هيئة جودة التعليم والتدريب
Education & Training Quality Authority
Kingdom of Bahrain - مملكة البحرين

Directorate of Higher Education Reviews

Programme Review Report

**University College of Bahrain
Department of Information Technology
Bachelor of Science in Information Technology**

Kingdom of Bahrain

Site Visit Date: 15 – 16 February 2021

HA009-C3-R009

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Acronyms

ADC	Academic Department Committee
APRs	Academic Programme Reviews
BIT	Bachelor of Science in Information Technology
BQA	Education & Training Quality Authority
CILOs	Course Intended Learning Outcomes
DAB	Department Advisory Board
DHR	Directorate of Higher Education Reviews
DIT	Department of IT
HEC	Higher Education Council
HoD	Head of the Department
HR	Human Resource
ILOs	Intended Learning Outcomes
IT	Information Technology
ITC	Information Technology Committee
LLC	Life-Long Learning Committee
LTCDC	Learning, Teaching and Curriculum Development Committee
NQF	National Qualifications Framework
PILOs	Programme Intended Learning Outcomes
QAAC	Quality Assurance and Accreditation Committee
QACD	Quality Assurance & Compliance Department
SAMRC	Student Affairs, Marketing and Recruitment Committee
SER	Self-Evaluation Report
SRC	Scientific Research Council
UCB	University College of Bahrain
UILOs	University Intended Learning Outcomes

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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 form 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 judgment, 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	

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The APR Review Report begins with providing the profile of the Programme under review, followed by a brief outline of the judgment 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.

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II. The Programme's Profile

Institution Name*	University College of Bahrain
College/ Department*	Department of Information Technology
Programme/ Qualification Title*	Bachelor of Science in Information Technology (BSc. IT)
Qualification Approval Number	-
NQF Level	-
Validity Period on NQF	-
Number of Units*	122
NQF Credit	-
Programme Aims*	The Aim of the Undergraduate Information Technology program at UCB is to provide students with strong basic information technology knowledge base, steeping in the Humanities, Social Science and Liberal Arts.

The IT sector in the Kingdom of Bahrain is dependent on information technology and need computer systems that are reliable and secure. In a world where all aspects of life operate in a global setting, this type of education is an invaluable preparation for their success.

Information Technology Department (IT) Mission Statement:

"To prepare students for productive careers by providing a quality learning environment by uniting the rigor, relevance, creativity and intellectual dynamics of Information Technology with the liberal arts to graduate well educated professionals who are prepared to meet the challenges of a rapidly changing world."

Program Educational Objectives:

The educational aims of the B.Sc. in information technology undergraduate programs at UCB is to provide students with strong basic Information Technology knowledge base, steeping in the Humanities, Social Science and Liberal Arts. The program |

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	educational aims support the missions of the institution and of the department. The IT program will enable its graduates to: • Be competent in the core foundations of computing, information systems, and related essential fields; • Be effective in information analysis, design and its implementation to achieve cost effective computing solutions; • Be successfully employed in the IT sector, related field, or accepted into graduate studies. • Have knowledge and capabilities to pursue life-long learning and are conscious of ethical, social, global, legal, security and professional issues related to computing; • Effectively lead, work, coordinate and communicate in cross functional teams The objectives are consistent with the mission of UCB being dedicated to quality education benchmarked against international standards and tuned to the needs of the region it serves. These also fulfill the needs of our constituencies and stakeholders, which include students, alumni, employers, faculty, and staff.
Programme Intended Learning Outcomes*	**A. Knowledge and Understanding** **A1.** An ability to outline principles, concepts and theories relating to the discipline.**A2.** An ability to recognize the use of mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices. **A3.** An ability to describe information technology requirements for the solutions of the computer-based problems and state them in appropriate forms **B. Subject-specific Skills** **B1.** An ability to use current techniques, skills, and tools necessary for computing practice. **B2.** An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs. **C. Thinking Skills** **C1.** An ability to apply knowledge of computing and mathematics appropriate to the discipline. **C2.** An ability to analyze a problem and identify and define the computing requirements appropriate to its solution.

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	C3. An ability to apply design and development principles in the construction of software systems of varying complexity.
	D. General and Transferable Skills (other skills relevant to employability and personal development)
	D1. Recognition of the need for, and an ability to engage in, continuing professional development.
	D2. An ability to function effectively on teams to accomplish a common goal.
	D3. An understanding of the issues, impact and responsibilities of IT solutions in professional, ethical, legal, security, entrepreneurship and social context.
	D4. An ability to communicate effectively with a range of audiences.

