

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



Assessment Report

**for the Application of
Prince Sattam Bin Abdulaziz University,
College of Applied Medical Sciences,
Department of Medical Laboratory Sciences
for the Accreditation of the Study Program
“Radiology and Medical Imaging” (Bachelor of Radiological Sciences and
Medical Imaging)**

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Decision	June 25, 2019

¹ The experts shown in italics did not participate in the on-site visit of the University.

Table of Contents

1	Introduction	4
2	Overview	7
2.1	Procedure-related documents	7
2.2	Study program	9
2.2.1	Structural data	9
2.2.2	Modularization and exam system	14
2.2.3	Admission requirements	19
2.2.4	Human resources	20
2.2.5	Facilities	21
2.2.6	Quality assurance	22
2.3	2.4 Information about the University	24
3	Expert Report	26
3.1	Preliminary remarks	26
3.2	Basic information about the study program	29
3.3	Expert Report	30
3.3.1	Program aims and their implementation	31
3.3.2	Structure of the study program	32
3.3.3	Admission and Feasibility	34
3.3.4	Examination system and transparency	35
3.3.5	Teaching staff and material equipment	36
3.3.6	Quality assurance	39
3.3.7	Gender equality and equal opportunities	40
3.4	Summary	41
4	Decision of the accreditation commission	43

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's programs in the fields of health and social sciences, as well as in related domains, such as law or economics. By implementing 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 fulfilling the quality assurance, too.

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). Starting from 2009, the AHPGS has been listed in the European Quality Assurance Register (EQAR).

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 criteria²:

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
7. Gender and equal opportunities

² Approved by the AHPGS Accreditation Commission

The external assessment procedure is carried out in four steps:

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 fulfill the assessment spheres as well as the AHPGS standards. As a result, 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 agreed upon accreditation criteria. Consequently, the experts comprise a short summary regarding the study programs.

III. On-site visit (peer-review)

The experts carry out an external 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. This provides 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 and methods of assessment (selection of students, assessment of achievements, students' support), as well as of the program management (program administration, external assurance of study quality).

Following the on-site visit, the expert group issues 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 so that it can 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 basis for the commission's decision regarding the recommendation for accreditation of the study program. Consequently, this 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 Overview

2.1 Procedure-related documents

The Prince Sattam Bin Abdulaziz University (PSAU), also referred to hereinafter as “the University”, delegated the task of accrediting the following Bachelor study programs to AHPGS: “Physical Therapy and Health Rehabilitation”, “Radiology and Medical Imaging”, “Nursing”, “Medical Laboratory Sciences” and “Biomedical Technology”.

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 the Self-evaluation report or SER) of the University) was submitted to the Accreditation Agency in Health and Social Science (AHPGS) in electronic format on October 15, 2018. The contract between the University and the AHPGS was signed on September 21, 2018.

On January 21, 2019 the AHPGS forwarded the open questions and explanatory notes (hereinafter OQ) pertaining to the Application for accreditation for the study programs to the University. On February 11, 2019 the University submitted the answers to the open questions and explanatory notes (hereinafter AOQ) to the AHPGS in electronic format.

The present document presents the summary of the AHPGS for the Bachelor study program “Radiology and Medical Imaging”. The first cohort for this program was admitted in 2007.

The application documentation submitted by the University follows the outline recommended by the AHPGS. Along with the application request towards accreditation of the Bachelor study program “Radiology and Medical Imaging”, the following additional documents can be found in the application package (the documents submitted by the University are numbered in the following order for easier referencing):

Specific documents for the study program “Radiology and Medical Imaging”

Annex	Description
1	Statement of facilities availability
2	Curriculum Vitae for Instructors of the Program
3	Module Guide
4	Module Overview
5	Study Plan
6	Teachers’ Matrix (male section)
7	Teachers’ Matrix (female section)
8	Annual Program Report
9	Evaluation Form
10	Internship Manual
11	Course Report

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

Annex	Description
A	Vision, mission and goals of the University
B	Final Examination Manual
C	Exemplary Cooperation Agreement
D	Internship Manual
E	Strategic Plan of the Deanship of Scientific Research
F	Executive Plan of the Deanship of Scientific Research
G	Quality Manual
H	Intern Follow Up Report

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 University.

2.2 Study program

2.2.1 Structural data

University	Prince Sattam Bin Abdulaziz University
Faculty/Department	College of Applied Medical Sciences Radiological and Medical Imaging Department
Cooperation partner	- Ministry of Health - Ministry of Education - Governmental hospitals
Title of the study program	Radiology and Medical Imaging
Degree awarded	Bachelor of Radiological Sciences and Medical Imaging
Form of studies	Full-time, on campus
Organisational structure	Sunday to Thursday 07:00 am – 03:00 pm
Language of Studies	English College of Education Modules are in Arabic
Period of education	Nine semesters (preparatory year included) + one-year noncredit internship
Total number of modules	51 (including preparatory year)
Credit Hours (CH) according to the Credit Hour System	140 credit hours (equals 249 ECTS credit points)
Credit Hours/per week	1 Theory Credit Hour = 1 Hour 1 Lab/Practical Hour = 1 Hour
Workload	Total: 7,480 hours Contact hours: 2,700 hours Individual work: 2,700 hours Internship year: 2,080 hours
Launch date of the study program	2007
First accreditation	Program has not yet been accredited
Time of admission	Fall and summer semester
Number of available places on the program	About 20 male and 20 female students
Number of currently enrolled students	236 (84 female and 152 male students)

Number of enrolled students by now	444
Number of graduates by now	208
Particular enrollment conditions	<ul style="list-style-type: none"> - Saudi Secondary School Certificate – Science Section (SSSCSS) or its equivalent (not more than 5 years old) - Aptitude Test Certificate (ATC) - minimum qualifying score in SSSCSS & ATC: 75% - applicants must not have been dismissed from another university - passing the Preparatory Year with a GPA of at least 3.0 on a 5.0 scale - students must have Saudi nationality
Tuition fees	Tertiary education in the Kingdom of Saudi Arabia is free for all Saudi nationals. Students also receive monthly governmental stipends until they graduate.

Chart 1: Structural data of the study program

The College of Applied Medical Sciences was established in 2009 in Al Kharj (main Campus of the University) and in Wadi Addawasir. The College of Applied Medical Sciences in Al Kharj encompasses five academic departments including the Department of Radiology and Medical Imaging to which the Bachelor study program “Radiology and Medical Imaging” is affiliated. In Wadi Addawasir, there are only two programs offered. However, the programs on both Colleges are run by different administrative staff and faculty members. Thus, there is no exchange between students and faculty members (General AOQ 1). The language of instruction is English – “except for Islamic studies and Arabic language courses which are taught in Arabic” (SER 1.2.8).

The study program is structured as follows:

Semester 1 + 2: preparatory year under the deanship's supervision. Students study at the College of Education together with all other enrolled students. This preparatory year is "common to all medical and allied health sciences programs at the university". In this year, amongst others, the necessary English skills are thought.

For students with a low level of English, the Academic Guidance Unit provides additional English classes (General AOQ 2). Passing the first year is a prerequisite for being admitted to the study program (SER 1.2.2.).

Semester 3-5: the students study at the College of Applied Medical Sciences and take some courses at the College of Education.

