



هيئة جودة التعليم والتدريب
Education & Training Quality Authority
KINGDOM OF BAHRAIN مملكة البحرين

Directorate of Higher Education Reviews Programme Review Report

**University of Bahrain
College of Health and Sport Sciences
Bachelor in Medical laboratory Sciences
Kingdom of Bahrain**

Site Visit Date: 22 – 24 April 2024

HA118-C3-R118

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Acronyms

AHD	Allied Health Department
APR	Academic Programme Review
BMLS	Bachelor of Science in Medical Laboratory Sciences
BQA	Education & Training Quality Authority
CHSS	The College of Health and Sport Sciences
CILO	Course Intended Learning Outcome
DHR	Directorate of Higher Education Reviews
HEC	Higher Education Council
HEA	UK Higher Education Academy
IT	Information Technology
MIS	Management Information System
NQF	National Qualifications Framework
PAC	Program Advisory Committee
PEO	Program Educational Objective
PILO	Program Intended Learning Outcome
QA	Quality Assurance
QAAC	Quality Assurance and Accreditation Centre
SAC	Students' Advisory Committee
SIS	Student Information System
ToR	Terms of Reference
UILO	University Intended Learning Outcome
UTEL	Unit for Teaching Excellence and Leadership
UoB	University of Bahrain

I. Introduction

In keeping with its mandate, the Education & Training Quality Authority (BQA), through the Directorate of Higher Education Reviews (DHR), carries out two types of reviews that are complementary. These are: Institutional Reviews, where the whole institution is assessed; and the Academic Programme Reviews (APRs), where the quality of teaching, learning and academic standards are assessed in academic programmes within various colleges according to specific standards and indicators as reflected in its Framework.

Following the revision of the APR Framework at the end of Cycle 1 in accordance with the BQA procedure, the revised APR Framework (Cycle 2) was endorsed as per the Council of Ministers' Resolution No.17 of 2019. Thereof, in the academic year (2019-2020), the DHR commenced its second cycle of programme reviews.

The Cycle 2 APR Review Framework is based on four main Standards and 21 Indicators, which forms the basis of the APR Reports of the Higher Education Institutions (HEIs).

The **four** standards that are used to determine whether or not a programme meets international standards are as follows:

Standard 1: The Learning Programme

Standard 2: Efficiency of the Programme

Standard 3: Academic Standards of Students and Graduates

Standard 4: Effectiveness of Quality Management and Assurance

The Review Panel (hereinafter referred to as 'the Panel') decides whether each indicator, within a standard, is 'addressed', 'partially addressed' or 'not addressed'. From these judgements on the indicators, the Panel additionally determines whether each of the four standards is 'Satisfied' or 'Not Satisfied', thus leading to the programme's overall judgement, as shown in Table 1 below.

Table 1: Criteria for Judgements

Criteria	Judgement
All four Standards are satisfied	Confidence
Two or three Standards are satisfied, including Standard 1	Limited Confidence
One or no Standard is satisfied	No Confidence
All cases where Standard 1 is not satisfied	

The APR Review Report begins with providing the profile of the programme under review, followed by a brief outline of the judgement received for each indicator, standard, and the overall judgement.

The main section of the report is an analysis of the status of the programme, at the time of its actual review, in relation to the review standards, indicators and their underlying expectations.

The report ends with a Conclusion and a list of Appreciations and Recommendations.

II. The Programme's Profile

Institution Name*	University of Bahrain
College/ Department*	College of Health and Sport Sciences
Programme/ Qualification Title*	Bachelor in Medical Laboratory Sciences
Qualification Approval Number	University council approval number (2016/2014) /dated 28 April 2014
NQF Level	8
Validity Period on NQF	5 years from the validation date
Number of Units*	41
NQF Credit	527
Programme Aims*	<ol style="list-style-type: none"> 1. Demonstrate basic knowledge in the field and proficiently perform a full range of diagnostic tests in clinical laboratories and maintain their quality control to assure reliability of results. 2. Critically analyze and interpret the results for correct diagnosis. 3. Contribute towards the advancement of the profession and healthcare services through continuously retrieving and updating professional information. 4. Effectively communicate ideas and important information with healthcare teams and clients to improve health and wellbeing of society. 5. Create and sustain a caring and respectful environment for colleagues and clients by following the standards of practice, values and code of ethics. 6. Participate in the management and leadership of the laboratory diagnostic sector of primary, secondary and tertiary healthcare settings nationally and internationally.
Programme Intended Learning Outcomes*	<ol style="list-style-type: none"> a. Acquire a broad base of knowledge and technical skills in medical laboratory sciences and relate laboratory data to clinical medicine and patient care. b. Integrate and Interpret laboratory results, recognize errors, and solve problems. c. Gain skills of independent learning, critical thinking, and data retrieval. d. Demonstrate verbal and written communication, time management, and teamwork & presentation skills. e. Practice a high level of competence to deal with ethical and social

	<p>issues related to human health and care.</p> <ul style="list-style-type: none">f. Employ administrative skills, principles and standards of quality assurance for continuous laboratory development.g. Apply safe laboratory practice including working environment and adherence to safety rules & regulations.h. Critically analyze scientific publications to appreciate the advancement in the field of medical laboratory sciences.
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* Mandatory fields

III. Judgement Summary

The Programme's Judgement: Confidence

Standard/ Indicator	Title	Judgement
Standard 1	The Learning Programme	Satisfied
Indicator 1.1	The Academic Planning Framework	Addressed
Indicator 1.2	Graduate Attributes & Intended Learning Outcomes	Addressed
Indicator 1.3	The Curriculum Content	Addressed
Indicator 1.4	Teaching and Learning	Addressed
Indicator 1.5	Assessment Arrangements	Addressed
Standard 2	Efficiency of the Programme	Satisfied
Indicator 2.1	Admitted Students	Addressed
Indicator 2.2	Academic Staff	Partially Addressed
Indicator 2.3	Physical and Material Resources	Partially Addressed
Indicator 2.4	Management Information Systems	Addressed
Indicator 2.5	Student Support	Addressed
Standard 3	Academic Standards of Students and Graduates	Satisfied
Indicator 3.1	Efficiency of the Assessment	Addressed
Indicator 3.2	Academic Integrity	Addressed
Indicator 3.3	Internal and External Moderation of Assessment	Partially addressed
Indicator 3.4	Work-based Learning	Partially Addressed

Indicator 3.5	Capstone Project or Thesis/Dissertation Component	Addressed
Indicator 3.6	Achievements of the Graduates	Addressed
Standard 4	Effectiveness of Quality Management and Assurance	Satisfied
Indicator 4.1	Quality Assurance Management	Addressed
Indicator 4.2	Programme Management and Leadership	Addressed
Indicator 4.3	Annual and Periodic Review of the Programme	Partially Addressed
Indicator 4.4	Benchmarking and Surveys	Addressed
Indicator 4.5	Relevance to Labour market and Societal Needs	Addressed

IV. Standards and Indicators

Standard 1

The Learning Programme

The programme demonstrates fitness for purpose in terms of mission, relevance, curriculum, pedagogy, intended learning outcomes and assessment.

