



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 Science
Master in Environment & Sustainable Development
Kingdom of Bahrain**

Site Visit Date: 31 October - 2 November 2022

HA062-C3-R062

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Acronyms

ASER	Annual Self-Evaluation Report
BQA	Education & Training Quality Authority
CILO	Course Intended Learning Outcomes
CoS	College of Science
DHR	Directorate of Higher Education Reviews
ESDPAC	Environment and Sustainable Development Postgraduate Programs' Administrative Committee
HEC	Higher Education Council
IT	Information Technology
MESD	Master in Environment & Sustainable Development
NQF	National Qualifications Framework
PAC	Programme Advisory Council
PEO	Programme Educational Objective
PILO	Programme Intended Learning Outcome
QA	Quality Assurance
QAAC	Quality Assurance and Accreditation Centre
QAO	Quality Assurance Office
SAC	Student Advisory Council
SER	Self-evaluation Report
SIS	Student Information System
UILO	University Intended Learning Outcome
UK	United Kingdom
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 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 Science
Programme/ Qualification Title*	Master in Environment & Sustainable Development
Qualification Approval Number	
NQF Level	
Validity Period on NQF	
Number of Units*	11
NQF Credit	
Programme Aims*	<ol style="list-style-type: none"> 1. Pursue a successful career in environment and sustainable development related fields. 2. Qualify for graduate studies in environment and sustainable development. 3. Serve the community in protecting the environment and achieving principles of sustainable development.
Programme Intended Learning Outcomes*	<ol style="list-style-type: none"> a. Implement advanced knowledge in fields of environment and sustainable development. b. Analyze complex environmental and development problems. c. Compare and contrast alternative solutions to environmental problems. d. Synthesize contemporary emerging issues fields of environment and sustainable development. e. Demonstrate effective communication skills. f. Plan and execute original research in environment and sustainable development. g. Develop independence and autonomy in life-long learning.

* Mandatory field

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	Partially Addressed
Indicator 1.4	Teaching and Learning	Partially Addressed
Indicator 1.5	Assessment Arrangements	Addressed
Standard 2	Efficiency of the Programme	Satisfied
Indicator 2.1	Admitted Students	Partially Addressed
Indicator 2.2	Academic Staff	Addressed
Indicator 2.3	Physical and Material Resources	Addressed
Indicator 2.4	Management Information Systems	Addressed
Indicator 2.5	Student Support	Partially 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	Addressed
Indicator 3.4	Work-based Learning	Not Applicable

Indicator 3.5	Capstone Project or Thesis/Dissertation Component	Partially 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	Partially 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 Master in Environment & Sustainable Development (MESD) programme, offered at the College of Science (CoS) is based on a clear academic planning framework, which is clearly described in the Regulations for Offering/Developing Academic Programmes and Courses at the University of Bahrain (UoB). The Panel was provided with the updated programme Study Plan, which has been developed based on benchmarking and consultations with internal and external stakeholders, as explained during virtual interviews with faculty, to demonstrate that the planning process ensures the programme's relevance and fitness for purpose. Though the programme was not formally placed on the National Qualifications Framework (NQF), the programme was designed to match level 9 on the NQF that reflects master's degree. The MESD was first offered in 2002, reopened in 2011, then redesigned in 2017 and offered as a joint degree with the Prince's Foundation - United Kingdom (UK), according to a partnership contract that has been terminated in 2021 and was not renewed. Now, the programme is fully managed and offered by UoB. Overall, the Panel appreciates the thorough planning process followed in developing the programme and ensuring its relevance and fitness for purpose.
- As described in the Self-evaluation Report (SER), potential risks related to the quality, delivery and academic standards are evaluated and addressed through the Annual Self-Evaluation Report (ASER), with input from various stakeholders (students, faculty, management and employers). The programme also underwent an internal audit review by the Quality Assurance and Accreditation Centre (QAAC) in the Spring of 2022, which resulted in the development of an Action Plan to address the identified potential risks and issues. The Panel acknowledges the variety of evidence provided to demonstrate that many of the focal points have already been addressed.

