



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 Engineering
Bachelor of Science in Civil Engineering
Kingdom of Bahrain**

Site Visit Date: 22 – 24 May 2023

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Table of Contents

Acronyms	3
I. Introduction.....	4
II. The Programme’s Profile	6
III. Judgement Summary.....	8
IV. Standards and Indicators	10
Standard 1.....	10
Standard 2.....	15
Standard 3.....	21
Standard 4.....	26
V. Conclusion	30

Acronyms

ABET	Accreditation Board for Engineering and Technology
APR	Academic Programme Review
BQA	Education & Training Quality Authority
BSCE	Bachelor of Science in Civil Engineering
CED	Civil Engineering Department
CGPA	Cumulative Grade Point Average
CILO	Course Intended Learning Outcome
CoE	College of Engineering
DHR	Directorate of Higher Education Reviews
HoD	Head of Department
ILO	Intended Learning Outcome
IT	Information Technology
NQF	National Qualification Framework
PAC	Programme Advisory Committee
PEO	Program Educational Objectives
PILO	Programme Intended Learning Outcome
QA	Quality Assurance
QAC	Quality Assurance Committee
QAAC	Quality Assurance and Accreditation Center
SAC	Student Advisory Committee
SER	Self-Evaluation Report
SIS	Student Information System
UILO	University Intended Learning Outcome
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 judgments 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 Engineering
Programme/ Qualification Title*	Bachelor of Science in Civil Engineering
Qualification Approval Number	University Council Decision No. (2013/2041) of 2013 University Council Decision No. (374) of 2022
NQF Level	8
Validity Period on NQF	5 years from the placement date
Number of Units*	48
NQF Credit	625
Programme Aims*	<ol style="list-style-type: none"> 1. Engage in civil engineering profession in public and private sectors including, but not limited to, relevant governmental sectors, consulting firms, contracting companies, marketing and real estate investments. 2. Engage in ongoing professional development activities by pursuing graduate studies and/or other leading opportunities to respond to the arising challenges. 3. Advance in responsibility and leadership in their careers
Programme Intended Learning Outcomes*	<ol style="list-style-type: none"> 1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. 3. An ability to communicate effectively with a range of audiences. 4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must

	<p>consider the impact of engineering solutions in global, economic, environmental, and societal contexts.</p> <ol style="list-style-type: none">5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
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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	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	Addressed
Indicator 4.4	Benchmarking and Surveys	Partially 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.

Judgment: Addressed

- The Bachelor of Science in Civil Engineering (BSCE) programme has been offered at the University of Bahrain (UoB) since 2013. The Panel notes that according to the Academic and Administrative bylaws, Regulations for Offering and Developing Academic Programme and Courses, Quality Manual, and Assuring Learning, the programme has been developed based on an established planning process that ensures appropriate alignment with the requirement of UoB regulations and that the BSCE programme is relevant and fit for purpose. The BSCE programme was accredited by Accreditation Board for Engineering and Technology (ABET) in 2008 and subsequently in 2014 and 2020.
- Potential risks are identified through different means, which are reflected in the annual self-evaluation of the BSCE programme. However, the Panel notes that the Civil Engineering Department (CED) does not have a risk register or a clear strategy to deal with potential risks, especially those related to the quality of the programme and its delivery. Hence, the Panel recommends that the College of Engineering (CoE) should develop a risk register and a clear strategy to mitigate any potential risk at the programme level.
- The programme's title is concise and indicative of the qualification's type and content and is accurately documented on the certificates, programme description documents and the university website. The Panel notes that the programme adheres to the qualification design requirements of the National Qualifications Framework (NQF) as well as the related mapping and confirmation processes. The BSCE programme was placed on NQF Level 8 in 2021.

- The Panel acknowledges that the programme has clearly stated aims/Programme Educational Objectives (PEOs) that are revised periodically and are aligned with the college's mission and vision, which in turn are aligned with the university's mission and vision. The Panel notes that the BSCE is structured to contribute to the strategic plan of the University and to satisfy the demands and needs of the public and private sectors in the Kingdom of Bahrain.

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.