Semester 6-9: students study solely under the supervision of the Radiology and Medical Imaging Department. The College of Education is no longer involved (see Study plan Annex 05).

In addition to the nine semesters at the university, the students have to complete a rotary internship (one year without credits). The internship most importantly provides an "opportunity for the student to integrate didactic concepts of Radiology and Medical Imaging program with professional skills in the clinical environment" (SER 1.2.6.). The successful completion of the internship is a prerequisite for the award of the Bachelor degree and order to complete "the licensing procedures with the professional bodies in the kingdom" (SER 1). In Saudi Arabia, any health science student should have a license from the Saudi Commission for Health Specialties (SCFHS) to be able to work in any health institution. Recently, the graduates of PSAU receive this license by default (AOQ 2).

2.2.2. Qualification objectives and employment opportunities

The University strives to train students to be “radiology specialists with up-to-date knowledge professionals, sensitive to the evolving concept of comprehensive radiology and prepared to cooperate with other health professionals in meeting the changing health needs of society” (SER 1.3.2.). Thus, the curriculum “represents a confluence of ideas from many relevant sources and maintain consistency with employment needs nationally and internationally. While providing the core knowledge in the respective disciplines it remains consistent with international standards and guidelines and retains its harmony with the practices of the Saudi Council for Health Specialties (SCFHS)” (SER 1.2.8.).

The vision of the University is to be recognized for excellence education and community partnership. “The University endeavors to produce high-caliber graduates through providing education that aligns with international standards in an academic and research environment of outstanding human resources, effective community partnership and supportive administrative structure”. For that, the University identified ten strategic goals which are amongst others attending to students’ needs and developing their capabilities, recruiting and retaining distinguished faculty members and assisting graduates (Annex A).

The University provided a list of output-oriented descriptions of all skill fields in the program, including overarching skills, following the categories of the National Qualification Framework (NQF) of the Kingdom of Saudi Arabia. These are categorized into Knowledge Skills; Cognitive Skills; Interpersonal Skills and Responsibility; Communication, Information Technology and Numerical Skills; and Psychomotor Skills and described by the University as follows:

Knowledge Skills are chiefly concerned with the ability to understand and acquire knowledge, concepts and information from different disciplines and sciences, such as (SER 1.3.3.):

- define the principles of medical imaging modalities and techniques
- describe the basics of radiation protection and radiology
- recognize imaging techniques, procedures in the domains of pediatrics, Interventional radiography, Computed Tomography (CT), Magnetic Resonance Imaging (MRI)

Cognitive Skills stem from the students' ability to develop an expertise in the profession of radiography (AOQ 6). Interpersonal Skills and Responsibility concern the skill of combining different knowledge to solve professional problems. The students should be able to solve problems in accordance with the analyzed data and evaluate information in the field of radiography. Concerning Communication, Information Technology and Numerical Skills the students are expected to "participate in group research through the internet and using internet critically as a means of communication and source of information".

Finally, the Psychomotor section concerns itself with the ability to handle and manipulate the patient effectively and to applying imaging techniques and procedures on the patient properly.

The University states that graduates are qualified to work at radiology and interventional radiology departments in different levels of all state hospitals, private hospitals and clinics in academic institutions across Saudi Arabia. According to Saudi vision 2030, "there is a massive need for nationals in this field" (SER 1.4.2.). The intended learning outcomes, awarded qualifications and employment information are available for current students, as well as graduates.

So far, 208 students graduated the "Radiology and Medical Imaging" program. Out of the 208 graduates, 156 were employed, 9 have joined and finished their master degree and 3 are currently joining their PhD programs (AOQ 8).

2.2.2 Modularization and exam system

The program comprises 51 obligatory modules. 30 are offered by the Radiology and Medical Imaging department (Program Requirements). In addition, 5 courses are offered as College of Applied Medical Sciences (CAMS) requirements, taught in semester 3 and 6 as Prince Sattam Bin Abdulaziz University (PSAU) general requirements. 10 modules are taught in the Preparatory Year. On average, there are 6 modules provided for each semester. All modules have to be completed within 9 semesters. A period of exchange is not foreseen. Exclusive of the internship year (non-credit bearing), students usually³ complete between a minimum of 14 and a maximum of 16 credit hours CH per semester (SER 1.2.1.).

The following study plans lists the required sequence of courses at the University:

Offered through	Nr.	Title	Sem.	CH
College of Education	ARAB 101	Language Skills	1	2
Preparatory Year	ENGL 132	English: Reading	1	2
Preparatory Year	ENGL 133	English: Writing	1	2
Preparatory Year	BIOL 106	General Biology	1	4
Preparatory Year	CT 140	IT Skills	1	3
Preparatory Year	MC 1400	Communication Skills	1	2
College of Education	IC 101	Introduction to Islamic Culture	2	2
Preparatory Year	STAT 106	Biostatistics	2	2
Preparatory Year	CHEM 106	Organic Chemistry for Health Sciences	2	2
Preparatory Year	PHYS 106	General Physics	2	4
Preparatory Year	ENGL 131	English: Listening & Speaking	2	2
Preparatory Year	ENGL 134	English for Health Sciences	2	3
College of Education	IC 102	Islam and the Construction of Society	3	2
College of Education	ARAB 103	Expository Writing	3	2
CAMS – Unified program	CAMS 231	Human Anatomy & Physiology	3	4

³ The student's workload is assigned based on his cumulative GPA every semester. The students with a GPA of 2.0 are eligible to register up to 14 credit hours, while those of 4.5 GPA or above are eligible for up to 20 credits as a maximum. Students are allowed to take the maximum credit of 23 if he is in the final level of graduation.

CAMS – Unified program	CAMS 232	Math for Health Sciences	3	2
CAMS – Unified program	CAMS 234	Healthcare Emergency	3	2
CAMS – Unified program	CAMS 235	Introduction to Pathology	3	2
CAMS – Unified program	CAMS 236	Introduction to Applied Medical Sciences	3	2
College of Education	IC 103	Economic System in Islam	4	2
Department of Radiology	RSMI 241	Introduction to Medical Imaging	4	3
Department of Radiology	RSMI 242	Methods of Patients Care	4	3
Department of Radiology	RSMI 243	Radiographic Anatomy & Physiology-1	4	2
Department of Radiology	RSMI 244	Radiation Physics & Equipment	4	2
Department of Radiology	RSMI 245	Principles of Image Formation	4	3
College of Education	IC 104	Fundamentals of Political System in Islam	5	2
Department of Radiology	RSMI 351	Radiographic Anatomy & Physiology-2	5	3
Department of Radiology	RSMI 352	Radiation Biology and Protection	5	2
Department of Radiology	RSMI 353	Radiographic Procedure-1	5	4
Department of Radiology	RSMI 354	Digital Imaging System	5	3
Department of Radiology	RSMI 355	Pharmacology in Radiographical Imaging	5	2
Department of Radiology	RSMI 361	Sectional Anatomy	6	3
Department of Radiology	RSMI 362	Radiographic Procedure-2	6	4
Department of Radiology	RSMI 363	Radiographic Pathology	6	2
Department of Radiology	RSMI 364	Image Critique	6	3
Department of Radiology	RSMI 365	Clinical Practice-1	6	4
Department of Radiology	RSMI 471	Radiographic Procedure-3	7	3
Department of Radiology	RSMI 472	Clinical Practice-2	7	4
Department of Radiology	RSSI 471	Computed Tomography Physics & Instrumentation	7	3
Department of Radiology	RSSI 472	Magnetic Resonance Physics & Instrumentation	7	3
Department of Radiology	RSSI 473	Pathology in CT and MRI	7	3
Department of Radiology	RSMI 481	Administration of Medical Imaging Department	8	2
Department of Radiology	RSMI 482	Research Methodology	8	2
Department of Radiology	RSSI 481	Computed Tomography Procedure-1	8	3
Department of Radiology	RSSI 482	Magnetic Resonance Imaging Procedure-1	8	3
Department of Radiology	RSSI 483	Sectional imaging Clinical Practice-1	8	4
Department of Radiology	RSMI 491	Quality Management	9	2