- The MESD programme qualification's title is concise and indicative of the type of qualification offered by this programme and it is accurately documented on the university's website, the Programme Description, and the Graduation Certificates. However, the Panel noticed that although Stream II (Sustainable Urbanism) has been frozen as of Spring 2022, it is still displayed on some documents as well as the website. Therefore, the Panel recommends that the College should remove all mentions of Stream II from all related documents to the MESD programme.
- The Panel notes that the MESD programme has three clear and appropriate Programme Educational Objectives (PEOs), that are regularly revised by the Environment and Sustainable Development Postgraduate Programs' Administrative Committee (ESDPAC) and in consultation with relevant stakeholders. The Panel was provided with evidence on clear alignment of the PEOs with the college and institutional missions and strategic goals.

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

- According to the SER, the MESD programme has seven clearly stated and appropriate Programme Intended Learning Outcomes (PILOs), which are well aligned with the University Intended Learning Outcomes (UILOs), and include the generic graduate attributes defined at the institutional level. The PILOs were recently revised and reduced in number. The Panel notes that these PILOs are improved and focus on more measurable and appropriately written specific outcomes.
- The Panel was provided with the benchmarking report, where several areas, including the PILOs and Course Intended Learning Outcomes (CILOs), are compared against six similar master's programmes at internationally recognized institutions from the UK, France, and Australia, showing that the MESD programme is comparable to similar programmes. The Panel was also provided with updated and improved Syllabi for most of the MESD courses, including the Thesis Project (ESD548) course, which displayed CILOs that are appropriate for the level of the courses, and which are correctly mapped against the PILOs.

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: *Partially Addressed*

- The Panel is of the view that the succession of courses in the interdisciplinary MESD programme is logical, sound and progressing in level of complexity and specialty. However, no pre-requisites have been defined for any of the elective courses. The Panel, therefore, recommends that the College should define pre-requisites for the specialised electives, to help guide the students in their choices of electives.
- The Panel acknowledges the revision of the MESD programme through the ASER, which considers the result of internal audits, benchmarking exercises, and feedback received from various stakeholders. However, the Program Quality Assurance Policy, which includes the Curricular Development Procedures at the university level does not clearly describe how the curricular development is handled internally at the programme level. Hence, the Panel recommends that the University should revise its policies and procedures to clearly describe how the curricular development is handled internally at the programme level and to record any substantive and non-substantive changes to the curriculum.
- The Panel examined the Course Syllabi and the Programme Specification and found that the topics covered in all courses have the appropriate depth and breadth for a broad and interdisciplinary programme such as the MESD. Course Syllabi specify textbooks and references which are relevant to the course. However, the Panel found inconsistency in the quality and the thoroughness of different course syllabi, therefore the Panel recommends that the College should ensure that all Course Syllabi are of the same quality and consistent in the style and layout.
- MESD students receive appropriate training in the principles and ethics of scientific research in their specialisation as well as in-depth research training by supervisors. As indicated during interviews with faculty, the 'Research Methods' (ESD547) course covers the principles and ethics of scientific research. The Panel examined all instructors/supervisors' CVs and noticed that all of them have prior research and supervising experience.

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: *Partially Addressed*

- UoB has clearly stated and updated Teaching and Learning Policy, which includes a section on e-learning. Based on scrutinising programme and course specifications, the Panel is satisfied that the teaching philosophy of the courses offered in the MESD

programme adheres to the Teaching and Learning Policy, using a range of different teaching methods.

- The Panel is of the view that at the level of the MESD programme, it is important to have a strong emphasis on practical/professional skills, such as laboratory activities, field-visits, fieldwork, tutorials, simulations etc., however, the provided evidence show that these types of hands-on, practical, and skills-based activities are still underrepresented in the MESD (apart from in the Thesis project). This was also confirmed by some of the students during the virtual interviews. Therefore, the Panel recommends that the College should increase laboratory activities, field-visits, fieldwork, tutorials, and simulations activities in the programme.
- UoB's Teaching and Learning Policy encourages students' participation in learning, and the development of independent and lifelong learning. The SER mentions that the results of students and alumni surveys show high satisfaction with both formal and informal learning activities, and the programme's learning environment which motivate the students to create and innovate. This was confirmed and emphasised in the interviews with both students and alumni during the virtual visit.