Judgment: Addressed

- The Programme Intended Learning Outcomes (PILOs) are aligned with the University Intended Learning Outcomes (UILOs), which specify the graduate attributes at the institutional level. The six UILOs cover knowledge, skills, abilities, attitudes, values and competencies that are expected from UoB graduates to attain. The Panel notes that the graduate attributes for the BSCE programme are reflected clearly in the PILOs, which are referred to as Student Outcomes.
- The PILOs use four broad dimensions of learning for defining learning outcomes, reflecting the different knowledge, skills and competencies that students are expected to acquire. The Panel notes that the CED adopts the Student Outcomes stated by the ABET. During the interviews the Panel was informed that the PILOs were developed and articulated to meet ABET and NQF requirements. The Panel acknowledges that the PILOs are aligned with the PEOs and are appropriate for the programme's type and level. The PILOs are also appropriately written and meet the NQF requirements and international norms through benchmarking.
- The Course Intended Learning Outcomes (CILOs) are included in the course specifications. The Panel acknowledges that the CILOs are well-written, reflect the appropriate NQF levels and are mapped to the PILOs. The Panel also notes that the assessments of each course are mapped with the CILOs to measure the achievement of the CILOs and PILOs every semester.

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.

Judgment: Addressed

- The BSCE programme consists of 138-credit hours that are completed in five years. The study plan of the BSCE programme is organised to show appropriate progression year-on-year and course-by-course in terms of NQF levels, with an appropriate list of pre-requisites and suitable student workload.
- The Panel notes that the curriculum is organised to provide academic progression of learning complexity and illustrates a balance between knowledge and skills as well as theory and practice. The course contents cover the expected elements in terms of depth and breadth. The Panel was informed during the interviews that there are specialized committees in the CED, which ensure the management and implementation of the processes related to curriculum development and reviews.
- The Panel recognises that during the programme review process, the curriculum has recently undergone updates based on benchmarking, input from professional associations, and stakeholders. The revised programme has received approval to be implemented in September 2022. The modified programme includes three options or tracks: BSCE (General), BSCE (Structure), and BSCE (Construction).
- There are several libraries at the UoB that provide access to a rich collection of textbooks, journals, and research references. The administrative staff confirmed that academic staff members and students have free access to the digital collection including e-books and e-journals. The Panel notes that the textbooks are current and appropriate. There is also evidence of utilisation of recent research findings and current professional practice in course materials and teaching/learning activities that was noted and confirmed during interviews.

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.

Judgment: Addressed

- The University has a comprehensive Teaching and Learning Policy, which articulates its Teaching and Learning philosophy and describes its approach to achieving effective teaching in the academic programmes offered by UoB. The Panel notes that the policy provides effective and valuable guiding principles for the teaching and learning strategies as well as supporting learning environments that ensure appropriateness, innovation and constructive alignment on programme and course levels. The Panel also notes that various teaching and learning methodologies are applied at the BSCE programme, which are aligned with the CILOs and PILOs. Other policies and regulations such the Study and Exam Regulations and the Quality Manual support the Teaching and Learning Policy and ensure that all students receive equal and effective learning opportunities.
- E-learning is part of the Teaching and Learning Policy and supports the attainment of the Intended Learning Outcomes (ILOs). Faculty members facilitate the use of e-learning *via* the university's online platforms (Blackboard and Microsoft Teams) for all offered courses. From the interviews, the Panel notes that the students have access to the courses content, assessments, learning activities, and discussion forum through the Blackboard. The University also provides online resources to students such as e-text books, e-courses, and online video demonstrations.
- As per the Teaching and Learning Policy, the University aims to empower students to take responsibility of their own learning to develop their lifelong learning skills. The Panel notes with appreciation the diverse range of formal and informal teaching and learning methods used in the BSCE programme, in addition to the non-formal learning experiences provided in the university environment, as full of potential to encourage students to research, create, and innovate. The programme also offers students the opportunity to develop independently their knowledge and skills through work-based learning, exposure to professional practice, laboratory work and graduation projects.

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.

Judgment: Addressed

- The BSCE programme adheres to several assessment policies and procedures, which are specified in the Quality Manual, Study and Exam Regulations, and Moderation of Assessment Regulations. These policies and regulations are available on the UoB website for all stakeholders. The University conducts induction workshops for the newly recruited academic staff to introduce them to the institutional policies and regulations. As mentioned in the Self-Evaluation Report (SER), students are also informed about the assessment policies and regulations during the student induction day which is conducted

at the beginning of the academic year. Moreover, the course specification forms include the assessment schedule, types of assessments, weights from total marks, and marking and grading standards.