* Mandatory fields

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III. Judgment Summary

The Programme's Judgment:
No Confidence

Standard/ Indicator	Title	Judgement
Standard 1	**The Learning Programme**	**Not Satisfied**
Indicator 1.1	The Academic Planning Framework	Addressed
Indicator 1.2	Graduate Attributes & Intended Learning Outcomes	Partially Addressed
Indicator 1.3	The Curriculum Content	Not Addressed
Indicator 1.4	Teaching and Learning	Partially Addressed
Indicator 1.5	Assessment Arrangements	Partially Addressed
Standard 2	**Efficiency of the Programme**	**Not Satisfied**
Indicator 2.1	Admitted Students	Not Addressed
Indicator 2.2	Academic Staff	Not Addressed
Indicator 2.3	Physical and Material Resources	Not Addressed
Indicator 2.4	Management Information Systems	Not Addressed
Indicator 2.5	Student Support	Partially Addressed
Standard 3	**Standard 3: Academic Standards of Students and Graduates**	**Not Satisfied**
Indicator 3.1	Efficiency of the Assessment	Not Addressed
Indicator 3.2	Academic Integrity	Partially Addressed
Indicator 3.3	Internal and External Moderation of Assessment	Partially Addressed
Indicator 3.4	Work-based Learning	Addressed

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Indicator 3.5	Capstone Project or Thesis/Dissertation Component	Partially Addressed
Indicator 3.6	Achievements of the Graduates	Not Addressed
Standard 4	**Effectiveness of Quality Management and Assurance**	**Not Satisfied**
Indicator 4.1	Quality Assurance Management	Partially Addressed
Indicator 4.2	Programme Management and Leadership	Addressed
Indicator 4.3	Annual and Periodic Review of the Programme	Not Addressed
Indicator 4.4	Benchmarking and Surveys	Not Addressed
Indicator 4.5	Relevance to Labour market and Societal Needs	Partially Addressed

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IV. Standards and Indicators

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Standard 1

The Learning Programme

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

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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*

- As per the Self-Evaluation Report, the Department of IT (DIT) claims that it has a clear academic planning framework. The Panel noted that an annual programme monitoring, and review process takes place. The DIT Academic Planning Framework document defines the Vision, Mission and Values, DIT profile, the Bachelor of Science in Information Technology (BIT) programme aims, teaching and learning approach and describes changes being made to the Quality Assurance Accreditation and Review process. The Panel noted that the UCB former Vice President (Academic Affairs) has implemented changes, including to quality assurance. Evidence was provided of the Qualification, Design and Review Policy which indicated a requirement to plan, design and review programmes. From interviews and the provided evidence, the Panel learned that the periodic review process has been implemented fully from 2019. The Panel found that the periodic review process is now implemented to ensure BIT is fit for purpose and complies with the Higher Education Council (HEC) and the National Qualifications Framework (NQF) regulations.

- DIT does not address the identification and mitigation of risks in the SER. The Panel noted that the annual programme monitoring and review process does identify risks to the quality and standards of the programme. Many of these risks are addressed but there is no formal process to monitor and review the implementation and success of actions taken. This is further discussed in Indicator 4.3. An institutional Risk Register was provided to the Panel showing key institutional risks. The register is not fully completed, for example contingency planning shows some anomalies, e.g. net impact score is higher than gross impact score. The Panel suggests that UCB fully implement its risk register.

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- DIT does not address mapping the programme to NQF qualification design requirements in the SER. However, from the provided evidence, the Panel noted that the total award and level credits are in line with other similar programmes.

- The award title is concise and appropriate for the content of the programme. The Panel requested a sample of the degree certificate and is satisfied that the qualification certificate and transcript accurately describe the programme type and content. The Programme Specification provides a clear and accurate description of the qualification title and content. The Panel understands that the UCB website is currently being reviewed. The site provides a very brief description of the BIT concentration's (pathways) contents. To enable applicants to make an informed decision about their course of study, the Panel suggests that more detailed information of programme content is provided.

- The programme aims are listed in the Programme Specification. These are clear and appropriate for the programme. The programme, including aims and Programme Intended Learning Outcomes (PILOs) were reviewed by external examiners in 2015. The review included some clear recommendations for improvement, such as 'modifications to PILOs and Course Intended Learning Outcomes (CILOs) are required', 'insufficient number of textbooks', 'students need mentoring and motivating', and 'assignments should be based on real life problems'. UCB conducted a periodic review of BIT in 2019, including an external panel member. Issues raised in the review are considered later in this report (in Indicator 4.3). The Panel notes that the programme aims are regularly discussed with external stakeholders through the Department Advisory Board (DAB) which includes members from six Bahraini organisations.

- The programme aims relate to the mission and themes of UCB to 'equip graduates with the skills, knowledge, and competencies, to enable them to have fulfilling careers and meet the need of society, government, business and the economy'. However, from the provided evidence and interviews, the Panel learned that the programme does not provide a compulsory or elective course to develop students' entrepreneurial skills in line with the Bahrain HEC's national strategy, which aims to 'graduate more students that have the knowledge and attribute to become entrepreneurs' and 'to provide a workforce capable of dealing with the increasingly complex demands of the global economy'. The Panel, therefore, recommends that UCB should incorporate the development of entrepreneurial skills into the programme.

