regularly meetings on different levels are held to improve the study programs. Nevertheless, the experts recommend to also include the students in these meetings when possible as well as including them in decision-making committees. During the talks, it was confirmed that students can address issues either individually, via surveys, or through the representatives of each student batch, but they are not aware of a possibility to be included in decisions. Furthermore, the College should promote student participation within the framework of student self-administration.

Decision

From the experts’ point of view, the requirements of this criterion are fulfilled.

4.7 Gender equality and equal opportunities

Summary

According to the College, there are equal opportunities for having the same scheduling procedure and the same access to the teaching faculty and the services and facilities provided, including library, educational clubs, etc. Every student, regardless of gender, is having equal learning and training opportunities during practical or theoretical sessions, as well as equal support. Office hours and advising meetings are arranged equally for both genders. According to the College, all students regardless from their gender, race, skin color, and origin are going through the same admission and registration process and are assigned to the same schedule and exam times. These equal opportunities are visible in the admission, registration, and financial aid flyer, as well as in the admission policy (SER 1.6.9).

According to the College, there is a special support for low achievers, disabled, and talented students. The information needed during study are available in the academic advising policy and on the College website. Students with disabilities

and/or chronic illnesses can approach their academic advisors whenever needed and have access to information from the College Advisory Council (SER 1.6.10).

Judgement

The BMC demonstrates its commitment to the provision of equal opportunities for all students and shows openness for diversity and social development. As the BMC states, students with chronical illnesses and non-communicable diseases that do not affect their capacity to practice are welcomed to be admitted, e.g. Diabetes Miletus, Hypertension, mild depression and psychological disorders. Overall, the experts conclude that the College's actions on the provision of gender equality and promotion of equal opportunities for students with particular living circumstances are implemented in a cultural adequate and transparent manner.

Decision

From the experts' point of view, the requirements of this criterion are fulfilled.

5 Conclusion

Overall, the experts were impressed and highlight the strong commitment and engagement demonstrated by all levels of the Batterjee Medical College. From the experts' point of view, the curriculum is well-structured and aligned, providing a solid foundation for the program. The integration of the various modalities in radiology is commendable, and the focus on the elective subject of radiation protection is rated positively by the experts, but should be considered as a compulsory subject. In order to be align with the vision to become a leading education program for undergraduate but also postgraduate students, the experts support the College regarding the modernization of the technical equipment.

Based on the information from written documents and the results of the site visit, the experts came to the conclusion that the study program "Radiological Sciences" offered at the Batterjee Medical College fulfills the above-described criteria. Hence, the Experts recommended that the Accreditation Commission of AHPGS reaches a positive decision regarding the accreditation of the study program.

For the continuous development of the Study Program, the Experts have outlined the following recommendations:

- The elective module for radiation protection should be implemented as an obligatory module.
- The focus on clinical training, particularly in the area of radiotherapy, should be sharpened to establish a unique selling proposition.
- The experts appreciate the emphasis on imaging and recommend enhancing the clinical training in this area.
- The College should ensure that students have a stable internet connection within their accommodations.
- The equipment in the laboratories used to train students in the program should be updated. Among others, a state-of-the-art X-ray system, distinguished image post-processing units, dose-measuring devices should be installed.
- Students should be included in meetings held to improve the study program when possible as well as in decision-making committees.

6 Decision of the accreditation commission

Decision of the accreditation commission February 15, 2024

This resolution of the Accreditation Commission of the AHPGS is based on the University's application, as well as the expert review and the site visit covered in the Assessment Report.

The site visit of the University took place on November 13-14, 2023, according to the previously agreed-upon schedule.

The accreditation procedure is structured according to the Accreditation Criteria developed by the AHPGS. The Accreditation Criteria are developed by the AHPGS in close accordance with the existing criteria and requirements valid in the Federal Republic of Germany and based on the „Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG), established by the European Association for Quality Assurance in Higher Education (ENQA).

The Accreditation Commission of the AHPGS discussed the procedural documents and the vote of the expert group regarding the Assessment Report.

The Bachelor study program requires the obtainment of 170 Credit Hours (CH) according to the internal credit hour system. The regulated study period in the program "Radiological Sciences" is five years: eight semesters at the University followed by one year internship. The study program comprises 43 mandatory courses, out of which five are elective modules. The main language of instruction is English. The Bachelor study program "Radiological Sciences" is completed with awarding of the academic degree "Bachelor of Sciences in Radiological Sciences". Admission takes place every fall semester. The first cohort of students was admitted to the study program in the academic year 2008/2009.

The Accreditation Commission of the AHPGS considers that all Accreditation Criteria are fulfilled and adopts the following decision:

The Bachelor study program "Radiological Sciences" is accredited for the duration of five years until September 30, 2029.

For further development and enhancement of the study program, as well as of the University as a whole, the Accreditation Commission of the AHPGS supports the recommendation articulated in the Assessment Report.