- The BSCE programme follows certain practices to ensure that the assessment tools effectively evaluate the CILOs and PILOs, and accurately reflect students' academic progress. Multiple types of assessments aligned with the CILOs are created for each course, which are reviewed and approved by the curriculum and quality assurance committees. The Panel notes that the assessment arrangements include formative and summative functions with appropriate mechanisms to provide students with prompt feedback on their progress and performance that further assists learning. The Panel also notes that there are transparent mechanisms for grading students' achievements with fairness and rigour, and with appropriate provisions for internal and external moderation of assessments.
- There are clear provisions at the institutional level for addressing academic misconduct and appeals by the students. The BSCE programme implements the Student Misconduct Regulations and the Anti-Plagiarism Policy. Cheating cases are forwarded to the Student Misconduct Committee at the college level for a thorough investigation and recommendations. This committee ensures fair investigations that protect the students' rights, while also upholding the university's principles of academic integrity and behavioral regulations.

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.

Judgment: Addressed

- The BSCE programme has clear admission criteria, which are guided by the UoB general admission requirements that are published on the website. Students are accepted on an equal basis regardless of any social status, gender, religion, or special needs, as long as they meet the admission requirements. Interviews with students demonstrated that most of them were informed about the admission procedures through the UoB social media pages.
- The admission requirements are aligned with the requirements of similar regional and international programmes. These requirements include a minimum Cumulative Grade Point Average (CGPA) in the secondary school certificate from all applicants, which was raised recently from 70% to 85%. There are also appropriate arrangements for access, progression, and credit transfer for students who wish to pursue their degree at the University. The Deanship of Admission and Registration manages the internal transfer of students between programmes within the same college or different colleges at UoB.
- All accepted students take a one-semester orientation programme, which includes English language courses. Students with a CGPA of 90% and above in the secondary school certificate are exempt from the orientation programme. Exemptions are also granted for students who have passed the TOEFL test with 500+ points or the IELTS with 5.5+ points or the university's English exemption examination. As per the SER the University also considers the establishment of a foundation year programme as one of the initiatives in the strategic plan to support the inadequately prepared students to enter and progress in its programmes.

- The admission criteria and requirements are revised regularly in light of students' performance and the feedback received from relevant stakeholders. The Panel was provided with evidence of the periodic revision of the admission policy and found it appropriate to the BSCE 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.

Judgment: *Partially Addressed*

- UoB has clear and appropriate policies and procedures for employment, appraisal, promotion, and professional development of its academic staff. Recruitments are determined based on the faculty needs that are raised by the Department and published on the career portal of the University. Induction workshops are offered to new part-time and full-time faculty at the university, college, and department levels. Faculty performance appraisals occur annually. The system is set by UoB, and it has been integrated with the Civil Service Bureau appraisal system in 2018. The system utilises detailed rubrics with clear appraisal criteria. Promotion and advancement in academic ranking are available according to UoB policies and procedures where a promotion committee is receiving faculty applications. Based on the SER, the interviews, and the provided evidence, the Panel notes that the policies and procedures are consistently implemented.
- The Deanship of Graduate Studies and Scientific Research at UoB offers research support allowing for faculty engagement in research and community service. Workshops are offered at the university level with regards to research impact, improvement, and citations. Access to the Physical resources along with financial support is provided to researchers, with the possibility to attend and participate in conferences. Applications for research grants are evaluated by the Scientific Research Council and the University Council for research quality and its conformation to the Research Plan of the College and the University.
- The evidence shows that the faculty members have the appropriate qualifications, specialisation, and professional experience. The Department includes 15 full-time faculty members and six part-time faculty members. Most of the faculty members hold a PhD degree in a specialist area of civil engineering, and many hold a fellowship of the UK Higher Education Academy. The rank distribution includes one full-time Professor and 14 full-time Assistant Professors, in addition to three part-time Assistant Professors and three part-time Instructors. The Panel is of the view that this distribution is imbalanced

and does not include any Associate Professors. There is also a need to increase faculty research activities in line with the strategic goals of the University. Therefore, the Panel recommends the College should consider hiring more Professors and Associate Professors and providing more support to academic staff to conduct research and to facilitate their progression through promotion.