Department of Radiology	RSMI 492	Research Project	9	2
Department of Radiology	RSSI 491	Computed Tomography Procedure-2	9	3
Department of Radiology	RSSI 492	Magnetic Resonance Imaging Procedure-2	9	3
Department of Radiology	RSSI 493	Sectional Imaging Clinical Practice-2	9	6
			total	140

Chart 2: module overview

The module descriptions (Annex 3) contain information about each course's name and code, in which semester it is offered, its number of credit hours, its language of instruction, intended learning outcomes, course contents and assessment methods.

According to the University all newly admitted students are required to complete the preparatory year program with a cGPA of at least 3.0 out of 5.0 before starting their undergraduate study (AOQ 5).

The third semester shall prepare the students generally with modules like "Human Anatomy & Physiology", "Healthcare Emergency" and "Introduction to Pathology" for the specific programs offered by the College of Applied Medical Science, where the Radiology and Medical Imaging Department is included.

The semesters 4-6 comprise examine modules which equip the students with fundamental knowledge required to comprehend the Radiology and Medical Imaging, such as "Radiation Physics & Equipment", "Radiographic Pathology", "Digital Imaging System", etc.

In the higher semester 7-9 the modules cover the studying of advanced radiology and medical imaging topics such as "Magnetic Resonance Physics & Instrumentation", "Pathology in CT and MRI" and "Computed Tomography Physics & Instrumentation".

The University operates its own hospital, all the clinical facilities of the Ministry of Health can be utilized by the governmental universities for clinical training and internship purposes. Therefore, the University is able to utilize local and regional governmental hospitals (SER 1.1.2 Physical Therapy and Health Rehabilitation). For an exemplary cooperation document please see Annex C.

During the "Radiology and Medical Imaging" program, students gain their practical experience through an internship training year, right after they successfully completed all modules of the program. A coordinator is assigned to oversee the

internships. The coordinator is in contact with the clinical instructor at the training site and provide the training and assessment manual as well as training regulations. The internship year most importantly provides an opportunity for the student to integrate didactic concepts of the physical program with professional skills in the clinical environments. The students are not considered as graduates until they complete the full clinical training period of 12 months in accredited training centers under supervision of the College. For passing the Internship year, the students must get an average evaluation score of at least 70% (Annex D). For an example of the evaluation form please see Annex 9.

Currently, it is not possible for "Radiology and Medical Imaging" students to participate in mobility exchanges. Rather, the University ensures the international relevance of its "Radiology and Medical Imaging" program by implementing collaborations with international universities and social establishments. Thus, the curriculum "represents a confluence of ideas from many relevant sources and maintain consistency with employment needs nationally and internationally. While providing the core knowledge in the respective disciplines it remains consistent with international standards and guidelines and retains its harmony with the practices of the Saudi commission of health specialties (SCFHS) " (SER 1.2.8.).

Students are introduced to the essential concepts of research through the modules "Research Methodology" (semester 8) and "Research Project" (semester 9). These courses are supposed to familiarize students with various research methods and incorporate evidence-based practice during the internship. Moreover, the University organizes an annual research conference for students where several awards are offered (SER 1.2.7).

The department emphasis on participative and communicative lectures in which topics and concepts are explained and explored interactively, constantly referring to relevant and associated literature. The students also undergo quizzes in which they discuss the subject matter and the assignments of the course.

The required psychomotor skills and attitudes are practiced during the laboratory and Clinical training sessions. These skills are explained and demonstrated to students through pictures, and videos and hand-on training on patients and simulators. "Then they are encouraged to practice them on each other under

supervision till they get command on pragmatically and comprehensive understanding of the techniques" (SER 1.2.4.).

"The student must attend at least 75% of the total number of classes. If the student is absent for more than 25% classes in any course acceptable reason, he will be denied attendance in the final exam and will be given the grade of "Denial" (DN). [...] Sick leave is only accepted on the basis of a medical report issued by the Medical Center of the University or one endorsed by it" (SER 1.2.3 Biomedical Equipment Technology). The process of assessment is implemented through a mix of formal, predetermined examinations and semester-long assessment methods, such as quizzes, presentations, homework assignments, keeping logbooks and participation in discussions. There are at least two major examinations in each module, namely, the midterm and the final examination. The official document where the attendance rules etc. are regulated is only available in Arabic. The attendance is recorded officially on an electronic system provided at the University level.

The success in a course is based on the combination of a grade awarded for course work plus the grade for the final exam. The grade for the course work is within 50-60% of the total mark, the remainder builds the final exam. The pass mark of each course is 60, the total mark is 100 (SER 1.2.3.).

Regarding regulations on compensation measures for students with disabilities and chronic illnesses the University explains that for students who have gaps in their studies over different levels, the Faculty has established a system of guidance and advice. At the beginning of the semester, each member of the teaching staff is responsible for a group of students. In case there is an educational problem for the student, the teacher points out this problem to the administration and try to solve it for the benefit of the student.

Regarding the rules of recognition for credits, the University explains that the "maximum allowable percentage of credit hours that could be transferred by students from other universities is 40% of the total credit hours in the curriculum [...]. All of the previous courses he has studied, including his grades and his term and cumulative averages, will be entered into the academic record of

a student who has changed from one major to another according to the provisions of the regulations governing examination. [...]. These courses are evaluated by the Department Academic Committee and faculties who teach these courses and approved by the Department head. Transferred credits are not included in the GPA and a pass grade is assigned to those courses" (SER 1.5.3). The regulations for transferring students and the rules of recognition for credits are developed by the University's Rectorate for Academic and Educational Affairs and posted on its website.

2.2.3 Admission requirements

Admission policies and procedures along with the requirements are listed in the admission guide which is currently only available in Arabic.

In order to be accepted to the study program, students must complete the admission process for PSAU and the program's requirements, the foremost of which is, having Saudi nationality or having been born to a Saudi mother. For regular students, applicants must hold a Saudi Secondary School Certificate Science Section (SSSCSS) or its equivalent that is not more than five years old. In addition, applicants must have an Aptitude Test Certificate (ATC) administered by the National Center for Assessment in Higher Education. The applicants must have a minimum qualifying score in SSSCSS and ATC of 75%. Accepted students start studying at the Preparatory Year Deanship in Medical path, in which they must achieve a cumulative GPA (cGPA) of at least 3.0 out of 5.0 to start the CAMS programs offered by the College of Applied Medical Sciences, where the study program "Radiology and Medical Imaging" is included (SER 1.5.1.).