Indicator 1.2: Graduate Attributes & Intended Learning Outcomes

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

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Judgment: *Partially Addressed*

- The BIT programme specification identifies Graduate Attributes and PILOs. Evidence was provided of 'Institutional Guidance on Intended Learning Outcomes, which included four Graduate Attributes / University Intended Learning Outcomes (UILOs). The UILOs, whist not formally mapped to PILOs, are appropriately embedded in them. However, these outcomes do not appear on the UCB website nor are widely disseminated. The Panel suggests that UCB disseminates its generic Graduate Attributes / UILOs more widely.

- The PILOs are clearly stated and listed under sector norm headings: knowledge and understanding, subject specific skills, thinking skills and transferable skills. The PILOs have been mapped to the programme aims in a document prepared following the SER submission to ensure that all of the aims have been met. However, the Panel noted that the document does not demonstrate that a thorough process, embedded in UCB's Operation for Programme Development and Review Policy, has taken place to ensure that the PILOs meet the aims, for example one programme aim is to enable the graduates to 'Be successfully employed in the IT sector, related field, or accepted into graduate studies' the mapping indicates that this is met by students being able to 'describe information technology requirements for the solutions of the computer-based problems and state them in appropriate forms'. This does not take account of the set of transferrable skills students are developing and referred to elsewhere in PILOs and that there may be other course contents meeting this aim. The Panel, therefore, recommends that DIT review its PILOs / programme aims mapping and ensure that this process is embedded in programme development and review.

- The PILOs are specific, measurable and achievable. They are generally appropriate for the level of the programme; however, the Panel suggests that the PILOs are reviewed to ensure that they are framed in the context of undergraduate level outcomes such as critical evaluation and synthesis of ideas. DIT has benchmarked the BIT PILOs with ABET and with local, regional and international universities, demonstrating a good match in most areas. However, where there was no apparent close match, no action had been taken to address the issue. For example, UCB PILO A2: 'the use of mathematical foundations, algorithmic principles, and computer science theory…. to demonstrate comprehension of the tradeoffs involved in design choices' is mapped against ABET 'j) knowledge of contemporary issues. The Panel notes the use of benchmarking by DIT but recommends that the DIT should use benchmarking more rigorously to refine the PILOs.

- The Panel noted that the CILOs need to be rephrased to follow a more systematic structure and standard format (e.g., using Bloom's taxonomy). For instance, in CIT 317, outcome A1 does not start with an action verb, and C2 is too complex to allow any meaningful determination of teaching effectiveness. Therefore, the Panel recommends that all course specifications should be revised to ensure that the CILOs are measurable and meaningful

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and that the CILOs refer to the relevant NQF descriptor and level. The course titles and credit scores have been benchmarked against similar courses at the other local and regional universities to ensure that the courses are appropriate. The Panel noted that there is some variation in the format of the course specifications template and suggests that the DIT review the CILOs to ensure consistency of format.

- The CILOs are mapped to PILOs in the course specification with each CILO referring to the appropriate PILO in the programme specification. However, the Panel noted that the programme specification includes PILOs applicable to the whole programme and PILOs relevant to each 'concentration', either Computer Science or Management Information Systems (MIS). The concentration PILOs are rephrased generic Programme PILOs and so the generic PILOs are not additional to the concentration PILOs. The Panel suggests that the BIT should review the CILO - PILO mapping to clarify whether there are generic PILOs applicable to the whole programme as well as concentration specific 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.

Judgment: *Not Addressed*

- The Programme Specification shows the programme structure, including compulsory courses, university, and department electives and NQF levels and credits. Courses are described in terms of NQF level 5 – 8 and show the required number of credits and percentage of total credits at each level. The Course specifications show the pre-requisites for each course as appropriate. This information is collated into a study plan – 'Academic Progression of Learning Plan' for each pathway (Computer Science / MIS) which shows compulsory and elective courses and indicates pre-requisites. Academic progression and pre-requisites are appropriate. However, the study plan is unclear as it shows multiple-coloured arrows which are not included in the diagram key and courses labelled 'CC' which are also not included in the diagram key. The Panel suggests that the Academic Progression of the Learning Plan is clarified to ensure that it does not cause confusion for existing and prospective students.