- The University, in line with the regulations set by the Civil Services Bureau, takes into consideration the needs of its female faculty members. As per the UoB work model, academic staff work 40 hours per week, with 12-15 credit hours of teaching for PhD holders and 15-18 credit hours of teaching for non-PhD holders, taking into consideration the academic ranking.
- UoB encourages faculty members to enroll in several activities, workshops and professional development programmes, through the Unit of Teaching Excellence and Leadership. Scholarship opportunities are also made available by UoB for faculty members at renowned and high-rated universities for Master and PhD degrees. Based on the provided evidence and interviews, the Panel notes with appreciation that there are adequate arrangements in place for identifying and supporting all staff's continuing professional development needs, which are consistently monitored and evaluated.
- The SER does not directly address the subject of retention of highly qualified academic staff members, however, during the interviews the Panel notes that faculty are benefiting from provided incentives in recognition of their contribution. However, the Panel notes that there is a lack of clear policies and measures to monitor staff turnover and ensure the effective retention of highly qualified faculty. Therefore, the Panel recommends that the University should develop and implement clear policies and measures to ensure the retention of highly qualified staff members.

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.

Judgment: Partially Addressed

- As per the SER, the number and size of offices, classrooms, workshops, and laboratories are adequate to support the programme activities. Each classroom is equipped with a projector, Internet, and a whiteboard. Wi-Fi connection is available in all buildings. In addition, several halls within the buildings are occasionally booked for events such as design juries, public lectures, and examinations. During the site visit tour, the Panel noted the limited number of technicians that manage the laboratories, and that the software

applications are limited and need to be updated. Testing machines are also outdated and lack the technology and equipment necessary for effective teaching and research. During the interviews, students also highlighted the challenges they are facing due to outdated computing equipment and inadequate facilities. Therefore, the Panel recommends that the College should improve the infrastructure, the educational facilities and the resources provided to the students. The Panel also recommends that the College should recruit more technicians to run and maintain the laboratories.

- In addition to the UoB central library, which is well resourced, there is an Engineering library located in the center of the Isa Town campus. Operating hours, study spaces, and a group study room seem to be convenient for the students. However, the Panel couldn't obtain statistics of usage of the Engineering library with digital logs. During the interviews, the Panel learned that students sign when they enter the library and again when they leave with no library digital logs generated. Therefore, the Panel recommends that the University should implement a library usage monitoring system to generate digital usage reports.
- During the site visit tour, the Panel raised concerns related to the status of the current facilities/ buildings that are hosting the programme and the maintenance procedures. During the interviews, the Panel was informed that a maintenance visit is conducted prior to the start of every semester and a maintenance schedule is put in place. There was no evidence of how the maintenance of resources is monitored. Therefore, the Panel recommends that the University should develop formal mechanisms to ensure regular maintenance of the resources and measure their adequacy.
- The University has some arrangements to ensure the health and safety of students and staff on campus. The Panel noted that there are specific regulations for the access of laboratories and equipment usage during the site visit tour. However, the Panel also noted that all fire extinguishers were not verified regularly, which constitutes a real issue requiring immediate action. Therefore, the Panel recommends that the College should check all fire extinguishers regularly to prevent any hazardous incident on campus.

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.

Judgment: Addressed

- The Student Information System (SIS) is utilised at UoB to record students' data throughout their enrolment at the University and keeping track with their academic

programmes. The SIS at the UoB is centralized and comprehensive, covering all aspects of the student lifecycle from admission to graduation, such as personal and academic data, registered courses, course attendance, study plan progression, and academic transcripts. The SIS is used also for course evaluation, grade approval and appeals, academic advising, and quality assurance. The generated data and statistics from SIS assist the Department in making decisions based on available resources. In addition to the SIS, Blackboard is used to provide students with access to course materials, upload assignments, and receive grades. Microsoft Teams is also used to facilitate student interaction.

- Students' records and accuracy of results are stored safely and monitored following the Information Technology (IT) Centre Cyber Policies and Procedures. UoB has a Backup and Disaster Recovery System that is described in the IT Policies and Procedures aimed at recording and creating backups of student data. Physical and digital records are retained, encrypted, and backed up regularly using secure access to the SIS. Local and remote servers are used for this process.
- There are clear procedures at UoB for ensuring the awarded certificates accuracy once the students have fulfilled the graduation requirements. Different stakeholders are involved in checking the Certificate's accuracy for authenticity purposes. The Panel notes that certificates and transcripts are issued in a timely manner based on the virtual interviews with administrative staff and graduates.