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 MESD programme is supported by a sound institutional/college assessment framework, including several policies and procedures, as well as manuals, that are appropriate for the programme level, as described in the SER. These policies are published on the UoB website.
- According to the SER and submitted evidence, the faculty use a combination of summative and formative assessment tools. The Panel appreciates the level and the variety of formative and summative assessments as well as the prompt feedback on summative assessments (e.g. tests or assignments), which has to be provided within two weeks of their submission. The Panel was also provided with new and updated examples of matrix-based rubrics used for marking the assessments, which is a good practice in the view of the Panel.
- Aspects of ethics and principles of scientific research are taught as part of the 'Research Methods' (ESD547) course, which are then implemented by students in the research-based Thesis Project (ESD548) course. The Panel notes that all students taking the 'Thesis Project' course are assigned an experienced faculty supervisor that meets with the student

regularly and provides feedback on the student's experiments, results. This ensures that the students' progress is monitored, evaluated, and supported on a regular basis. The Panel, also, notes with appreciation that the MESD programme applies fair and rigorous mechanisms for grading students' achievements through both pre- and post- internal moderation of assessments, as well as external moderation.

- There are clear policies and procedures for addressing academic misconduct, cheating and plagiarism, as well as for assisting the students with appeals. These policies and procedures are made available to students by posting them in the corridors, especially during examination times. According to interviewed staff and senior management, there were no appeal cases or cases of academic misconduct to the date of the review.

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: *Partially Addressed*

- UoB has a clear general admission policy, which applies to all programmes offered by the University. More specific admission criteria for the MESD programme are provided in the CoS Booklet and the Programme Brochure. The Higher Studies Regulations state that the applicants to the Master programmes shall pass the department's written examination. The Programme Brochure refers to a written examination or interview under admission requirements. During the interview with faculty, the Panel confirmed that all applicants must pass an interview, but no written examinations are held. The provided evidence includes the marking results of the interview. However, there was no documented evidence on the list of interview questions and the marking criteria. Therefore, the Panel recommends that the College should ensure that the MESD admission requirements are stated correctly in the Programme Brochure and that the interview process is effectively managed and clearly documented.
- The Dean of Admissions and Registration manages the transfer of students through the University, in accordance with the university's Study and Examination Regulations. Arrangements for progression, internal/external credit transfer, and Recognition of Prior Learning are described in the SER, which the Panel finds sufficient. As per the statistics provided, the Panel notes with appreciation the positive shift towards female students during the period from 2017 to 2022, and the enrolment of international students.
- Remedial support measures (e.g. English language courses) are in place for inadequately prepared students. However, no evidence was provided on revising the programme admission requirements based on students' performance, feedback, and benchmarks. The Panel recommends that the University should regularly revise the entry requirements of the MESD programme and update these requirements in consultation with stakeholders

and based on students' performance and benchmarks against national, regional or international programmes.

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: Addressed

- UoB has clear policies and procedures for the recruitment, induction and promotion of academic staff. The Panel was provided with evidence on the consistency and transparent implementation of the recruitment and promotion procedures. With respect to induction, the SER refers to an orientation workshop attended by all newly appointed academics to learn about UoB's regulations and practices, while the e-learning center provides a series of workshops at the beginning of each academic year as induction for new staff. Furthermore, academic staff undergo a rigorous appraisal process, based on explicit evaluation criteria and constructive performance rubrics. The Panel is satisfied that appropriate procedures are in place.
- The webpage of the Deanship of Graduate Studies and Scientific Research provides key information about research activities and funding support at UoB. The Panel was provided with evidence detailing the strategic research plan for the CoS and the quality of the college's scientific research. The issue of research support and funding was discussed satisfactorily with the programme's academic staff.
- There are ten faculty members assigned to the programme as of the academic year 2020-2021, comprising one full professor (Bahraini), four associate professors (3 non-Bahraini), and five assistant professors (one non-Bahraini), of which two are part-time staff. As per the evidence provided, one to two courses are assigned to each faculty member, which is reasonable according to international standards. The Panel acknowledges the diversity in scientific expertise and gender balance among the programme academic staff. The Panel confirmed that there are no significant staff retention issues but suggests that monitoring of staff turnover could be improved, for example with exit surveys and analysis.
- During interviews with faculty and students, the Panel was clear that faculty are very committed and hardworking, which keeps the MESD effective and working, but their additional heavy workload associated with the management of the MESD programme may be unsustainable in the long run. The Panel, therefore, recommends that the College should provide additional support for the management of the programme, or explore an alternative management structure to reduce the administrative workload from the faculty.