Indicator 1.1: The Academic Planning Framework

There is a clear academic planning framework for the programme, reflected in clear aims which relate to the mission and strategic goals of the institution and the college.

Judgement: Addressed

- The Bachelor in Medical Laboratory Sciences (BMLS) is delivered by the Allied Health Department (AHD) at the College of Health and Sport Sciences (CHSS) of the University of Bahrain (UoB). The BMLS programme was first offered in the academic year 2015-2016. The programme follows a clear planning framework as per the university's Academic and Administrative Bylaws, Regulations for Offering and Developing Academic Programmes and Courses, the Quality Manual, and the Teaching and Learning Policy. Evidence of undertaking a planning process for the BMLS programme to ensure the programme's relevance and fitness for purpose was provided to the Panel, including evidence of benchmarking report and meeting minutes of the Programme Advisory Committee (PAC) and Student Advisory Committee (SAC).
- The Self Evaluation Report (SER) clearly states that the BMLS programme is reviewed annually to find out any potential risks and problems that were faced during the previous academic years. The Panel was also provided with the risk register document for the academic year 2022-2023, which includes potential risks and the proposed actions for their mitigation. Potential risks include, low number of academic staff, outdated laboratories instruments, losing partnerships with training sites, and high students' intake. The risk register shows the percentage of achievement with regard to each potential risk, which ranges from 20% as in the risk of 'low number of academic staff' to 100% as in the risk of 'retention of international academic staff' and 'allocating annual budget for programme's activities. The interviewed faculty elaborated, during the interviews, on the CHSS and AHD efforts to follow-up the measures taken to address potential risks.

- The BMLS programme is placed on the National Qualifications Framework (NQF) at level eight. The programme title is concise and reflective of the programme type and content. The Panel was provided with a sample certificate in Arabic and an associated letter in English, which accurately reflect the title of the degree. However, the Panel noticed an error in the programme title at the university website and the AHD website. In both webpages, the programme was named 'B.Sc. in Medical Laboratory Science', while in all other documents submitted to the Panel it was named 'B.Sc. in Medical Laboratory Sciences'. The Panel, thus, advises the College to correct any errors in the related websites.
- The Panel found that the programme mission and vision align with the CHSS and UoB mission and vision. According to the SER, the BMLS has six Programme Educational Objectives (PEOs), which have been developed based on feedback collected from various stakeholders including faculty, SAC, PAC, alumni, and students through planned meetings and surveys. The Panel notes that the PEOs are stated as learning outcomes that students should achieve. Therefore, the Panel suggests revising the PEOs to ensure that they clearly describe the aims of the programme.

Indicator 1.2: Graduate Attributes & Intended Learning Outcomes

Graduate attributes are clearly stated in terms of intended learning outcomes for the programme and for each course and these are appropriate for the level of the degree and meet the NQF requirements.

Judgement: Addressed

- As per the SER, graduate attributes are defined at the institutional level in the six University Intended Learning Outcomes (UILOs). These attributes are also embedded in the Programme Intended Learning Outcomes (PILOs) and the PEOs. The BMLS programme has eight PILOs, which are stated in the Programme Specifications document and published on the university website. The PILOs are correctly mapped to the PEOs and UILOs.
- The Panel examined the PILOs and is of the view that they are measurable and appropriate for the programme's type and level. Evidence was also provided on aligning the PILOs to the NQF Strands and Sub-strands. Furthermore, the benchmarking report of 29 June 2022 includes the benchmarking of the PILOs and PEOs with similar two regional and four international programmes.
- The Panel examined samples of course specifications and noticed that the CILOs are clear and appropriate for the course level and content. As per the SER, all CILOs have been tailored to correspond with the course NQF level. This was evidenced through the detailed mapping exercises as indicated in various documents provided to the Panel. Evidence of

the mapping of CILOs to PILOs was also provided to the Panel, which demonstrates appropriate mappings.

Indicator 1.3: The Curriculum Content

The curriculum is organised to provide academic progression of learning complexity guided by the NQF levels and credits, and it illustrates a balance between knowledge and skills, as well as theory and practice, and meets the norms and standards of the particular academic discipline.

Judgement: Addressed

- The Panel notes that the BMLS programme underwent a major revision in 2018. The BMLS is a four-year (eight-semester) programme, which consists of 130 credit hours (527 NQF credits), including 42 credit hours of clinical training. The study plan shows well-balanced and manageable student workload through structured credit distribution, a blend of theoretical and practical training, and progressive complexity in course content. The curriculum is organized in a hierarchical complexity from years 1 to year 4 with an appropriate list of pre-requisites. The programme has the intended subspecialties required for a bachelor's degree in medical laboratory sciences; these include Hematology, Clinical Chemistry, Immunology, Histopathology, Microbiology, and Molecular Pathology.
- The Panel notes with appreciation that the BMLS programme includes distinguished courses such as 'Forensic Medicine' (MLS324), 'Clinical Seminar' (MLS415), 'Quality Assurance in Lab Medicine' (MLS410) and 'Leadership and Management in Health Care Setting' (HCA301). However, the Panel notes a lack of either a course or component of Medical Ethics/Ethics for allied health workers embedded in any of the existing courses. The Panel also notes that the programme benchmarking report of 2022 recommended adding some changes to the study plan. Given that the last holistic review of the curriculum took place in 2018, the Panel recommends that the College should review the curriculum of the BMLS programme and ensure that it is regularly updated in light of benchmarking and stakeholders' feedback.
- The Panel examined the course syllabi and the study plan as well as the BMLS Programme Specifications and found that there is a balance between theory and practice, and between knowledge and skills in the curriculum in general. Two laboratory field practice courses are offered in the final year of the programme (MLS412 and MLS425). Evidence was also provided for the clinical training and placements. The programme coursework combines competency-based didactic courses in the classroom with clinical training in primary, secondary, and private health centers, and hospitals, which is appreciated by the Panel. Based on the provided samples of course portfolios, the Panel is satisfied that the BMLS curriculum covers the required depth and breadth in all courses.