2.2.4 Human resources

According to the University, the workload in the “Radiology and Medical Imaging” program, is managed by 5 assistant professors, 1 associate professor, 1 professor and 1 lecturer in the male section and 2 assistant professors and 6 lecturers in the female section. They are all employed on a full-time basis. In addition to that, 3 adjunct professors support the program.

The full teaching load of all regular academic staff members is ten hours for professors, 12 hours for associate professors, 14 hours for assistant professors, 16 hours for lecturers and 18 hours for teaching assistants, teachers and clinical instructors.

Lecturers must at least hold a Master degree. Teaching assistants must at least hold a Bachelor degree with a minimum GPA of 3.75 out of 5.0. Assistant professors, associate professors and full professors must at least hold a PhD degree (AOQ 10). The faculty’s qualifications are documented in the CVs submitted by the University (Annex 2). Clinical Instructors should have at least a bachelor degree in Radiology and Medical Imaging Sciences or a related field. The faculty requirements are adopted by the Ministry of Education for all the universities.

Considering the total of 236 currently enrolled students in the “Radiology and Medical Imaging” program, this corresponds to a 1:9 student-to-faculty ratio.

According to the University (SER 2.1.3.), all faculty members are encouraged to attend workshops and international or national conference for which they are given financial support such as transportation allowance, registration allowance and daily-pocket money allowance. The University also provides training options to help their faculties improving their teaching effectiveness and the quality of education at the college in general.

2.2.5 Facilities

The University states that the Radiology and Medical Imaging Department is housed within the CAMS building and shares some common facilities with other departments. The labs and classrooms are located on the ground and first floor of the college building (SER 2.3.1.).

The department itself has five classrooms exclusively for the program. Furthermore, there are 12 laboratories, 8 for the male and 4 laboratories for the female section.

The College of Applied Medical Sciences, where the Radiology and Medical Imaging Department is included, contains a library which provides about 95 hard-copy books related to Radiology and Medical Imaging and also hold subscription to thousands of e-books (SER 2.3.2.). The library is open from 08:00 to 14:00 on Saudi weekdays.

As the University ensures, the Deanship of Information Technology and Distance Learning is responsible for guaranteeing that students have access to the technology they need and is willing to provide all necessary equipment needed for teaching purposes. To support the production of high quality research, the access to research database through channels such as the Saudi Digital Library (SDL) is ensured (Annex G).

2.2.6 Quality assurance

As a part of quality assurance, PSAU University encourages and supports its academic programs to get accreditation from different agencies. For a detailed description of the received awards please see Annex G. Furthermore, the University states that many quality assurance processes have been established, such as processes for course and program reporting, direct and indirect assessment processes, etc. (ibid). The University also developed a strategic plan for 2012-2021, in which one objective is to develop a quality control system and criteria that enhance the university's outputs (Annex E).

To ensure quality teaching and learning management, the University claims to follow the standards and procedures issued by the NCAAA (National Commission for Academic Accreditation and Assessment), which has been established with responsibility for determining standards and procedures for accreditation and quality assurance for post-secondary institutions and programs within the Kingdom of Saudi Arabia. Furthermore, the Vice Deanship for Development and Quality, established since the establishment of the university, which is responsible for monitoring all issues related to quality at CAMS. According to the University, there are annual developmental accreditation visits, carried out by internal assessors from the Deanship for Development and Quality, and an action plan is prepared annually based on each year's review panel recommendations, where all faculty members are included (SER 1.6.1.).

As described by the University, it employs following measures to assure quality within the department (SER 1.6.3.):

- Each group of modules (per level) are assigned to a quality coordinator who has the responsibility of ensuring that the NCAAA's quality-related documents are fully prepared and submitted to the Department's Quality Coordinator, who is a member of the Development and Quality Unit.
- Students Course Evaluation survey is applied for each module to measure its quality.
- In collaboration with the Vice Deanship of Development and Quality, the Department's Quality Coordinator is responsible on ensuring the completion of various documents.
-

The University declares that the study program is regularly evaluated. Beside the students' evaluations which are completed by using electronic surveys, each module coordinator submits a course report regarding recommendations for improving the assessment mode or any other difficulties faced during the semester (Annex 11). The evaluation of the practical experiences is ensured by the program which periodically surveys the opinion of the beneficiaries of the program, graduate students, and the employment bodies on the quality of the program outputs, which includes the period of practical training, and then the obtained data are analyzed and discussed in the department council to come up with some recommendations and then implement them. In addition, a training unit was established at the college. One of the duties of the training unit is to choose the best training places for the students of the college.

Furthermore, the students can submit complaints and appeals to the Vice-Head of Department, who works on resolving these complaints and appeals by following internal communications.

The training unit also follows up periodically with students' supervisors during the training period regarding student's performance. The training unit will also identify and work on the obstacles facing students during the training period.

For the new students, the department organizes an orientation program, which is designed to inform the new students about the various programs at the college. Furthermore, students are assigned to the faculty staff members for academic advising, who assists them in getting familiar with the available services, understanding the university and program policies, the curriculum and in any issue affecting the teaching and learning experience.

The University emphasizes that it follows an equal opportunity policy for recruitment and students' admittance. Regarding compensation measures for students with disabilities and chronic illnesses, the University claims that they have a non-discriminatory policy in the general criteria for offering study places to all students with various disabilities but apart from that it is a condition at the CAMS to be physically fit because of the nature of practice in health professions. That's why individual cases are discussed in the College Council.

2.3 2.4 Information about the University

The University was founded in 2009 under the Royal Decree No. M/7305 as “University of Alkharj” and includes colleges in five governorates of Riyadh Region. In 2015, the University changed its name to “Prince Sattam Bin Abdulaziz University” (PSAU). Currently, more than 28.000 students are enrolled. The University is under the supervision of the Ministry of Education and managed by the Rector of the University. The PSAU main campus has two different campus for male and female students, which are currently not equally equipped in terms of the number of laboratories and available equipment (General AOQ3). Due to an upcoming move, the female campus is currently housed in a temporary building.

The PSAU includes 10 colleges and offers 69 bachelor and 2 master programs (General AOQ 4).

PSAU main campus is located in Al Kharj (approx. 100 km from Riad):

- College of Medicine
- College of Pharmacy
- College of Dentistry
- College of Computer Science
- College of Engineering
- College of Business Administration (also in Hotat Bani Tamim)
- College of Sciences and Humanities (also in Hotat Bani Tamim, in Aflaj and in Slayel)
- Community College (also in Aflaj)
- College of Education (also in Wadi Addawasir)
- College of Applied Medical Sciences (also in Wadi Addawasir)

The latter was founded in 2008/2009. The Department of Radiology and Medical Imaging was established in 2007 and is under the management of the College of Applied Medical Sciences (CAMS). There are currently 236 students enrolled in the study program “Radiology and Medical Imaging” which is the only program offered at the Radiology and Medical Imaging Department. The study program has recently moved to the new building for the College of Applied Medical Sciences in the main campus of PSAU University at Al-Kharj. The new building includes well-equipped classrooms, laboratories, and teaching staff offices.