- Professional development arrangements related to the CoS short- and long-term development plans for academic staff are discussed in the SER. There is also evidence on organisation and participation of the faculty members in a range of relevant conferences and workshops. The Panel appreciates the Unit of Teaching Excellence and Leadership's efforts in providing activities such as the Postgraduate Certificate in Academic Practice programme in collaboration with York St. John University and the Higher Education Academy's continuous professional development programmes.

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: Addressed

- Facilities were viewed on the video tour and during the site visit. The SER provides a detailed account of the classrooms and laboratory facilities available at the CoS. The Senior Exit Survey of 2021-2022 shows 80% and 90% satisfaction with classrooms and laboratory facilities. During the virtual interviews, students did not raise specific concerns about classrooms, laboratories or Information Technology (IT) facilities. The Panel concludes that classrooms, IT and laboratory facilities are adequate.
- The library computers enable access to subscription-only electronic resources using university-specific login details. The library also provides an Inter-loan service *via* partnership with internationally distinguished libraries. However, the video tour and site visit revealed that the study spaces within the library are limited. The Panel was provided with an existing plan to expand the library, albeit without targeted deadlines. The Panel advises the University to priorities the expansion of the physical library amenities to allow more students' access, and revise the existing expansion plan by adding a timely framework for its implementation.
- As per the SER, the CoS performs regular maintenance of the facilities, premises and equipment according to the Occupational Health and Safety programme at the UoB. During the virtual visit, the Panel was provided with more evidence on the formal mechanism to ensure the maintenance of the existing resources and evaluate their adequacy. The Panel is of the view that the existing mechanism for the maintenance of resources is satisfactory.
- The SER provides a clear description of the Health and Safety measures at the CoS premises and its laboratories including fire exits, assembly points and evacuation plans in case of emergencies. There is a health clinic on campus staffed with qualified first aiders

and nurses. Students are informed about the UoB general Health and Safety policy and CoS specific laboratory safety measures. The Panel is satisfied that the provision for Health and Safety at CoS is appropriate.

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 SER provides details of the use of Student Information System (SIS) for the management of student information, academic records and course evaluation reports, as well as supporting the decision-making process in terms of student progression, staff appraisal and contract renewal. The SIS also provides an electronic platform that covers different aspects of students' academic development, course enrolment, grades and transcripts. Following a live demonstration of the SIS system during the virtual visit, the Panel acknowledges the use of SIS as a sophisticated decision-making tool at UoB.
- As per the SER, SIS is used to generate evaluation reports at the end of each semester. The reports assess various aspects of the teaching and learning on the course, as well as staff performance. Faculty members have access to these evaluation reports to address the provided feedback as needed, while senior management take the outcomes of these reports into consideration in the yearly appraisal and for contract renewal.
- The security of learners' records on the SIS is centrally managed according to the UoB IT policy and procedures. During the virtual visit, the Panel thoroughly discussed the security of learners' records with SIS Operators and was provided with evidence regarding requests for revision of examination results. Overall, the Panel concluded that IT security is adequately covered.
- Based on the SER, and further evidence provided, the Panel finds the process applied to ensure the accuracy of awarded certificates and transcripts in describing the achieved learning by students sound and clear. However, the Panel suggests that timelines should be more explicitly specified in the certificate/transcript issuing procedures.