- The BMLS Syllabus Audit Sample provided as evidence shows that the textbooks for some of the courses (e.g. MLS 103, MLS 214, MLS 410, and MLS 413) have not met the criteria of having current editions of the textbooks. Therefore, the Panel recommends that the College should ensure that textbooks are updated for all courses.

Indicator 1.4: Teaching and Learning

The principles and methods used for teaching in the programme support the attainment of programme aims and intended learning outcomes.

Judgement: Addressed

- UoB has a Teaching and Learning Policy which highlights the key domains that encourage students to be active members in their learning. These are: designing of interactive learning materials and assessment, integration of technology enhanced learning, incorporating life-long learning skills, and supporting research informed teaching and learning.
- Different instructional methodologies are utilized at different levels of courses such as didactic lectures, clinical training, and research-based learning. The SER states that the primary pedagogical strategy is student-centered learning. In addition to lectures, other methods such as group discussions, student presentations, assignments, laboratory reports, and case studies are being used. The BMLS course syllabus form confirms the mode of delivery, assessment methods, and embedded elements of student-centered modality.
- The AHD effectively integrates e-learning into its teaching and learning methods by utilizing the Blackboard platform, which grants students access to course materials, assessments, learning activities, and discussion forums. Moreover, evidence for e-learning utilization in the form of surveys and generated reports is also provided to the Panel. During the site visit, a demonstration for the utilization of Blackboard was given.
- During interviews with senior management, creative and innovative aspects of students' learning were discussed, in addition to the approaches to provide students with exposure to professional practice. The Panel notes that UoB's learning environment encourages students' participation in learning and promotes the concept of lifelong learning by encouraging different types of learning. The submitted evidence shows that several students' graduation research projects were presented in scientific conferences and published in scientific journals. The interviewed students also valued the faculty's support in sharing information and encouraging them to participate in international conferences and exhibitions every year. Therefore, the Panel appreciates the College approach to urge

students to publish their work in peer reviewed journals as well as presenting posters and oral presentations in international conferences.

- Within the programme, there is a strong emphasis on research ethics, with faculty members actively encouraging students to uphold principles of honesty and integrity. In the capstone course 'Graduation Project' (MLS 423), instructors provide students with comprehensive information on the requirements of ethical conduct of research, including guidelines on research ethics and academic integrity. The research projects require ethical approval from the College Scientific Research Committee. In addition, the 'Research Methods' (SBS 320) course covers research methodology, types of research, sampling, and data collection.

Indicator 1.5: Assessment Arrangements

Suitable assessment arrangements, which include policies and procedures for assessing students' achievements, are in place and are known to all relevant stakeholders.

Judgement: Addressed

- The assessment framework at UoB includes policies, procedures, regulations, manuals and handbooks such as UoB Regulations of Study and Examination, the Moderation of Assessment Regulation, the Anti-Plagiarism Policy, the Quality Manual, and the Teaching and Learning Policy, which are accessible *via* the university website, and disseminated to students through Blackboard.
- There is a fair and stringent assessment in place, in addition to moderation procedures, which include pre- and post-assessment moderation of assessments. The provided evidence shows that the assignments, case studies, projects, and clinical practice assessments are marked with pre-defined rubrics, and they are also checked for plagiarism as per the Anti-Plagiarism Policy. The programme follows UoB's regulations regarding assessment feedback. The feedback is given, individually and in groups, both verbally and written, within two weeks of the assessment activity.
- The BMLS programme has provisions for addressing academic misconduct and appeals by students. This is supported by the utilization of plagiarism detection tools alongside detailed policies outlined in the Students' Rights and Duties Guide, the Study and Examinations Regulations, and the Anti-Plagiarism Policy. Additionally, the programme has specific procedures for handling cases of academic misconduct and a structured process for students to appeal their grades, which ensure that students have clear avenues for addressing concerns related to academic integrity and assessment outcomes.

Standard 2

Efficiency of the Programme

The programme is efficient in terms of the admitted students, the use of available resources - staffing, infrastructure and student support.

Indicator 2.1: Admitted Students

There are clear admission requirements, which are appropriate for the level and type of the programme, ensuring equal opportunities for both genders, and the profile of admitted students matches the programme aims and available resources.

Judgement: *Addressed*

- The BMLS programme follows UoB's admission requirements, which are available on the university website. As per the university requirements, which were last updated in 2022, applicants must possess a secondary school certificate or its equivalent, with a total minimum grade of 90% (science track only). In addition, applicants should pass a university aptitude test and an interview. Evidence was provided on introducing a new interview form in 2022. The interviews with different stakeholders confirmed that the admission requirements are consistently implemented and ensure that appropriate students are accepted on an equal basis between females and males.
- The BMLS programme provides structured access, progression, and credit transfer options guided by university regulations. Remedial support measures for inadequately prepared students are in place. A foundation semester is provided to enhance student's competencies in English language and Chemistry. Internal and external credit transfer is permissible according to clearly defined criteria set up in the Study and Examination Regulations. However, no such transfers have been undertaken.
- As per the SER, admission criteria are regularly updated by the Committee for Admission and Supreme Admission at the university level. However, no evidence was provided on collecting feedback from relevant stakeholders about the admission criteria. Therefore, the Panel suggests involving the relevant stakeholders in the revision of the admission criteria, in the next periodic review of the programme.

Indicator 2.2: Academic Staff

There are clear procedures for the recruitment, induction, appraisal, promotion, and professional development of academic staff, which ensure that staff members are fit-for-purpose and that help in staff retention.