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.

Judgment: Addressed

- UoB offers appropriate student support in terms of library, e-learning, and social and career guidance. These include a range of services, workshops and counselling provided by the Deanship of Students Affairs, the Academic Units, the library, the IT Department, the SIS, and the assigned academic advisors. Employability and career counselling are provided by the Career Counselling Centre which works on preparing students and graduates for work and planning their career paths. During the interviews with the administrative staff, the Panel was informed that the UoB organises a career day for fourth year students to introduce them to the industry representatives *via* interviews and networking opportunity.
- As per the SER and evidence provided, newly admitted students participate in the university's induction day that is organized by the Guidance and Counselling Department

of the Deanship of Students Affairs. During the interviews, the Panel was informed that the College also organizes another induction day for the students enrolled in the different programmes. The Panel confirmed during interviews with students and alumni that induction services for newly admitted students are efficient and appropriate. Students and alumni were confident that they were well-prepared for success in the BSCE programme.

- The Panel notes that academic advising plays a major role in supporting the students enrolled in the BSCE programme and monitoring their progress towards the achievement of the PILOs and graduate attributes. CoE has a dedicated Students Advice and Guidance Office that reaches out to each student. Faculty members also post their office hours outside their offices where they make themselves available to provide academic support to students. During the interviews, senior management confirmed the availability of the faculty members during their office hours. Students also praised their faculty for being available for them and for providing all the required academic support.
- UoB has appropriate provisions for the integration of women's needs, ensuring opportunities within gender equality approach, and providing support for students with special needs. During the interviews, staff confirmed that the UoB policies promote equality between students in admission to the programme regardless of gender. The Student Services Office provides comprehensive services to students with special needs including specialized transportation and peer assistance.
- The SIS helps identifying students at-risk of academic failure. Students with low CGPA are referred to their academic advisors where an action plan is developed to support their learning needs. Academic advisors collaborate with faculty to guide, and counsel at-risk students identified on how to improve their grades. The Department has also incorporated different approaches to implement their strategy on intervention for at-risk students such as peer tutoring, and additional tutorial classes.
- The SER did not refer to the presence and implementation of regular assessment mechanisms for improvement of support services in line with student's needs. During the interviews with senior management, the Panel learnt that at UoB, the Senior Student Exit Surveys are often utilised to collect feedback on the provided resources and support services such as laboratories, studios, library, including extracurricular activities.

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.

Judgment: Addressed

- The BSCE programme employs a diverse range of formative and summative assessment methods (e.g., quizzes, examinations, design projects, etc.) for assessing students' knowledge and skills. Samples of students' assessments were provided in the course files, which the Panel examined and found to be in line with current good practices in terms of the level of assessments' complexity and meet the academic standards of the programme.
- The Teaching and Learning Policy provides a clear approach and processes to define the learning outcomes at the programme and course levels and to ensure the alignment of the assessments with the learning outcomes and graduate attributes. In line with the Study and Exam Regulations and the Quality Manual, the BSCE assessments are linked and mapped to the CILOs, which are aligned to the PILOs and graduate attributes.
- The Panel notes that there are appropriate mechanisms in place to evaluate the achievement of the PILOs through the assessment of the CILOs and through alumni and employers' satisfaction surveys. The Panel also notes that there are appropriate mechanisms in place to monitor and improve assessments at the BSCE programme level. These mechanisms include pre and post assessment moderation processes and quality audits.

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).

Judgment: Addressed

- UoB has comprehensive policies and procedures to detect academic misconduct and ensure that appropriate actions are taken. During the interviews, the Panel noted that the policies and procedures related to academic integrity are well-disseminated and known by the relevant stakeholders. To support students in avoiding plagiarism, written submissions are scrutinized using electronic plagiarism detection tools such as Turnitin plagiarism detection software and Tineye for visual plagiarism. The Lockdown Browser and Respondus are used to detect cheating in the examinations that are conducted through the online platforms.
- The Department ensures the implementation of policies and procedures related to plagiarism and academic misconduct, which include UoB Anti-Plagiarism Policy and Student Misconduct Violation Bylaws. The Department also has a dedicated misconduct committee responsible for handling misconduct cases in accordance with well-defined processes and procedures. The Panel notes that cases of academic misconduct and plagiarism are well recorded and appropriate actions are taken.

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.