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: *Partially Addressed*

- The SER provides examples on a wide range of student support tools in terms of library, laboratories, e-learning and e-resources. There is also evidence on student guidance and care through the one-day induction for new students hosted by the Deanship of Student Affairs, followed by the orientation day held for the CoS students, including those who have been admitted into the MESD programme. Another orientation day is held for the MESD new students, to familiarise them with the course plan. During the tour visit, the Panel noticed that two staff are available to serve at the two-story library, both are positioned on the ground floor. The Panel, thus, advises the University to provide more staff at the library to assist students.
- The Panel was provided with evidence showing an individual example of career counselling to one student. During the virtual visit, the Panel gathered from students' interview that no formal career counselling was provided. Therefore, the Panel recommends that the College should implement and document formal procedures to provide MESD students with career guidance services and support to help them prepare for work and plan their career paths.
- The provision for continuous guidance and student care is implemented through the academic advisers according to the UoB's Academic Advising Regulations. As per the SER, all MESD students are appointed an academic adviser. Students are required to attend at least one advisory meeting each semester, through which they are provided with advice on course selection and their academic progress. Another level of support is provided by the thesis supervisors, who assess students' ability to work on the selected topic and provide guidance throughout the project. However, the MESD Senior Exit Survey reveals 60% satisfaction on the overall advisory support, which is considered low. While academic advising in MESD programme is implemented, its explicit support of graduate attributes and achieving learning outcomes is less tangible. The Panel, therefore, recommends that the College should investigate the reasons behind the low satisfaction rate of students with the academic advising and take remedial actions.
- The SER mentions the university's priority to promote equal opportunities for male and female students, and refers to the higher number of female students, compared to male students enrolled into the MESD programme over the past five years. The SER also explains the measures in place to provide physical and psychological support to students with special needs, including suitable transportation. The Panel is of the view that the support for students with special needs is adequate.
- Students at risk of academic failure are identified *via* the SIS. This triggers into action a series of support measures including meetings and tailored advice by their academic advisors and dissertation supervisor. However, the Panel was not provided with evidence on the 'threshold level' of at-risk students, or statistics on the number of students at risk

of academic failure in the programme and the timely measures taken to improve their performance, though requested by the Panel. Given that the graduation rate is low, less than 20% of enrolled students, the Panel recommends that the University should establish formal procedure regarding ensuring the timeliness of intervention and the 'threshold level' that triggers the support measures for at-risk students, in order to help students to graduate within a reasonable time.

- Although there is evidence on suggested improvement of current student support practices; effective formal mechanisms for the implementation of improvements are less evident. Therefore, the Panel recommends that the College should formalise the mechanism for evaluating the effectiveness of improvements made to student support by keeping records of improvements made across all student support services provided at UoB.

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 Panel examined the provided Course Syllabi and samples of students' assessments, and found that there are several types of assessments, including examinations, projects, case-studies and presentations, and the level of complexity of these assessments is adequate for a Master programme. The predominant type of assessment, making up 40-80% of the marks, is the examination type, with only the Thesis Project (ESD548) course, which is entirely a research-based course. This, in the Panel's view, indicates that most assessment targets the theory rather than skills, although the MESD programme is mostly a research-based programme, as stated in the SER. Therefore, the Panel recommends that the College should revise the assessment methods to include more emphasis on research and skills-based assessments, to achieve a better balance between knowledge and skills and theory and practice (see under Indicator 1.3).
- There are numerous policies and procedures in place regarding assessment and Quality Assurance (QA), to ensure that there is alignment between assessments and CILOs, PILOs, and UILOs. This alignment is achieved by mapping the assessments to the CILOs in each course, which in turn are mapped to the PILOs that are mapped to UILOs.
- There are direct and indirect mechanisms in place to ensure that the graduates' achievements meet the CILOs and PILOs, as well as a mechanism for monitoring the implementation and improvement of the assessment process through the ASER. The QAAC also does regular internal audits on the effectiveness of the programmes. Overall, this is a satisfactory approach according to the Panel to ensure the continuous implementation and improvements of the programme assessment measures.

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

- There are clear, sufficient and well disseminated policies and procedures for addressing academic misconduct, cheating and plagiarism, as well as for assisting the students with appeals, to help 'foster a culture of academic integrity among students and faculty'. The responsibility for deterring and monitoring academic misconduct, plagiarism and cheating lies with the individual faculty teaching the courses. This is done by applying strict proctoring rules during examinations in accordance with UoB's Study and Examination Regulations and using antiplagiarism software such as Safeassign that is integrated into the Learning Management System (Blackboard) to detect and deter from plagiarism when students submit their assignments online. No plagiarism cases were detected so far. The Panel is satisfied with applied processes for deterring and detecting academic misconduct in the MESD programme.