Judgement: *Partially Addressed*

- As per the SER, UoB has adequate policies and regulations for the recruitment, induction, appraisal, and promotion of academic staff, which are consistently implemented in a transparent manner. There are proper induction and orientation programmes in place for newly appointed faculty members, in addition to the training workshops and programmes provided by the Unit for Teaching Excellence and Leadership (UTEL). There is also a rigorous appraisal process which has clear criteria and is supported with detailed performance rubrics. The appraisal of the faculty members is conducted annually and is taken into consideration for contract renewals. Academic Promotion Regulations are in place at the university level. Overall, the Panel is of the view that the applied policies and procedures are appropriate.
- Faculty members are required by the Academic Staff Bylaws to dedicate part of their workload to research activities. This is further emphasized in the College Strategy and UoB's Academic Promotion Criteria. The Scientific and Research Committee offers research capacity building seminars at the college level. The Panel is satisfied that there are policies and procedures that ensure the quality of scientific research carried out by the faculty members. However, the Panel noticed discrepancy in the cumulative scientific productivity of the faculty, as some produced more research than others. In the Annual SERs, lack of grants, financial support, infrastructure, equipment and consumables were stated as deficiencies that impede the faculty from conducting research. Faculty engagement in committee work was also mentioned as an obstacle. During interviews with the faculty members, the Panel realized that they are aware of the gaps in faculty development in specific areas, such as research opportunities, infrastructure, equipment, and consumables for laboratory-based research, as well as robust intramural and extramural research fundings. The Panel recommends that the College should set up an urgent action plan to provide the faculty with necessary facilities and funds as well as reducing their workload and any other actions needed to increase their research productivity.
- As indicated in the SER, the UoB Bylaws were last revised in June 2011, and as confirmed during interviews with senior management and faculty members, the teaching load of 12 hours is assigned to Assistant Professors and above, while Senior Lecturer/ Lecturer/ Instructors are assigned a teaching load of 15 hours. As per the UoB Bylaws, the extra workload is being compensated. However, it was not clear how the BMLS programme at

UoB specifically manages the academic staff workload to ensure that it is appropriate and accommodates research and community engagement activities. The Panel suggests developing detailed workload guidelines at the college level, covering teaching, research, and community engagement, and providing flexibility for all staff. The Panel also suggests incorporating faculty feedback in the revision of workload distributions, which should be conducted on a regular basis.

- Since the academic year 2022-2023, the BMLS programme has four full-time Assistant Professors, in addition to three Senior Lecturers, five Lecturers, and one Teaching and Research Assistant. The Panel examined the submitted Faculty Data document and is satisfied with the diversity of their qualifications and expertise. During the interviews, the Panel confirmed that the recruitment of faculty in other specialized BMLS fields is under process. However, given that the number of students enrolled in the programme in the academic year 2022-2023 is 364, the Panel is of the view that the number of faculty needs to be increased. Hence, the Panel recommends that the College should urgently recruit additional senior professors in different specializations with clinical experience to cater for the programme needs, especially in terms of supervising students' clinical practice.
- UoB has policies and arrangements in place that support the professional development needs of its staff. Evidence was provided on the active participation of academic staff in various professional development activities, including capacity-building workshops organized by UTEL, seminars, conferences, and programmes accredited by the UK Higher Education Academy (HEA). Professional development activities related to research are also in place, such as the research seminar on 'Key principles of writing for scientific research publication' conducted by the College. The Quality Assurance and Accreditation Center (QAAC) regularly collects feedback from faculty regarding their satisfaction with services, research, and professional development needs. The Panel appreciates that the arrangements in place for faculty development are consistently implemented, monitored and evaluated.
- The SER did not include information on retention rate of faculty in the BMLS programme. However, evidence was provided to the Panel on statistics of faculty turnover and retention rate for the last three academic years (2021-2022 to 2023-2024), which shows a rise in the faculty number and constant retention rate. The Panel also notes that there are measures taken for ensuring staff retention, including competitive salary packages and extra steps for excellent and distinguished candidates.

Indicator 2.3: Physical and Material Resources

Physical and material resources are adequate in number, space, style and equipment; these include classrooms, teaching halls, laboratories and other study spaces; Information Technology facilities, library and learning resources.

Judgement: *Partially Addressed*

- The Panel visited the College during the site tour, which houses 23 classrooms equipped with data projectors, white screens, whiteboards, and internet-connected computers. However, none of the classrooms is large enough to accommodate the entire batch of students (approximately 100 students/batch). There is a dedicated specialized laboratory for practical BMLS training which can accommodate 25 students at a time with adequate spacing, with expansion plans in progress. There is also a computer laboratory which is shared by different programmes. The Panel is of the view that the programme facilities need to be enhanced in terms of the expansion of specialized laboratory space to accommodate more students as well as having specialized state of the art laboratory equipment facilities such as fluorescent microscopy, automated culture facility (VITEK 2 and BacT/ALERT), flow cytometer, real time PCR, immunochemistry analyzer etc. The Panel recommends that the College should urgently address all areas related to the adequacy of the programme facilities including classrooms, laboratories, instruments, and equipment.
- The University Teaching and Learning Policy promotes Information Technology (IT) utilization in teaching and learning. Students are provided with Wi-Fi access, and email services. The Blackboard and Microsoft Teams platforms support students' learning and assessments. There are also two libraries at UoB, one at the Salmaniya campus named 'Ahmed Al Farsi Library' and the other at the UoB main campus. The Panel visited the library premises in the Salmaniya campus, which is of an appropriate size and seating capacity. The library resources, including electronic resources, that serve the BMLS programme are adequate for the programme's needs. The Ahmed Al Farsi Library supports the students with extensive library hours and offers a variety of study rooms for group discussions and is equipped with computers for research activities. Moreover, there is an online library portal through which students can remotely access journals and other scientific literature.
- UoB has a formal mechanism to ensure the maintenance and adequacy of its resources, including facilities, equipment, technology, and infrastructure. This mechanism involves regular maintenance schedules overseen by the CHSS Facilities/Occupational Health and Safety Committee. Continuous evaluations and feedback from faculty and students contribute to ongoing improvement efforts. However, the programme facilities need to be improved as stated earlier in this Indicator.
- During the site visit tour, the Panel noted that the UoB campus is equipped with clear health and safety instructions for all its academic and operational functions. The Health and Safety Committee at the CHSS forwards maintenance requests to the university's Maintenance Department for action. During the campus tour, the Panel noticed that some exit signages were deficient in the corridors. The Panel also noticed that the last

modification to the submitted Laboratory Health and Safety Guidelines was in February 2020. Therefore, the Panel recommends that the College should ensure updating all signages at the college premises as well as the health and safety provisions.