Judgment: *Partially Addressed*

- There are formal and appropriate procedures for the internal moderation of assessments and the selection of internal moderators. Internal moderation is conducted on a course rolling plan and guided by the Quality Assurance and Enhancement Policy, the Teaching and Learning Policy, the Regulations of Study and Examination, and the Quality Manual. Moderators with expertise in the course content are appointed from faculty by the Quality Assurance Committee (QAC). The Panel notes that the process of internal moderation contributes directly to the review and improvement of the courses and the programme.
- The procedures for the external moderation of assessment and the criteria for selecting external moderators are described in the UoB Moderation of Assessment Regulations. During the Panel meeting with faculty members, it was confirmed that the external moderators are only concerned with the post assessment moderation. The process of proposing and approving the external moderators is not clearly described and explained in the SER and in the related regulations. The role of the external moderators is also not sufficiently explained in terms of the pre and post moderation of assessment as well as the timeframe of conducting the pre and post moderation processes. Therefore, the Panel recommends that the University should revise the Moderation of Assessment Regulations to clarify the processes related to the pre and post external moderation of assessment and the selection of external moderators.

- During the interviews, the Panel learned that the QAC receives all moderation forms, analyses the semester's moderation activities, and suggests an improvement plan if necessary. The outcomes and findings of the assessment cycle carried out throughout the semester for selected courses are shared with all faculty members and are discussed during the meetings of the Department Council.

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.

Judgment: Addressed

- In the 'Industrial Training' (CENG399) course, students are placed in a work environment in public or private establishments for 8-9 weeks with a minimum of 300 working hours. This gives them the opportunity to apply their knowledge and skills to perform appropriate tasks related to their field. This is done in coordination with the Practical Training Office at the University, which is responsible for providing the Department with job placement opportunities in organisations related to civil engineering.
- After reviewing the submitted documents, the Panel found that there are appropriate procedures to manage the work-based learning process. The roles and responsibilities of internship providers, academic supervisors, training supervisors and students are well-defined. The Industrial Training Coordinator, who is also a member of the CoE Industrial Training Committee, prepares the students for this course and provides guidance on various matters such as training opportunities, ethical responsibility, and strategies for success. Assigned faculty co-supervise the summer training and assess the students' written reports and oral presentations.
- The Panel notes that the 'Industrial Training' (CENG399) course contributes effectively to the achievement of the PILOs and UILOs. The Panel also notes that the course is evaluated through a fair and comprehensive method, which includes several steps such as Faculty Evaluation, Industrial Supervisor Report, Student Report, and concludes with a student presentation. The evidence provided includes a range of examples of internship assessments which reflect a well-managed and consistent practice.
- The Panel was informed during the interviews that faculty members are making several visits to the students at the training locations and report on their progress, communication skills, type of work assigned, attendance, ethics, and leadership skills. The internship evaluation process is done through the Career Counselling Office which runs the practical training survey for students who took the training course. A detailed report summarizing

the learning experience and findings, based on the student's work experience, is prepared, and submitted to the Department for follow-up.

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.

Judgment: Addressed

- The BSCE programme includes a mandatory 'Graduation Project' (CENG490) course, where students apply their engineering knowledge to illustrate computer-aided design and analysis of a civil engineering project. The Panel notes that the course has clear CILOs that are well mapped to the PILOs. The Panel was also provided with the 'General Guidelines for Graduation Projects' document, which clearly describes the mode of supervision and evaluation criteria. It presents in detail the responsibilities and duties of the Graduation Project Coordinator and the Graduation Project Committee.
- The assessment criteria and processes are also clearly presented in the course syllabus. There is at least one internal examiner and one external examiner in the major assessments such as the midterm and final jury. The best graduation projects are selected by a jury to participate in the senior project exhibition organized by CoE at the end of the academic year.
- Students are assigned an academic supervisor who provides support and monitors the progression of their projects. The role of the graduation project supervisor is to hold regular meetings with the students, review the progress of their work, and submit a follow-up report to the Graduation Project Committee every four weeks for review. The Committee monitors the implementation of each phase of the project and addresses any shortcomings identified. The student's satisfaction with the supervision process is done through the course evaluation form at the end of the course.

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.