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: Addressed

- UoB has appropriate and formal policy and procedures for internal and external moderation of the assessments. With regard to internal moderation, assessments are pre-moderated to check the quality and relevance of questions to CILOs, and post-moderated to check that the marking is done fairly, correctly, and consistently according to the rubrics. The moderation is done by experienced faculty who have taught the course before, and ESDPAC compiles the moderation forms into a moderation report, summarising their findings, evaluating their effectiveness, and recommending any improvements or changes to be made to the moderation process. However, the Panel notes from interviews and relevant evidences that the moderators were sometimes burdened with moderating the assessments, in addition to their normal duties and responsibilities, thus, the Panel suggests that their efforts are compensated appropriately by UoB and considered in terms of their overall workload.
- The external moderation is done through an external expert, who independently moderates assessment in selected courses. The evaluation of the effectiveness of the external moderation is done in the same way as for the evaluation of the internal moderation, which is appropriate according to the Panel.

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: *Not Applicable*

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: *Partially Addressed*

- The Panel examined the syllabus of the ‘Thesis Project’ (ESD548) course and found evidence of its effective contribution to the achievement of the PILOs, as can be seen in the mapping of the CILOs to the PILOs. The roles, responsibilities and expectations of the supervisors and students are stated in the Graduate Thesis Writing Handbook as well as on the Deanship of Graduate Studies webpage. However, the Panel is of the view that these could be improved by adding a section to guide students on how to choose a suitable supervisor, how to deal with eventual conflicts between the supervisor and the students, and the process to follow up on the student satisfaction with the supervisory process during the thesis project. The Panel recommends that the University should publish policy and guidance on the roles and responsibilities of the supervisors and students and ensure that these are comprehensive.
- With regard to assessment, the Panel found an implemented mechanism for the Thesis assessment, however, the Panel found that it lacks some explanation on the grading criteria used by the two examiners (one external and one internal), and how the actual thesis defense is performed. Thus, the Panel recommends that the College should clarify the grading criteria for the Thesis examination, and the defense process of the thesis. The assessment process is monitored by the ESDPAC in the first instance and by the Deanship of Graduate Studies in the second, which is a logical sequence and sufficient.
- From the interviews during the virtual visit, the Panel learnt that the Thesis often leads to delays in the time to graduation for students. Therefore, the Panel recommends that the College should investigate the reasons behind the students delay in completing their thesis and introduce effective measures to address it.

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 Panel examined samples of students assessed works and is of the view that their works are on par with equivalent regional programmes, and reflect their ability of independent and critical thinking, evaluation and analysis of environmental data, effective communication and innovation. The MESD programme encourages students to publish their projects in peer-reviewed literature, which is appreciated by the Panel and should be further encouraged.
- Six out of the admitted 31 students over the past five years have graduated so far, and 82% of these students graduated within four years, while four are currently waiting to defend their thesis. This means that the graduation rate (in time) is equivalent to less than 20%, which the Panel considers as a low rate compared to other equivalent programmes. During interviews, the faculty and the senior management explained to the Panel that this rate is low because the students are often working and therefore taking longer to graduate, and that the delay is often in the final Thesis research project.
- Although only six students have graduated from MESD in the past five years, all of them are already employed in jobs relevant to the degree, with 83% working within the governmental sector. The evidence of graduate satisfaction is presented in the exit and alumni surveys, which show that the graduated students and alumni are generally satisfied with the MESD programme. This was also confirmed during the interviews with the alumni, students and employers during the virtual visit.

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

- QA processes are defined in the Quality Manual (version 2 undated), and the Programme Quality Assurance and Enhancement Policy (dated 2015). These policies are published on the university website. The Panel recommends that the University should regularly update its quality assurance related policies and procedures.
- UoB has a mature and comprehensive QA management system which functions at multiple levels. At the college level, the College Quality Assurance Committee monitors the compliance of assessments with QA standards and accreditation requirements. In addition, there is a Quality Assurance Office (QAO) which is managed by a director who reports directly to the Dean and the Quality Assurance and Accreditation Executive Committee. At the programme level, the ESDPAC, is responsible for managing different QA aspects and ensuring the consistent implementation of QA related policies.
- Based on interviews with faculty members and supporting staff, combined with evidence of workshops held to explain the QA policies to academic and administrative staff, the Panel finds that the faculty and staff have sound understanding of the QA system and their role in ensuring its effective provision.
- Based on the Quality Manual, the QAAC is responsible for monitoring, reviewing, auditing, evaluating and continuously developing the university's QA. Also, the Quality Assurance Executive Committee at the university level is responsible for monitoring and evaluating the impact of the university's approach to QA and improvement on its operations. The implementation and monitoring of QA processes within the college and the programme is the responsibility of the QAO. However, the Panel was not provided with sufficient evidence to demonstrate that these processes are in place. Therefore, the Panel recommends that the College should document the implementation of the

university's policies and procedures to monitor, evaluate and improve the quality assurance management system at the programme level.