Indicator 2.4: Management Information Systems

There are functioning management information and tracking systems that support the decision-making processes and evaluate the utilisation of laboratories, e-learning and e-resources, along with policies and procedures that ensure security of learners' records and accuracy of results.

Judgement: Addressed

- The University has a Student Information System (SIS) to manage all information related to academic programmes and students. During the site visit, the Panel was provided with a demonstration of the SIS system, which showcased its ability to facilitate informed decision-making and streamline operations. Further evidence was also provided on utilizing generated reports from SIS and the Learning Management System (LMS) in decision making at the department level. In addition, there is a Communication Management System (Docutrack), which is used for digital communication of cases where specific actions are required.
- UoB has implemented policies and procedures to ensure the security and accuracy of learners' records. Secure databases and limited access to authorized personnel are in place to protect sensitive information. Information regarding the issuance and replacement of graduation certificates can be found on the university's website. This ensures transparency and accessibility for all stakeholders. During the virtual site visit, the Panel confirmed that the awarded certificates and transcripts are accurate and issued in a timely manner.

Indicator 2.5: Student Support

There is appropriate student support available in terms of guidance, and care for students including students with special needs, newly admitted and transferred students, and students at risk of academic failure.

Judgement: Addressed

- Various student support measures such as induction day for newly admitted students, student service center, e-learning platform, student guide, and counseling support, etc., among others are offered by the College and the University. The library offers adequate support to students through services such as the reserve collection, information literacy training, and library induction. Robust technical support for the LMS is also provided to students and faculty members. Students and staff confirmed that the University provides

comprehensive guidance and assistance to ensure the effective utilization of the LMS in addition to the support offered by the E-learning Center and the IT Center in providing seamless access to online platforms and assistance with IT resources.

- The SER did not mention any information about the career guidance services. However, it did mention that student surveys revealed a very low level of satisfaction with career counselling and dining facilities (48-67%). The Panel recommends that the College should provide the BMLS students with sufficient career guidance services and support to help them prepare for work and plan their career paths.
- As per the SER, arrangements are in place for inducting newly admitted students. The Undergraduate Students Induction Day, organized by the Guidance and Counseling Department, introduces first-year students to the university's culture, values, academic procedures, and available services. The CHSS and the AHD also hold induction days to acquaint students with their respective programme offerings. In addition, comprehensive information regarding the regulations and services can be found on the university's website.
- Academic advising is provided to all students, with each student being assigned an academic advisor as per the Academic Advising Regulations. The SIS facilitates efficient communication between advisors and students. At the BMLS programme, each of the four full-time Assistant Professors is responsible for advising approximately 91 students, which raises concerns about the appropriateness of the workload for effective academic advising (see Indicator 2.2).
- The AHD monitors and provides support to at-risk students (37 students), who are identified based on their Cumulative Grade Point Averages (CGPAs), through an online Academic Advising System. Adequate measures are also implemented to support students with special needs and address the specific needs of women. Currently, no students with special needs are enrolled in the programme.
- UoB regularly assesses and improves its support services to meet the needs of its staff and students. Through continuous evaluation and gathering feedback, the University identifies areas for enhancement and makes the necessary adjustments. The conducted surveys show a high level of satisfaction with UoB support services.

Standard 3

Academic Standards of Students and Graduates

The students and graduates of the programme meet academic standards that are compatible with equivalent programmes in Bahrain, regionally and internationally.

Indicator 3.1: Efficiency of the Assessment

The assessment is effective and aligned with learning outcomes, to ensure attainment of the graduate attributes and academic standards of the programme.

Judgement: Addressed

- The assessment methods of the BMLS programme adhere to the UoB Assessment Policy, which includes both summative and formative assessments. The assessment moderation processes ensure the validity and reliability of assessment methods as well as the appropriateness of academic standards. There are also continuous reviews and updates of course assessments, which ensure their validity and reliability. As per the SER, different assessment methods are used including quizzes, assignments, projects, case studies, manuscripts, presentations, and posters. The Panel notes that BMLS assessments increase in complexity depending on the individual course CILOs and the level of the course.
- The BMLS programme has a mechanism in place to ensure the alignment of assessments with the learning outcomes. The mappings of the assessments to CILOs and the CILOs to the PILOs are revised by the AHD Curriculum Committee and external moderators. The Panel was provided with the CILOs-PILOs assessment reports which were submitted along with e-portfolios as evidence. These reports show the attainment level of each CILO and PILO by the students, according to the results of the summative assessments in each course. Based on the attainment level of CILOs-PILOs, improvements are made at the programme and course levels. The moderation of assessments and course portfolios' audits are also used as mechanisms for monitoring and improving the assessments. The Panel confirmed from the interviews with different stakeholders that these mechanisms are in place.

Indicator 3.2: Academic Integrity

Academic integrity is ensured through the consistent implementation of relevant policies and procedures that deter plagiarism and other forms of academic misconduct (e.g. cheating, forging of results, and commissioning others to do the work).

Judgement: Addressed

- The BMLS programme adheres to the UoB regulations on academic misconduct, cheating, and plagiarism. These regulations are presented in the booklets of Students Rights and Duties Guide, Study and Examinations Regulations, the Anti Plagiarism policy, Students Misconduct Bylaws and the University Regulation for Professional Conduct Violations. Additionally, faculty members explain to the students the academic integrity guidelines and encourage them to adhere to the Anti-Plagiarism Policy which is available on UoB's website.
- Evidence was provided on utilizing the Blackboard (SafeAssign) tool for detecting plagiarism in written projects. However, the acceptable percentage of similarity for written assignments is not explicitly mentioned in the provided documents. Students are permitted to resubmit their assignments if the percentage of similarity is high, but the number of allowed resubmissions is not specified. Therefore, the Panel recommends that the College should set up a clear percentage for the acceptable similarity in written assignments by students, and a cap for the permitted times of resubmission of students' work.
- Any detected case of plagiarism is dealt with by the AHD as per the UoB regulations. The Panel was informed of the actions taken for cases of misconduct during interviews with the senior management. Cases of misconduct or cheating during examinations, are referred to the Misconduct Committee to take the appropriate actions in line with UoB regulations.