A radiology and medical imaging, outpatient clinic will be established in the University labs, which enables the students to observe the various techniques and diseases among the patients. The expertise radiology and medical imaging service will be provided by the faculty radiology and medical imaging which gives a clinical experience to the students (SER 3.1.1.).

In **Wadi Addawasir (almost 600 km from main campus)**, the following colleges are located:

- College of Engineering
- College of Education
- College of Applied Medical Sciences
- College of Arts and Sciences

In **Hotat Bani Tamim (approx. 100 km from main campus)**, the following colleges are located:

- College of Business Administration
- College of Sciences and Humanities

In **Aflaj (approx. 350 km from main campus)**, the following colleges are located:

- College of Sciences and Humanities
- Community College

In **Slayel (approx. 450 km from main campus)**, only the College of Sciences and Humanities is located.

3 Expert Report

3.1 Preliminary remarks

The Accreditation Agency in Health and Social Sciences (hereupon, the AHPGS) was commissioned by the Prince Sattam Bin Abdulaziz University (hereupon, the University) to accredit the study programs “Biomedical Technology” (Bachelor of Biomedical Technology), “Nursing” (Bachelor of Nursing Sciences), “Physical Therapy and Health Rehabilitation” (Bachelor of Physical Therapy), “Radiology and Medical Imaging” (Bachelor of Radiological Sciences) and “Medical Laboratory Sciences” (Bachelor of Medical Laboratory Sciences).

The on-site visit evaluation of the study programs “Radiology and Medical Imaging”, “Nursing”, “Physical Therapy and Health Rehabilitation”, “Biomedical Technology” and “Medical Laboratory Sciences” offered at the Prince Sattam Bin Abdulaziz University, was carried out on March 25-26, 2019 at the University in Al Kharj, Kingdom of Saudi Arabia.

The application documents of the University, the feedback from the experts to the documents and the results of the discussions with the representatives of the University during the on-site visit serve as bases for the statements made in the expert report.

The following experts were appointed by the Accreditation Commission of AHPGS for the evaluation of the study programs.

As representatives of higher education institutions:

Prof. Dr. Gerlinde Egerer

University of Heidelberg, Germany

Senior physician at the Medical Clinic and Polyclinic of the University of Heidelberg, Germany;

Head of the Ethics Committee of the State Chamber of Physicians Baden-Wuerttemberg

Prof. Dr. Johannes Gräske

University of Applied Sciences for Technology and Economy Saarland, Germany

Professor for Clinical Research and Evaluation at the University of Applied Sciences for Technology and Economy of the Saarland, Germany

Prof. Dr. Christian Grüneberg

University of Health, Bochum, Germany

Head of Physiotherapy (Bachelor) at the University of Applied Sciences for Health

Dean of the Department of Applied Health Sciences

Prof. Dr. Johannes Keogh

Fulda University of Applied Sciences, Germany

Professor of Nursing Sciences at Fulda University of Applied Sciences, Germany

Former Dean of the Faculty of Nursing and Health

Responsible for international affairs of Nursing Degree Programs

Qualification as nurse, midwife, community nurse and in psychiatric patient care

Prof. Dr. Gerd Mikus

Heidelberg University Hospital, Germany

Clinical pharmacologist and senior physician at the Heidelberg University Hospital, Germany;

Member of the German Society of Clinical Pharmacology (DGKliPha), of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT), of the Association of Applied Human Pharmacology (AGAH);

Deputy head of the Ethics Committee of the State Chamber of Physicians Baden-Wuerttemberg

Dr. Werner Reiche⁴

Hospital of the city of Ludwigshafen

Central Institute for Diagnostic and Interventional Radiology

Specialist in Diagnostic Radiology, Specialist in Nuclear Medicine in Idar-Oberstein, Germany

Prof. Dr. Katharina Scheel¹

Kiel University of Applied Sciences, Germany

Professor of Physiotherapy,

Department of Social Work and health

GESA Health in the Workplace (Schleswig-Holstein Network for the Workplace health promotion of the Ministry of Social Affairs, Health, Family and Equality)

As representatives of professional practice:

Tina Hartmann

Association for Technologists and Analysts in Medicine Germany, Hamburg, Germany

School for Health Professions at the Hospital Dortmund gGmbH,
Staff Office School Management Head of MTRA-Training

Dr. Sylvia Kaap-Fröhlich

Careum Research Zürich

Registered Biomedical Science Analyst and Head of Careum Research and Education Center in Zürich

⁴ The experts shown in italics did not participate in the on-site visit of the University. Instead, they took part in the written evaluation.

As a student representative:**Anita Eggert, B.A.****Student at the Bielefeld University of Applied Sciences**

Graduate of Nursing and Health Care

According to the *Rules for the Accreditation of Study Programs and for System Accreditation* (determined by the decision of the Accreditation Commission, of December 8, 2009 in the version of February 20, 2013, Drs. AR 20/2013), the task of the experts in the accreditation procedures is to evaluate the education concept of a specific study program as well as to estimate the possibility of its successful implementation.

This concerns, in particular, qualification objectives of the study program, its conceptual integration into the system of education, the concept of the study program, feasibility of the content and scope of studies, the examination system, study-relevant collaborations, personnel, material and spacial resources, transparency and documentation, application of the results of quality assurance for further development of the study program (it is especially important to present the analyses and evaluation results of student workload, academic accomplishments and employment of graduates, which are to be documented and taken into account within the framework of continuous development of the study program), as well as the provision of gender equality and equal opportunities.

The on-site visit of the experts is carried out in line with the Accreditation Criteria for International Program Accreditation. They have been developed by the Agency in close accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area established by the European Association for Quality Assurance in Higher Education (ENQA). After the announcement of the accreditation decision, the expert report will be published as a part of the final Assessment Report.

3.2 Basic information about the study program

The main objective of the Bachelor study program “Radiology and Medical Imaging” offered at the College of Applied Medical Sciences of the Prince Sattam Bin Abdulaziz University is to graduate specialist in Radiology and Medical imaging who participate in improving health services to the community. The study program requires the obtainment of 140 credit hours (CH) according to the international credit hour system. One credit hour is equal to one contact hour of lectures or two of laboratory or clinical training per week.

The total workload of the program constitutes 7,480 hours, out of which 2,700 hours are contact hours, 2,700 hours are individual work and 2,080 hours have to be completed in a 48-weeks rotary internship at the end of the studies. The Bachelor study program “Radiology and Medical Imaging” is a full-time study program with a regular duration of 4 years / 8 semesters plus one year of rotary internships. The program curriculum consists of 51 obligatory courses, of which 12 are to be taken in a preparatory year.

Admission requirements of the program include the possession of a Saudi Secondary School Certificate (Scientific Track), or its equivalent, and passing the General Aptitude Test with a total score of at least 75 %. In addition, students must pass the preparatory year with a minimum GPA of 3.0 out of 5.0. Upon completion of the study program, students are awarded with the academic degree “Bachelor of Radiological Sciences”. The average students’ intake in the “Radiology and Medical Imaging” program is 40 students (20 female and 20 male students) each year.

Admission takes place every twice a year, fall and summer semester. The first batch of students has been admitted to the program in the year 2007. Up to now, 208 students have graduated from the program. The main language of instruction is English. No tuition fees are charged to Saudi nationals. Students also receive monthly governmental stipends until they graduate.