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

- CoS has an appropriate organizational chart for the management of the MESD programme, with clear reporting lines that support communication and decision-making across the College. The programme QA is managed through the ESDPAC, which is headed by the Dean. The Quality Manual indicates the terms of reference for all committees and the job descriptions for the senior leadership positions; while the Academic and Administrative Bylaws includes the roles, responsibilities, and authorities of key personnel, such as the University President and Deans. The formation letter for the committees defines their roles and responsibilities.
- The SER provides details of the various academic and administrative responsibilities at the university, college and programme levels. The programme coordinator ensures the smooth running of the teaching and learning activities and manages any emerging mandates.
- During the interviews with the programme faculty members and administrative staff, it became evident to the Panel that the responsibility of the QA management of the programme was assigned to the Dean, then, recently this responsibility is assigned to the programme coordinator. The Panel is of the view that burdening one faculty with administrative and academic responsibilities could affect the proper QA management of the programme, and hence suggests that the responsibility and custodianship of the academic standards at the programme level to be more broadly distributed among faculty members with clear systemic reporting lines to ensure the effectiveness of programme management.

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

- The policy for the annual and periodic reviews of programmes is stipulated in the Quality Assurance and Enhancement Policy. The Panel was provided with evidence on conducting only one ASER for the academic year 2020-2021. However, the consistent periodicity of this annual report was not evident as the reports for the current and preceding years were not provided.
- The provided ASER includes results from multiple reports and sources such as admissions, faculty, PILOs evaluation, Students Advisory Council (SAC) and Programme Advisory Council (PAC) feedback. However, it does not include the details of different course moderation and the evaluation of CILOs. The Panel was provided with evidence on developing an action plan to address the ASER recommendations, which turned out to be irrelevant to the ASER and is the action plan for the university internal audit. Another evidence was provided to the Panel on the implementation of two recommendations included in the 2020-2021 ASER, which are forming SAC and PAC. However, there is no evidence on monitoring and implementing other recommendations. The Panel, therefore, recommends that the College should ensure that the annual review of the programme is regularly conducted and in a comprehensive manner.
- The Panel was provided with the Internal Quality Review Report of 2021-2020, which was marked as the periodic review report of the programme. The Panel examined the report and found that it is an audit report conducted at the university level, mainly a checklist completed by non-experts in the subject field of the programme. Therefore, the Panel recommends that the College should start conducting periodic reviews of the programme and establish a clear mechanism to monitor and evaluate the implementation of the annual and periodic reviews' recommendations.

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 UoB Benchmarking policy provides the framework for undertaking benchmarking studies across different programmes. The Panel examined the latest benchmarking report of the programme, undated, which compares the programme against six universities in United Kingdom, Australia and France with respect to programme title, mission, admission criteria, CILOs, PILOs, and curriculum plan. The benchmarking report ends with a list of multiple actions based on the results of the study. Although the Panel is satisfied with the exercise, the Panel advises the College to conduct the benchmarking study on a regular basis and against similar programmes at both the regional and

international levels, to better understand the competition and uniqueness of the MESD programme in the region.

- The College formed the PAC and SAC on 9 March 2022. There is evidence of a meeting minutes for each committee and two undated action plans based on these meetings. The Panel was provided with survey analysis conducted last year, which are: Senior Exit Survey, Alumni Survey, and Employer Survey. The reports include detailed analysis of the results, key findings, and actions.
- During the interviews with the PAC and external stakeholders, the Panel found that there is a lack of regular formal communication with stakeholders to communicate the outcomes and measure their satisfaction with the implemented improvements. Hence, the Panel recommends that the College should evaluate the effectiveness of the mechanisms for communicating to stakeholders the implemented changes or improvements based on their feedback.