Indicator 3.3: Internal and External Moderation of Assessment

There are mechanisms in place to measure the effectiveness of the programme's internal and external moderation systems for setting assessment instruments and grading students' achievements.

Judgement: Partially Addressed

- The BMLS programme abides by the university's Assessment Moderation Policy, which includes clear provisions for the internal and external moderation of assessments. The Panel confirmed from the evidence provided that all major assessments including the two midterms and final examinations are internally moderated according to a course rolling plan. Internal moderators are selected in line with the Moderation of Assessment Regulation, which includes details on the selection process and criteria for selecting moderators.
- As per the Moderation Policy, the programme implements two types of internal moderation, pre- and post-moderation. The submitted evidence includes samples of pre-

and post-moderation forms with the course coordinators' responses. The feedback collected from the moderation forms is compiled and analyzed by the Moderation Committee, which develops an assessment improvement plan for the AHD.

- The SER states that the BMLS programme planned to implement the external moderation process in 2023. The AHD meeting minutes of 25 October 2023 shows the approval of assigning three external moderators to moderate four BMLS courses. The AHD moderation committee meeting minutes of 25 December and 31 December 2023 show discussion of the external moderation findings and preparation for the next cycle of external moderation.
- The Panel was provided with the moderation committee analysis report that includes recommendations to improve the moderated courses (MLS214, MLS226, MLS315 and MLS416). However, no evidence was provided on the evaluation of the effectiveness of the moderation process, nor did the SER include any information on this process. The Panel did not receive a clear clarification on this matter during the interviews. Thus, the Panel recommends that the College should develop and implement a mechanism for the evaluation of the effectiveness of moderation process at the programme level.

Indicator 3.4: Work-based Learning

Where assessed work-based learning takes place, there is a policy and procedures to manage the process and its assessment, to assure that the learning experience is appropriate in terms of content and level for meeting the intended learning outcomes.

Judgement: *Partially Addressed*

- In the BMLS programme, the work-based learning occurs during the students' laboratory and clinical training in hospital settings. The BMLS programme comprises three training courses. It starts with 'Clinical Lab Practicum' (MLS 319), which leads to more specialized courses in 'Lab Field Practice I' (MLS 412) and 'Lab Field practice II' (MLS 425). The three courses are mandatory major requirement courses that carry 16 credit hours and 48 actual training hours. The Panel is of the view that each practicum course has a set of appropriate pre-requisites. The practicum structure is also adequate and sufficient to ensure that students gain the necessary hands-on experience and skills to meet professional standards.
- For the laboratory-based training, the programme utilizes the skill laboratory, which is equipped with the essential instruments and models for laboratory simulation and training, including microscopes, centrifuges, chemistry analyzer, Hematology analyzer, ELISA, Spectrophotometer, PCR machine, refrigerated microcentrifuge, coagulometer and manual microtome. For the clinical training, the programme arranges for students training at various health centers, and private and public hospitals. To ensure an

equivalent experience amongst all students, students are rotated in training sites in each clinical course.

- The SER states that the training is guided by the policies and regulations of UoB, including the Teaching and Learning Policy and Regulations of Study and Examinations. From interviews, the Panel learned that students are provided with the relevant information about the practicum courses and their roles. However, the SER did not refer to a specific policy for the management of clinical training or to a clear policy on the roles and responsibilities of different parties involved in the practicum courses. This was confirmed during the interviews with senior management. Therefore, the Panel recommends that the College should develop a clear procedure for the management of the clinical training that clearly defines the roles and responsibilities for each party involved in the clinical training.
- As per the SER and the three clinical course specifications, each clinical training course has clear CILOs that are mapped to the PILOs. Additionally, the clinical training assessment, presented in the course specification, includes different types of assessment that cover all the relevant programme competencies and mapped to the CILOs. The assessment of the clinical training consists of the laboratory/practical clinical attendance (10%), assignments (portfolio) (10%), projects/case studies (40%), and the final examination (40%).
- Students are supervised and monitored regularly by their clinical laboratory specialists who report to the course coordinator about students work behavior by filling in an assessment form. According to the SER, the clinical training arrangements are consistently reviewed and updated. The effectiveness of the clinical training courses is evidenced by the overall attainment level of the PILOs, which amounts to over 73% in the last year for the three practicum courses (MLS 319, MLS 412, MLS 425). Evidence was provided on some improvements on the training sites placements based on alumni surveys. During interviews, most students and alumni were satisfied with the skills they gained from the training.

Indicator 3.5: Capstone Project or Thesis/Dissertation Component

Where there is a capstone project or thesis/dissertation component, there are clear policies and procedures for supervision and evaluation which state the responsibilities and duties of both the supervisor and students, and there is a mechanism to monitor the related implementations and improvements.

Judgement: Addressed

- The BMLS study plan of 2018 includes a 'Graduation Project' course (MLS 423) in which the students must conduct a research project in their final semester. The course aims at

strengthening students' competencies in psychomotor skills, critical thinking, clinical reasoning, and communication skills. The Course Specifications document demonstrates that the CILOs are mapped to the PILOs. The SER clarifies that the capstone project contributes effectively to the achievement of the PILOs which are mapped with the CILOs. The latest graduation project assessments revealed that all the CILOs and their respective PILOs were met.

- The roles and responsibilities of the supervisors and students are clearly stated in the 'Senior Project Guidelines' of UoB and are communicated to all stakeholders. The progress of students in the graduation project is monitored by their supervisors through regular scheduled meetings, progress reports, and teamwork engagements. However, there is no evidence of monitoring students' satisfaction with the graduation project supervision process and resources. During the interviews with the senior management of the programme, the Panel learned this is an area for improvement that will be taken into consideration. Thus, the Panel recommends that the College should develop a mechanism to monitor students' satisfaction with the supervision process and the resources available to carry out their graduation project.
- The BMLS programme has an appropriate mechanism for the assessment of the graduation project. At the end of the graduation project course, students submit a manuscript that is approved and signed by their respective supervisors, which accounts for 40% of the final grade of the course. This is followed by a group presentation of the project and submission of a poster. Two faculty members, not involved in supervision, assess the presentation and the poster and this accounts for 20% of the course grade. The *viva* and the abstract are allocated 40% of the course grade.
- The SER did not include any information on the evaluation and improvement of the Graduation Project course. Overall, evidence was lacking on capstone course improvements based on regular evaluation and monitoring. Hence, the Panel advises the College to ensure that the Graduation Project course is regularly evaluated and improved.