3.3 Expert Report

The on-site visit was carried out on March 25 and 26, 2019 according to the previously agreed schedule. Representatives from the head office of AHPGS accompanied the expert group.

The expert group met on March 24, 2019 for preliminary talks prior to the on-site visit. They discussed the submitted application documents and the results of the written evaluation as well as the uprising questions. Furthermore, they prepared the plan of the on-site visit at the University.

In the course of the on-site visit, experts conducted discussions with the University management (rector of the University, vice rector for development and quality, vice rector for educational and academic affairs), the dean, the vice dean for educational and academic affairs, the vice dean for quality and post-graduate studies, the vice dean of the female section, the departments chairmen and the teaching staff of the programs as well as with the male and female students currently studying in the programs and graduates. Furthermore, they inspected the learning premises, such as lecture halls, seminar rooms, library, and computer rooms. Moreover, the experts had the opportunity to see the equipment and the capacity of the laboratories at the male and female campus.

In the course of the on-site visit, the University submitted the following additional documents at the request of the experts:

- List of publications by staff of the Biomedical Technology Department
- List of publications by staff of the Radiology and Medical Imaging Department
- List of publications by staff of the Physical Therapy and Health Rehabilitation Department

The expert report is structured according to the "Accreditation Criteria for International Program Accreditation" which are 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 University, the experts' feedback to the documents, the observations made during the on-site visit, the results of discussions with the representatives of the University, the

College and the departments serve as the bases for the statements made in the expert report.

3.3.1 Program aims and their implementation

The University itself has set the mission to train highly qualified graduates by providing education that aligns with international standards in an academic and research environment of effective community partnership and supportive administrative structure. The program's aim is to qualify the graduates to be able to compete locally and internationally in the fields of professional medical sciences. Furthermore, graduates are prepared to conduct distinguished scientific research in the fields of applied medical sciences. In the experts' opinion, the University provides optimal capacities of human and technical resources, especially on the men's campus. The University states that the aim is to develop the regional education and, thus, avoid the immigration of young and qualified people to bigger cities. In accordance with the mission of the University, the "Radiology and Medical Imaging" program has been implemented in 2007 in order to meet the need for qualified radiographers. During the talks, the graduates confirm that there is a lack of radiographic specialists in the country and the first entry in a profession is easy.

The Bachelor program "Radiology and Medical Imaging" pursues specific qualification objectives. The program's goal is to qualify the graduates as specialists in medical imaging techniques in order to participate in improving the health services in the community and enable them perform research in the areas of medical imaging sciences. The graduates shall obtain sufficient knowledge of medical imaging techniques, radiation safety and protection as well as develop communication skills to improve health care and the patients' satisfaction. As technologists for radiology, the graduates shall be able to work at radiology and interventional radiology departments in different hospitals, clinics as well as in academic institutions. Furthermore, they can continue their studies at foreign universities. At the moment, there are 50 students of the Prince Sattam Bin Abdulaziz University studying in different regions of the world, e.g. Britain, USA, Australia and Canada and completing their PhD studies.

The learning objectives of the "Radiology and Medical Imaging" program are based on the National Qualification Framework (NWF) of the Kingdom of Saudi Arabia and are categorized in Knowledge Skills; Cognitive Skills; Interpersonal Skills and Responsibility; Communication, Information Technology and

Numerical Skills as well as Psychomotor Skills. According to the University, the institutional accreditation by NCAAA will be carried out this year.

The experts confirm that the study program 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.

Out of the 209 graduates of the “Radiology and Medical Imaging” program, 156 are employed in a related field, nine have finished their master degree and three are currently joining their doctoral studies.

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

3.3.2 Structure of the study program

The Bachelor study program “Radiology and Medical Imaging” is a full-time study program with a regular duration of 4.5 years (nine semesters) plus internship (two semesters). The program curriculum consists of 51 courses, out of which ten are to be taken in a preparatory year. This study period is followed by a non-credit-bearing but obligatory one-year internship. Hence, students require 5.5 calendar years to fully complete the program cycle.

The first year, also called the preparatory year, is common to all medical and allied health sciences programs at the University. Passing the first year is a prerequisite for being admitted to the study programs. In the third to the fifth semester, the students study at the College of Applied Medical Sciences and take some courses at the College of Education, but under the supervision of the Department of Radiology and Medical Imaging.

The Health Sciences’ Preparatory year contains English language skills, Arabic language skills and communication skills, as well as basic sciences courses in biology, chemistry, medical physics and medical foundation in order to reinforce skills and knowledge to provide a strong basis upon which to build the study of “Radiology and Medical Imaging”. Courses in computer skills and Islamic culture are also part of the Preparatory Year.

Being admitted to the Department of Radiology and Medical Imaging (see Criterion 3), students start accumulating more program-specific knowledge for the remaining 3.5 years.

Thus, the experts conclude that students acquire specialized and program-specific knowledge as well as interdisciplinary knowledge and professional, methodological and general competences.

Furthermore, 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. Nevertheless, the curriculum appears very detailed, consisting of a large number of more or less isolated courses resulting in a lot of examinations. Thus, the experts recommend revising the module manual and suggest to combine some modules in order to reduce the number of examinations. Some of the vocational skills are acquired through practical hours in the colleges' laboratories (*see Criterion 5*). In addition, students gain experience in clinical practice in the internship year, which they complete in cooperating hospitals. During this year, students receive a comprehensive training in sub-specialties such as x-ray, fluoroscopy, computed tomography and magnetic resonance imaging. Although comprising a one-year full-time workload, the final internship is not credit-bearing as it is not formally part of the study program but rather of the legal recognition/licensing process according to the Saudi Arabian health systems.

Expectations for students' qualifications and the structure of the internships are clearly defined in the "Internship Manual". The experts appreciate that supervisors from both the University's side and the clinic are assigned to supervise students during their internship. To assure the quality of the practical skills of the students, a member of the faculty staff accompanies the students to the hospitals and assures that the course specifications are fulfilled. Moreover, the hospitals encourage its staff members to participate in conferences to acquire the latest information and techniques. The University has collaborations with governmental, military and private hospitals in which the graduates mostly work after their internships. However, the internship can also take place in non-cooperating hospitals in Saudi Arabia. In this case, the University has implemented a logbook including the regulations, the curriculum and evaluation forms, which the cooperating institutions have to adhere to. The hospitals are regularly contacted by the University by an internship coordinator who monitors the development of the students and has regular contact with the responsible staff members of the hospital. During the internship, the University drafts a contract for the students ensuring that they receive a salary and are treated as staff. The students have to reach 70 % in the evaluation form filled by the coordinator in

order to pass. During the on-site visit, the students confirm that the University offers support in finding hospitals and during the internship.

The study program has 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.