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: *Partially Addressed*

- The MESD programme has a functioning PAC, which comprises employers, business experts and alumni. The PAC met once on 5th April 2022 and provided feedback about the programme. The ESDPAC prepared an action plan based on the PAC meeting, but there is no evidence of implementing the recommendations resulting from the PAC meeting. Therefore, the Panel recommends that the College should ensure that the PAC feedback is systemically collected to inform the programme decision making process.
- No evidence was provided on conducting a formal market survey or study to seek feedback from industry about the MESD programme. The provided survey analyses were based on a very small sample, which cannot be relied on as a representative sample. The Panel recommends that the College should conduct a formal and recent study with targeted data to scope the labour market and the national and societal needs, to ensure that the programme is relevant and up to date.
- The ASER includes recommendations of various sources to improve the programme, including surveys, SAC and PAC meetings, however, as described in Indicator 4.3, evidence on implementing actions to address these recommendations are lacking. Likewise, no evidence was provided to demonstrate that the applied mechanisms are monitored and reviewed. Therefore, the Panel recommends that the College should

review and evaluate the mechanisms used to ensure that the programme meets labour market and societal needs.

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 Master in Environment & Sustainable Development of College of Science offered by the University of Bahrain.

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

1. The thorough planning process followed in developing the programme and ensuring its relevance and fitness for purpose.
2. The level and the variety of formative and summative assessments as well as the prompt feedback on summative assessments.
3. The programme applies fair and rigorous mechanisms for grading students' achievements through both pre- and post- internal moderation of assessments, as well as external moderation.
4. The positive shift towards female students during the period from 2017 to 2022, and the enrolment of international students.
5. The Unit of Teaching Excellence and Leadership's efforts in providing activities such as the Postgraduate Certificate in Academic Practice programme in collaboration with York St. John University and the Higher Education Academy's continuous professional development programmes.
6. The programme encourages students to publish their projects in peer-reviewed literature.

In terms of improvement, the Panel recommends that the University of Bahrain should:

1. Remove all mentions of Stream II from all related documents to the programme.
2. Define pre-requisites for the specialised electives.
3. Revise its policies and procedures to clearly describe how the curricular development is handled internally at the programme level and to record any substantive and non-substantive changes to the curriculum.
4. Ensure that all Course Syllabi are of the same quality and consistent in the style and layout.

5. Increase laboratory activities, field-visits, fieldwork, tutorials, and simulations activities in the programme.
6. Ensure that the admission requirements are stated correctly in the Programme Brochure and that the interview process is effectively managed and clearly documented.
7. Regularly revise the entry requirements of the programme and update these requirements in consultation with stakeholders and based on students' performance and benchmarks against national, regional or international programmes.
8. Provide additional support for the management of the programme, or explore an alternative management structure to reduce the administrative workload from the faculty.
9. Implement and document formal procedures to provide the students with career guidance services and support.
10. Investigate the reasons behind the low satisfaction rate of students with the academic advising and take remedial actions.
11. Establish formal procedure regarding ensuring the timeliness of intervention and the 'threshold level' that triggers the support measures for at-risk students, in order to help students to graduate within a reasonable time.
12. Formalise the mechanism for evaluating the effectiveness of improvements made to student support by keeping records of improvements made across all student support services provided at the University.
13. Revise the assessment methods to include more emphasis on research and skills-based assessments, to achieve a better balance between knowledge and skills and theory and practice.
14. Publish policy and guidance on the roles and responsibilities of the supervisors and students and ensure that these are comprehensive.
15. Clarify the grading criteria for the Thesis examination, and the defense process of the thesis.
16. Investigate the reasons behind the students delay in completing their thesis and introduce effective measures to address it.
17. Regularly update its quality assurance related policies and procedures.

18. Document the implementation of the university's policies and procedures to monitor, evaluate and improve the quality assurance management system at the programme level.
19. Ensure that the annual review of the programme is regularly conducted and in a comprehensive manner.
20. Start conducting periodic reviews of the programme and establish a clear mechanism to monitor and evaluate the implementation of the annual and periodic reviews' recommendations.
21. Evaluate the effectiveness of the mechanisms for communicating to stakeholders the implemented changes or improvements based on their feedback.
22. Ensure that the programme advisory committee's feedback is systemically collected to inform the programme decision making process.
23. Conduct a formal and recent study with targeted data to scope the labour market and the national and societal needs, to ensure that the programme is relevant and up to date.
24. Review and evaluate the mechanisms used to ensure that the programme meets labour market and societal needs.