Judgment: Addressed

- The Panel acknowledges that the level of student achievement is appropriate. The achievement of the PEOs and PILOs are assessed directly and indirectly through the course assessment tasks and satisfaction surveys. The graduation projects reflect students' ability to innovate and create by applying the skills they have learnt. The internship component also ensures that students can apply concepts in a real-world environment and develop an understanding of the professional practice.
- As per the SER, the average length of study period for each year's graduates varied from 5.06 to 5.45 in the last five academic years. The number of students registered in the programme decreased from 751 in 2017-2018 to 430 in 2021-2022. The Panel notes that the SER and evidence provided include limited/insufficient cohort analysis. Therefore, the Panel recommends that the College should regularly conduct detailed cohort analysis and further develop the mechanisms in place to track graduate destinations.
- As per the SER, 85% of the engineering positions in the Ministry of Municipality and Ministry of Transportation are occupied by BSCE graduates. The employer survey shows a clear satisfaction of the employer with UoB graduates. During the interviews, the employers reported that they hired UoB graduates, and they are very satisfied with the standard and the skills of the BSCE graduates.

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.

Judgment: Addressed

- UoB has appropriate policies and procedures that meet the needs and functions of the BSCE programme. There are policies for students, faculty, Quality Assurance (QA), safety and maintenance, and certification. The University follows a transparent QA management system through the Quality Assurance and Accreditation Centre (QAAC), which monitors QA practices at the university level in coordination with the QAC at the CoE level. The QAC is managed by the Director of Quality Assurance Office, while other committees involving faculty such as the Curriculum Committee and the Strategic Planning Committee coordinate with the QAC. The Panel notes that the involvement of faculty and administrative staff in these committees keeps stakeholders aware in terms of any updates. These committees also monitor the implementation of QA standards and practices, including course evaluations, course e-portfolios, moderation of assessment, and the assessment of PILOs.
- During the interviews, faculty members demonstrated that they are knowledgeable and confirmed that they are aware of their roles in terms of QA management. Full-time faculty are actively participating in the QA committees and are recording findings and ensuring effectiveness of provision through generated progress reports. The SER refers to a summary of analysis and discussion results that are displayed as an action plan to improve the BSCE programme. Based on the interviews and evidence provided, the Panel was able to confirm that the QAC reviews and analyses the various QA practices. The Panel also notes the flexibility of the QA management system in response to any occurrences.

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.

Judgment: Addressed

- CoE has an appropriate organisational chart, which is headed by the Dean. The BSCE programme is offered and managed by CED. The Head of Department (HoD) and there are several committees that manage the BSCE programme. Each committee is led by a committee head and includes a secretary and faculty members who are specialized and/or have experience in the related committees' tasks. Interviewed staff confirmed that leadership responsibilities are clearly defined and follow the college organizational structure.
- The Panel learned from interviews that there are clear lines of communication and reporting in all academic and administrative affairs of the BSCE programme. The reporting and decision-making mechanisms are clearly described in the SER and reflected in the relevant policies and procedures. The SER refers to the role of the HoD in ensuring an effective management of teaching and learning processes, and of the Department Council in leading major academic discussions. Results and proposals of these discussions are raised to the University Council and its decisions are communicated to faculty members during the meeting of the Department Council and *via* emails. Furthermore, the SER and the interviews with the college and department staff provide valuable examples and indications of the role of the committees at various levels (college and department) to ensure that the academic standards are upheld at the programme level.

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.

Judgment: Addressed

- The annual and periodic reviews of the BSCE programme are conducted according to the Quality Assurance and Enhancement Policy, the Quality Manual and the operational plans. The Panel notes that the annual review reports are comprehensive and include information about the programme, students, faculty, research and survey results. The reports also include Quality Improvement Plans (QIPs) with specific objectives, proposed actions, responsibilities, and time frames for completion. The annual review reports are

discussed in the department council meetings and actions are taken to address the areas of improvement that are identified in these reports.

- The Panel notes that the BSCE programme follows a systematic periodic review process that takes into consideration the annual review reports and the results of benchmarking and market studies. The QAAC oversees and schedules the periodic reviews of programmes at UoB. However, the Panel observed that due to budget constraints considerable range of areas for improvement are not achieved. Hence, the Panel recommends to the College should ensure that appropriate budget and resources are allocated to support and ensure the implementation of the QIPs.

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.