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

3.3.3 Admission and Feasibility

The admission policies and procedures along with the requirements are properly documented and made publicly available. However, they are currently only available in Arabic. Admission requirements include a Saudi Secondary School Certificate – Science Section (SSSCSS) or its equivalent which is not older than five years and an Aptitude Test Certificate (ATC) administered by the National Center for Assessment in Higher Education with a summed qualifying score of at least 75 %. Furthermore, the applicants must not have been dismissed from another university for disciplinary reasons. All newly admitted students are required to complete the Preparatory Year program before starting their undergraduate studies. Passing this year, students get an orientation and are approved to the study programs depending on their desire, available seats and their GPA. To be placed to the “Radiology and Medical Imaging” study program, students must pass the Preparatory Year with a Grade Point Average (GPA) of at least 3.0 on a 5.0 scale.

As the Preparatory Year comprises medical foundations as well as basic knowledge in medical biology, chemistry and physics in order to compensate deficiencies from secondary school, the experts determine the admission procedure and requirements to be appropriate. They correspond to the standards of the study program.

The experts draw attention to the relatively high number of exams to be passed during the “Radiology and Medical Imaging” program. In order to prepare students for the level of difficulty and volume of exams, the type as well as the time of the different examinations is defined and communicated to the students transparently at the beginning of the course. The experts confirm that the University takes measures to guarantee the feasibility of the study program despite the high workload. As a whole, the organization of the education process ensures the successful implementation of the study program.

On site, it became obvious that the teaching staff follows an “open-door-policy”. The students confirm the supportive and easy communication between staff and students and emphasize that the teaching staff adequately react to students’ questions. Furthermore, in the first week of each year, students and instructors alike undergo an orientation which familiarizes them with available support services. An academic advisor is responsible for a small number of students from the beginning of each semester and students are supported through the academic counseling student unit with their registration process, selecting a study program, financial and personal issues and their performance during the semester.

The experts positively acknowledge that female students can continue their study after the necessary break and in consideration of the requirements of radiation protection.

The experts find the support services at the University to be exemplary and conducive to the health and success of the student body.

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

3.3.4 Examination system and transparency

The University uses a continuous assessment process to ensure the quality of education for its students. This is achieved by evaluating the performance of the student through a series of exams and quizzes that are scheduled during the academic semester. Students in the “Radiology and Medical Imaging” program are not required to write a Bachelor thesis but have to conduct a research project instead. Furthermore, the students are encouraged to write research papers and give presentations. The experts noted positively that in the “Radiology and Medical Imaging” program already six papers of students were published in research journals. However, the experts recommend introducing research skills earlier in the course of studies and implementing a Bachelor thesis as final proof of academic competences.

In the experts’ opinion, the study program includes a very large number of exams which causes a high workload not only for students but also for the teaching staff. Discussing the issue on site, staff as well as students are apparently satisfied with the exam procedures and see clear benefits in the current practice. The transparent information of examination methods and of the examination schedule at the beginning of each term makes the great number of

assessments during and at the end of each semester manageable. An examination can be repeated twice, if the students have special reasons, e.g. illness, they get a third chance to pass the exam.

Thus, the experts conclude that the examinations, although numerous, serve to determine whether the envisaged qualification objectives have been achieved or not. These examinations are focused on students' knowledge. To compensate the high workload through the great amount of exams, the experts recommend implementing a greater variety and flexibility in examination methods and focusing stronger on a competence-oriented examination design.

The requirements to students' performance in examinations are regulated and published. The frequency of examinations, as well as their organization, is appropriate.

Regarding students with disabilities and chronic illnesses, the experts highly recommend implementing compensation measures.

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

3.3.5 Teaching staff and material equipment

In general, the "Radiology and Medical Imaging" program is carried out by seven assistant professors, one associate professor, one professor, three adjunct professors and seven lecturers. They are all employed on a full-time basis. Considering the total of 236 currently enrolled students in the "Radiology and Medical Imaging" program, the student-to-faculty ratio is 1:12.

Regarding the employment process, the qualification and experience of the teaching staff is closely evaluated prior to the appointment decision. The experts are convinced that the instructors involved in the study programs reveal a high level of competency in the relevant field.

New teaching staff is thoroughly briefed about the program and their teaching responsibilities before they can start working. Students evaluate the performance of all teaching and other staff periodically.

Overall, the teaching and academic staff of the College of Applied Medical Sciences at the Prince Sattam Bin Abdulaziz University 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 group comes to the

conclusion that there is a strong corporate identity and positive group dynamics among the University and the faculty administration.

The experts find the amount of human resources allocated to the program to be sufficient to carry out its functions. The teaching staff within the Bachelor program "Radiology and Medical Imaging" is in possession of academic and technical credentials and experience adequate to their tasks. The University informs its employees about opportunities for personal and professional development transparently, and actively encourages their participation in workshops, training courses and conferences intended to further their ability which is confirmed during the talks with the staff on site. Still, the experts recommend implementing requirements in order to guarantee the didactic skills of new staff members and to encourage the staff at the Prince Sattam Bin Abdulaziz University to participate at the offered workshops to further improve their didactic methods.

During the on-site visit, the experts gained the impression that research is an important issue at Prince Sattam Bin Abdulaziz University. According to the University, there has been a high increase of publications and research during the last years. Overall, the staff of the "Radiology and Medical Imaging" department published 24 papers and therefore has the highest faculty-to-paper ratio within the College of Applied Medical Sciences. The College of Applied Medical Sciences encourages its staff to do research and supports them by decreasing the Credit Hours they have to teach. The University has an internal research fund for staff members and students in order to award the students and the staff for publications. Furthermore, the research qualification is an important issue for the hiring process. If staff members want to be promoted, they must be able to show various publications, depending on the level they intend to achieve. The staff is also encouraged to attend workshops to improve their scientific research skills. The experts were told that ISI indexed publications are already disclosed in different journals.

On-site, the experts were shown around the College of Applied Medical Sciences' premises at the female and the male campus. The male campus is located at the main campus of the College of Applied Medical Sciences, the female campus, called Aja campus, is currently located in a temporary building near to the male campus, with less equipment regarding the quantity and quality compared to the male campus. During the talks with the vice dean and the staff of the female College of Applied Medical Sciences, the experts were assured that the new building will be ready for use by the end of 2019. The new building

is supposed to be completely equal in terms of the number of laboratories and equipment as the male campus, which is regulated by contract. According to the vice dean of the female campus, there is an intense communication between the female and male staff regarding the equipment and overall progress at the new building. The female staff, especially the female vice dean, was strongly included in the planning of the building. Furthermore, there will be orientation courses for the female staff to be able to operate the new machines. The experts highly encourage the University to accelerate the finalization of the new building, as it is absolutely necessary to the female college to be equally equipped in terms of quantity and quality of facilities and equipment. Furthermore, the experts recommend establishing a person who is responsible for the maintenance, operation and safety of the equipment in the laboratories to guarantee a smooth execution of the practical modules.

At the male campus, the experts were impressed with the quality of the laboratories and clinical facilities used to train students in the "Radiology and Medical Imaging" program. At the female campus the experts were especially impressed with the highly motivated staff and students, however, there were obvious differences regarding the quality and quantity of equipment and laboratories compared to the male campus, which need to be addressed. The staff at the female campus, for example, is not able to teach their students ultrasound or nuclear imaging subjects within the college right now. From the experts' point of view, the ultrasound as well as nuclear imaging is a necessary topic in this study program. During the talks, the students confirm that in particular the lack of ultrasound skills affects them during the internship. The experts were told that this will be amended as soon as the move into the new building is finalized, which the experts strongly recommend.