Indicator 3.6: Achievements of the Graduates

The achievements of the graduates are consonant with those achieved on equivalent programmes as expressed in their assessed work, rates of progression and first destinations.

Judgement: Addressed

- The aspired level of students' achievements is verified through the alignment of PILOs and PEOs to graduate attributes and the alignment of the assessments to CILOs and PILOs. In the more advanced courses, students are assessed on how to create and innovate through using different types of assessment such as cases analysis, graduation projects, presentations, innovative projects and campaigns.

- As per the BMLS statistics, the ratios of admitted students to successful graduates are within the normal pattern. Retention of students is 93% as per the statistics report of 2021-2022. As per the BMLS statistics over the years 2017-2023, around 80 students are admitted into the programme each year with a dropout rate of 2%. As per the statistics provided, 78% of the students from the 2018 cohort graduated, 2% dropped out, 0% transferred, and 19% retained. The Panel is of the view that the current statistics are consonant with those of equivalent programmes.
- As per the BMLS statistics, while the number of graduates in 2019-2020 was 58, in 2020-2021 it was 85, and in 2021-2022 it was 99. The number of employed graduates in the same years were 26, 25, 5 respectively. In the Market Study Report of 2022, the Panel found an analysis for an alumni survey, in which 84 alumni were surveyed. The survey analysis shows that 46.4% of them were employed, mainly in government hospitals, health centers, private health sector, and military hospitals. The Panel advises the College to investigate the reasons behind the low rate of BMLS students' employability and take appropriate measures to increase it.
- In the Market Study Report of 2022, the Panel found an analysis of the employers' survey that was sent to five main employers, namely, Salmaniya Medial Complex, Bahrain Defense Force Hospital, King Hamad University Hospital, primary health care centers under the Ministry of Health and private laboratories. The Report shows 100% of the surveyed employers agree that the graduates have occupational knowledge, computer literacy, job-related skills, teamwork, participation in professional enhancing activities, professional and work ethics. Moreover, 80% of the participants agreed that the BMLS graduates had excellent oral and communication skills. As per the Alumni Survey Report of 2022, graduates are satisfied that the programme provided them with the necessary skills for the job market. The Panel appreciates the College's efforts to prepare students for the market needs.

Standard 4

Effectiveness of Quality Management and Assurance

The arrangements in place for managing the programme, including quality assurance and continuous improvement, contribute to giving confidence in the programme.

Indicator 4.1: Quality Assurance Management

There is a clear quality assurance management system, in relation to the programme that ensures the institution's policies, procedures and regulations are applied effectively and consistently.

Judgement: Addressed

- At the institutional level, policies and regulations are in place such as the Quality Assurance Policy, the Quality Assurance and Enhancement Policy, and the Teaching and Learning Policy, which are appropriate for the needs of the programme. As per the Quality Assurance Policy and the provided evidence all policies are reviewed and updated every five years. Also, there are portals for communicating these policies to all stakeholders (e.g., QAAC webpage) and several printed documents in which the policies are published.
- The QAAC oversees the Quality Assurance (QA) system at the University and the implementation of the QA operational plans. At the college level, there is a Quality Assurance Office and a Quality Assurance Committee. The heads of these entities report to the Dean, who communicates with the Head of the Department (HoD). At the department level, there is also a Quality Assurance Committee that reports to the HoD and oversees all QA activities at the AHD ranging from monitoring courses, teaching and learning, assessments, and surveying stakeholders.
- Academics and support staff are kept updated on all QA related issues through their roles as members in the department Quality Assurance Committee, AHD Council, and BMLS programme meetings. Furthermore, faculty members attend the QAAC workshops which update them on QA related academic practices. The Panel was satisfied to see that faculty are participating in various committees and this proves their awareness of QA processes within the programme. During interviews, academic and administrative staff showed an understanding of QA and their role in ensuring the effectiveness of provision.
- As stated in the Quality Assurance Policy and the Quality Assurance and Enhancement Policy, UoB monitors its QA management system through internal and external reviews. However, it was not clear to the Panel how and when the monitoring, evaluation and improvements on QA processes are implemented. Hence, the Panel recommends that the University should ensure that QA processes and system are regularly evaluated and improved.

Indicator 4.2: Programme Management and Leadership

The programme is managed in a way that demonstrates effective and responsible leadership and there are clear lines of accountability.

Judgement: Addressed

- The CHSS has a suitable organizational structure for managing the programme. The reporting lines as shown in the organizational chart are clear and ensure effective communication and decision making. The HoD oversees the three programmes offered at AHD. Additionally, each programme has a coordinator who reports to the HoD. The academic and administrative responsibilities are distributed among various committees that report to the HoD. There are also clear terms of reference (ToR) for each committee at the College and department level, which are stated in the Committee ToRs document. The document includes committee memberships and their roles and responsibilities.
- The responsibility and custodianship of maintaining the academic standards of the programme are clearly stated at various levels, as per the Quality Assurance Policy. In addition, different councils' responsibilities are presented in the Regulations for Offering and Developing Academic Programmes and Courses document. This helps in identifying where different academic and administrative responsibilities lie, and who exactly is responsible for the custodianship of the academic standards of the programme at the university, college and department levels. This was confirmed by the Panel from interviews with administrative and academic staff. It was also clear from the interviews that the AHD has effective and responsible leadership and the BMLS programme is appropriately managed.

Indicator 4.3: Annual and Periodic Review of the Programme

There are arrangements for annual internal evaluation and periodic reviews of the programme that incorporate both internal and external feedback and mechanisms are in place to implement recommendations for improvement.

Judgement: Partially Addressed

- UoB has an Annual and Periodic Programme Review Policy that outlines the purpose, scope, principles of reviews and details each type of programme evaluation. In accordance with the Policy, the BMLS programme is annually reviewed and evaluated for improvement. The Annual SERs of the programme are based on a range of different data sources, such as: course details; course evaluation results; the feedback received from different committees including PAC and SAC; and survey results. The Panel examined the last three Annual SERs for the academic years from 2020-2021 to 2022-2023 and found

that they are comprehensive and include recommendations for improvement that were translated into action plans. The programme monitors the implementation of the improvement plans as evidenced in the programme progress report of 2021-2022.