Judgment: Partially Addressed

- UoB has a Benchmarking policy, which the CoE applies. The programme was recently benchmarked against similar programmes offered by one regional and five international universities. The similarities and differences were highlighted in the Benchmarking Report, which covered the programme structure and learning outcomes. During the interviews, faculty members confirmed that no formal agreements were signed with these universities and that CED has informally and collegially collaborated with them to obtain the necessary information pertaining to benchmarking. The Panel advises the College to conduct formal benchmarking with similar programmes in Bahrain, regionally or internationally. The Panel also recommends that the College should ensure that the conducted benchmarking studies are comprehensive and cover all aspects of the programme including learning resources and facilities.
- CED uses several periodic surveys to collect the feedback of internal and external stakeholders. These surveys include senior exit surveys, course evaluation surveys, faculty surveys, alumni surveys, employer surveys and market surveys. CED also conducts regular meetings with the Programme Advisory Committee (PAC) and the Student Advisory Committee (SAC). The Panel notes that the collected comments from the different stakeholders are analyzed and integrated into the decision-making process as well as the BSCE programme improvement plans. During the interviews, the Panel noted that internal and external stakeholders appreciated the ongoing communications and for being able to advise and take part in potential improvements. Faculty members expressed their satisfaction with the results of the surveys as these results led to enhancing their professional development plans and improving the quality of the programme delivery.

Alumni and employers also expressed their satisfaction in terms of the ongoing collaboration with CED and the attention given to their feedback. The Panel appreciates the systematic and ongoing communication between BSCE programme and its stakeholders.

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.

Judgment: Partially Addressed

- The BSCE programme has two advisory committees (PAC and SAC), with clear terms of reference. The SAC includes the programme management team, faculty representative, and student representative. The PAC members are experts in different areas of engineering, including the civil engineering field. They hold key positions in government and private sector authorities and firms and possess many years of practical and academic experience. The PAC meets at least once a year, which is significantly minimal for a partner in the programme. During the interviews, they showed a high level of commitment. Some of the PAC members graduated in fact from UoB and expressed their attachment to the University. The Panel notes that the PAC plays an important role in terms of advice related to the industry. Therefore, the Panel advises CED to increase the number of annual meetings with the PAC due to the fast developments in the industry.
- The Panel notes that CoE relies on local major studies by government institutions to keep abreast with market and societal needs. The Panel was not provided with sufficient evidence to demonstrate that comprehensive market studies are regularly conducted at the programme level. Therefore, the Panel recommends that the College should conduct well-structured and sector-oriented market research with an emphasis on job demand/saturation in civil engineering, competitor analysis and market changes. The Panel also recommends that the College should evaluate the effectiveness of the implemented mechanisms to ensure that the programme is appropriately contextualised and up to date with Bahrain's market 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 B.Sc. in Civil Engineering of College of Engineering 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 uses a diverse range of formal and informal teaching and learning methods, in addition to the non-formal learning experiences provided in the university environment, as full of potential to encourage students to research, create, and innovate.
2. There are adequate arrangements in place for identifying and supporting all staff's continuing professional development needs, which are consistently monitored and evaluated.
3. There is systematic and ongoing communication between programme and its stakeholders.

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

1. Develop a risk register and a clear strategy to mitigate any potential risk at the programme level.
2. Consider hiring more Professors and Associate Professors and providing more support to academic staff to conduct research and to facilitate their progression through promotion.
3. Develop and implement clear policies and measures to ensure the retention of highly qualified staff members.
4. Improve the infrastructure, the educational facilities and the resources provided to the students.
5. Recruit more technicians to run and maintain the laboratories.
6. Implement a library usage monitoring system to generate digital usage reports.
7. Develop formal mechanisms to ensure regular maintenance of the resources and measure their adequacy.
8. Check all fire extinguishers regularly to prevent any hazardous incident on campus.

9. Revise the Moderation of Assessment Regulations to clarify processes related to the pre and post external moderation of assessment and the selection of external moderators.
10. Regularly conduct detailed cohort analysis and further develop the mechanisms in place to track graduate destinations.
11. Ensure that appropriate budget and resources are allocated to support and ensure the implementation of the quality improvement plans.
12. Ensure that the conducted benchmarking studies are comprehensive and cover all aspects of the programme including learning resources and facilities.
13. Conduct well-structured and sector-oriented market research with an emphasis on job demand/saturation in civil engineering, competitor analysis and market changes.
14. Evaluate the effectiveness of the implemented mechanisms to ensure that the programme is appropriately contextualised and up to date with Bahrain's market needs.