Furthermore, the experts recommend establishing a position which is responsible for the maintenance, operation and safety of the equipment in the laboratories to guarantee a smooth execution of the practical modules.

The College's library offers room for individual studies and provides the most basic literature as printed books. On site, the experts were informed that the main part of specialized literature is provided through an impressive number of electronic books, supplemented by databases. As a whole, it was ascertained by the experts that the "Radiology and Medical Imaging" program has ample teaching facilities at its disposal. The infrastructure and the equipment are suitable to guarantee teaching and research.

Overall, the experts conclude that the requirements of the criterion are fulfilled.

3.3.6 Quality assurance

The University developed a strategic plan for 2012-2021, in which one objective is to develop a quality control system and criteria that enhance the university's outputs. To ensure the quality of the various study programs at the Prince Sattam Bin Abdulaziz University, the University strives to accredit all of its programs. Currently, 19 programs are accredited. Furthermore, the institutional accreditation carried out by the National Commission for Academic Accreditation and Assessment is planned for this year. From the experts' point of view, the University has a well-structured system of quality assurance spread across all of its units. The University has established a quality assurance hierarchy which ranges from the vice rector of quality and development to the vice dean of quality and development to the head of the department to the coordinator of the program and then to the committees.

The Deanship of Quality and Development carries out internal and external quality assurance procedures on a cyclical basis, among them are course evaluations and student and teaching staff surveys. At the end of each semester, a course report is written and course specifications may be amended according to evaluation results. There are also regular university council meetings in which issues and needs of the departments are discussed. Students' workload is assessed and regulated through the Grade Point Average (GPA). Students with a GPA of 2.0 out of 5.0 are eligible to register up to 14 credit hours per semester, while those with a GPA of 4.5 or above are eligible for up to 20 credit hours per semester as a maximum.

The experts conclude that the University has a well-established, documented and published concept of quality assurance regarding the education process, teaching and research, which serves as the basis for the quality-oriented development and implementation of its study programs and, therefore, also for further development of the "Radiology and Medical Imaging" program.

The results of the internal quality assurance management are used for the continuous development of the study program. In doing so, the University takes into close consideration the quality evaluation results as well as the analyses of students' workload, their academic accomplishments and feedback from graduates. The evaluation of the staff is done every semester in every course and has to reach at least 60 percent evaluated by the students. The experts

acknowledge that the University implemented arrangements for student participation, such as student councils in every college and the student clubs in every department. The participation of the students is a very important issue at the University, it takes place in different advisory committees and student clubs in which issues are discussed every semester in regular meetings. The students on site confirm that, also because of the good student-to-faculty ratio, the communication with the staff is well and problems are dealt with, even outside of the intended round of talks. The students appreciate that their evaluations have an impact, e.g. their feedback results in changes in the curriculum.

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

3.3.7 Gender equality and equal opportunities

Overall, the University demonstrates its commitment to the provision of equal opportunities for all students, within the cultural boundaries of the local society, and shows openness for diversity and social developments. During the on-site visit, the experts were convinced that there is a regular exchange between the female and male staff. In addition to that, the University offers activities shared by male and female students and there are already some modules taught together, though only via virtual classes.

The experts acknowledge that female as much as male staff is encouraged to participate in workshops and national and international conferences.

However, as mentioned in Criterion 5, the quality of facilities and the availability of space is currently not equal. The experts highly recommend eliminating these differences along with the further development of the University's implementation and the planned new building for the female campus. The expert group encourages the University to exploit the full potential of communication possibilities between the male and the female campuses of the University in order to promote the exchange of experiences and ideas for the further development of the study program.

In order to enable every young Saudi with a secondary school certificate to attend higher education, the Kingdom of Saudi Arabia grants full scholarships to all female and male students.

Taking into account the societal norms and cultural context of the Kingdom of Saudi Arabia, the expert group concludes that the requirements of the criterion are met.

3.4 Summary

The experts sum up that the overall impression of the Prince Sattam Bin Abdulaziz University is very positive. The University itself presents itself convincingly as an open-minded and dynamic institution, within the cultural boundaries of the local society, with willingness to import new ideas and recommendations for further enhancement. The experts find that the University strongly benefits from its dedicated, involved and interested Rector, who is aware of challenges but keen to pushing forward the University's development and enhancement. The University shows a strong commitment to social issues, to the development of societies by virtue of educating young professionals and to supporting well qualified students in every possible way.

The experts positively emphasize the fact that a new building of the College of Applied Medical Sciences for the female students is currently under construction and that the University is planning to build its own hospital in the near future. It should be ensured though that also the female students can obtain ultrasound and nuclear imaging skills while the new building and equipment is not available.

A number of favorable characteristics and achievements of the study program "Radiology and Medical Imaging" were demonstrated by the management of the University, the representatives of the college, those of the department as well as the student body, such as strong commitment to quality assurance. Moreover, the experts highlight the thorough and comprehensive curriculum of the study program. Hence, the objectives meet the requirements of the current job market of the Kingdom of Saudi Arabia.

Based on the information from the written document and the results of the on-site visit, the experts come to the conclusion that the study program "Radiology and Medical Imaging" offered at the Prince Sattam Bin Abdulaziz University fulfills the above described criteria. Hence, the experts decided to submit a recommendation to the Accreditation Commission of the AHPGS for 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:

- Research skills should be introduced earlier in the course of studies and a Bachelor thesis as a final proof of academic competences should be implemented.
- Differences between the male and female campus should be eliminated and same standards and quality in equipment and facilities for male and female students should be assured along with the further development of the University's implementation.
- The module manual should be revised and the number of examinations should be reduced, e.g. through combination of modules.
- A greater variety and flexibility in examination methods should be implemented, thus, focusing more on the development of competencies.
- Compensation measures regarding students with disabilities and chronic illnesses should be implemented.
- Didactic abilities of the teaching staff should be ensured through mandatory participation in the offered workshops and trainings (e.g. didactic methods).
- A position which is responsible for the maintenance, operation and safety of the equipment in the laboratories to guarantee a smooth execution of the practical modules should be established.
- The University should exploit the full potential of communication possibilities between the male and the female campuses in order to promote the exchange of experiences and ideas for the further development of the study program.

4 Decision of the accreditation commission

Prince Sattam Bin Abdulaziz University, Al Kharj, Saudi Arabia, Bachelor Study Program "Radiology and Medical Imaging"

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

The on-site visit of the University took place on March 25-26, 2019, according to the previously agreed-upon schedule.

The accreditation decision is based on the Expert Report which 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 of the University regarding the expert report.

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

The study program requires the obtainment of 140 credit hours (CH) according to the University's credit hour system. The regulated study period in the program "Radiology and Medical Imaging" are 4.5 years (9 semesters), including a Preparatory Year, followed by a non-credit bearing one-year clinical internship after completing the studies. The study program comprises 51 mandatory courses, of which 10 belong to the Preparatory Year, and 41 are compulsory. The main language of instruction is English. The Bachelor study program "Radiology and Medical Imaging" is completed with the conferral of the academic degree "Bachelor of Radiological Sciences and Medical Imaging".

The study program "Radiology and Medical Imaging" is accredited for the duration of five years, until September 30, 2024.

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 recommendations articulated in the expert report.