- As per the Annual and Periodic Programme Review Policy, the periodic review of the programmes is conducted every 4-6 years. Evidence was provided on conducting two internal audits, one in the academic year 2018-2019, and the other in the academic year 2022-2023. Both are conducted by the QAAC and resulted in audit reports. The Panel examined both reports and noticed that the focus, scope and purpose of the audit reports are different than what is expected in a periodic review of the programme. Therefore, the Panel recommends that the College should ensure that a comprehensive periodic review of the programme is regularly conducted with its results utilized in improving programme delivery.

Indicator 4.4: Benchmarking and Surveys

Benchmarking studies and the structured comments collected from stakeholders' surveys are analysed and the outcomes are used to inform decisions on programmes and are made available to the stakeholders.

Judgement: Addressed

- The Benchmarking Policy of UoB provides the framework for different programmes of the University to undertake benchmarking. In accordance with this Policy, the BMLS programme went through a benchmarking exercise in 2022 against six similar programmes in renowned universities at regional and international levels. The Benchmarking Report covers the programme mission, admission criteria, PILOs, and the study plan. The Report concludes with three recommendations, but no evidence was provided to confirm the implementation of these recommendations. Also, although it is mentioned in the SER that the PAC and SAC were briefed about the results of the benchmarking, the provided evidence did not confirm that. Therefore, the Panel recommends that the College should ensure that the benchmarking outcomes are utilized to inform decision making and improve the programme delivery.
- According to the QAAC guidelines, the BMLS programme periodically conducts various stakeholders' surveys, which include course evaluations, alumni surveys, student exit surveys, and employer surveys. Samples of course evaluation results and analysis of surveys were provided to the Panel. As stated in the SER, actions were taken based on survey analysis, for example, more clinical training sites were added to accommodate the large number of the BMLS students, and a new research laboratory has been established. The Panel learned from various interviews that internal stakeholders, faculty and staff, are informed of the outcomes of the surveys and receive updates either from the HoD or

through meeting minutes of different committees. PAC members are informed of changes made based on their feedback during PAC meetings.

Indicator 4.5: Relevance to Labour market and Societal Needs

The programme has a functioning advisory board and there is continuous scoping of the labour market and the national and societal needs, where appropriate for the programme type, to ensure the relevancy and currency of the programme.

Judgement: Addressed

- The BMLS programme has a functioning Advisory Board that consists of PAC and SAC. Both PAC and SAC have clear ToRs. The PAC comprises members from the government and private sectors, as well as alumni. The Panel was provided with two meeting minutes of the PAC, one dated 26 September 2019, and the other dated 5-12 October 2022. A report on the meeting of the SAC members of all programmes offered by CHSS with the Dean dated 20 December 2018 and an improvement plan based on this meeting were also provided to the Panel. Both PAC and SAC members attend a joint meeting once every year. The meeting minutes of their second joint meeting of 13 March 2023 was provided as evidence. The provided meeting minutes by the PAC for the academic year 2022-2023 show discussion of the changes suggested for the programme. Evidence was also provided on utilizing feedback from PAC and SAC in improving the curriculum and enhancing the teaching and learning process.
- The mechanisms that are in place to collect data about the quality of the programme and whether graduates meet labour market needs are mainly satisfaction surveys and feedback from PAC. To ensure that the BMLS programme is relevant to the labour market needs and up to date, a market study was conducted in October 2022 guided by the Academic Programmes Market Study Guidelines of UoB. The outcomes of PAC and SAC meetings, various surveys, and the market study analyses are integrated into the the BMLS Annual SERs. This is followed by setting up improvement plans, that are monitored by the CHSS. Overall, the Panel is satisfied with the current arrangements.

V. Conclusion

Taking into account the institution's own self-evaluation report, the evidence gathered from the interviews and documentation made available during the virtual site visit, the Panel draws the following conclusion in accordance with the DHR/BQA *Academic Programme Reviews (Cycle 2) Handbook, 2020*:

There is Confidence in the Bachelor in Medical laboratory Sciences of College of Health and Sport Sciences offered by the University of Bahrain.

In coming to its conclusion regarding the four Standards, the Panel notes, *with appreciation*, the following:

1. The programme includes distinguished courses in the study plan such as Forensic Medicine, Clinical Seminar, Quality Assurance in Lab Medicine, and Leadership and Management in Health Care Setting.
2. Coursework combines competency-based didactic courses in the classroom with clinical training in primary, secondary, and private health centers, and hospitals.
3. The College urges students to publish their work in peer reviewed journals as well as presenting posters and oral presentations in international conferences.
4. The arrangements in place for faculty development are consistently implemented, monitored and evaluated.
5. The college's efforts to prepare students for the market needs are notable.

In terms of improvement, the Panel recommends that the University of Bahrain and the College of Health and Sport Sciences should:

1. Review the curriculum of the programme and ensure that it is regularly updated in light of benchmarking and stakeholders' feedback.
2. Ensure that textbooks are updated for all courses.
3. Set up an urgent action plan to provide the faculty with necessary facilities and funds as well as reducing their workload and any other actions needed to increase their research productivity.
4. Urgently recruit additional senior professors in different specializations with clinical experience to cater for the programme needs, especially in terms of supervising students' clinical practice.
5. Urgently address all areas related to the adequacy of the programme facilities including classrooms, laboratories, instruments, and equipment.

6. Ensure updating all signages at the college premises as well as the health and safety provisions.
7. Provide the students with sufficient career guidance services and support to help them prepare for work and plan their career paths.
8. Set up a clear percentage for the acceptable similarity, and a cap for the permitted times of resubmission of students' work.
9. Develop and implement a mechanism for the evaluation of the moderation process effectiveness at the programme level.
10. Develop a clear procedure for the management of the clinical training that clearly defines the roles and responsibilities for each party involved in the clinical training.
11. Develop a mechanism to monitor students' satisfaction with the supervision process and the resources available to carry out their graduation project.
12. Ensure that quality assurance processes and system are regularly evaluated and improved.
13. Ensure that a comprehensive periodic review of the programme is regularly conducted with its results utilized in improving programme delivery.
14. Ensure that the benchmarking outcomes are utilized to inform decision marking and improve the programme delivery.