- The DIT provided evidence that the programme courses have been benchmarked against national, regional and international university programmes and against the Association for Computing Machinery (ACM) and the Institute for Electrical and Electronic Engineering (IEEE) guidelines. The evidence shows that course titles and credit values have been mapped but not that CILOs and course content have been mapped. Further, BIT has not been benchmarked against a Bachelor of Science programme in Information

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Technology (IT) at each institution chosen nor against a programme with an MIS specialism or pathway which limits the usefulness of the benchmarking exercise. The DIT provided evidence of Department meetings where the curriculum was reviewed, however these do not demonstrate the discussion that took place. The Panel notes the use of benchmarking by DIT but that this does not include benchmarking against the same programme titles at the benchmarked institutions, nor does the benchmarking consider CILO mapping or content mapping. The Panel recommends that DIT should perform a more rigorous benchmarking to support the update of curriculum on BIT.

- The SER did not address the issue of ensuring an appropriate balance between theory and practice nor between knowledge and skills. The Panel notes that this was raised as an issue at the previous BQA review and by the external examiners. Some course specifications highlight a lack of hands-on practical skills, for example course CIT325 indicates the use of simulation to develop networks rather than real network hardware and software components. Interviews and the evidence provided demonstrated that many courses do not include laboratory hours and that there is no formal mechanism in place to ensure an appropriate balance between theory and practice nor that graduates leave the programme with an appropriate mix of skills. From interviews with students, the Panel learned that there are no practical professional accreditation courses available, embedded within or offered in parallel to BIT, such as Cisco CCNA. The Panel recommends that the DIT should review the amount and level of practical work included in BIT and embed a process to regularly review the balance between theory and practice in the programme. The Panel also suggests that UCB consider embedding industry accreditation courses such as CISCO CCNA within or in parallel with the programme.

- The Panel reviewed course files including teaching materials and student work. The Panel also reviewed course specifications and concluded that the courses included were appropriate in terms of breadth and depth. However, the Panel noted in relation to the earlier point, that practical assessment is limited, for example in course CIT322 (Operating Systems), students do a comparative presentation for coursework; for course CIT432 (Network Security) coursework is not identified; for course CIT104 (Programming) students are expected to implement particular constructs and not to implement a programming solution to a real-life problem. See the previous bullet point for further consideration.

- Textbooks and other references are included in the Course Specifications. The year of publication was generally not listed in the specifications. Modules had appropriate textbooks, and some had very current editions, for example course CSC376 (Artificial Intelligence) core textbook 2020, however there were many instances of core and additional textbooks being outdated, for example, course CSC376 additional textbooks are from 1999, 2000 and course CIT432 (Net Security) 2010, 2004 and 2000. The Panel noted from Interviews with stakeholders that concerns about this issue have been fed back to

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the Department by the DAB. The Panel recommends that the BIT should regularly review its textbooks and references for currency.

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: *Partially Addressed*

- UCB has a Learning, Teaching and Enhancement Policy first published in 2018. The Policy refers to appropriate goals for diversity and contextualization of teaching and learning. The Head of the Department (HoD) is tasked with monitoring the development of course specifications. The policy refers to the Learning, Teaching and Curriculum Development Committee (LTCDC), tasked with monitoring teaching and learning. However, the Panel learnt during interviews with the academic staff that the LTCDC does not currently function, but UCB is considering its reintroduction. It was also noted that DIT has developed a department teaching and learning philosophy. The Quality Assurance and Accreditation Committee (QAAC) monitors compliance to BQA/HEC standards. The Panel found insufficient evidence on how monitoring and development of teaching and learning takes place. The Panel is, therefore, not convinced that monitoring, evaluation and improvement of teaching and learning is fully embedded in the Department's processes. The LTCDC policy is well structured as a top-level document but does not provide detail to direct the pedagogic development of staff. The Panel recommends that DIT should monitor and evaluate teaching and learning in line with the UCB policy and Department Philosophy. Furthermore, the Panel noted that the policy refers to the 'University' not 'University College'. The Panel suggests that the policy is reviewed for accurate representation of UCB.

- The Programme Specification refers to standard teaching and learning methods: Lectures, tutorials, self-learning, in-class exercises, homework, team learning, discussion and practical skills development. From interviews with faculty and the evidence provided, the Panel finds that there are adequate teaching and learning methods used in the programme, however implementation of these are not fully monitored as indicated in the bullet point above. Research interests of staff are in one area of the curriculum and therefore it is difficult for staff to ensure that teaching in all areas of the curriculum, particularly in later years of the programme, is informed by current research. This issue is further discussed in Indicator 2.2.

- Student self-learning is referred to in the Learning, Teaching and Enhancement Policy, however e-learning is not. The Panel found from interviews with the academic staff that a Virtual Learning Environment (VLE) is embedded within the programme in an

appropriate way, particularly in light of the Covid situation. The Panel recommends that UCB review their Learning, Teaching and Enhancement Policy to include e-learning to be in line with teaching on BIT.

- The UCB Learning, Teaching and Enhancement Policy defines principles and practice including supporting students 'to engage meaningfully with their learning', developing programmes that are 'intellectually challenging and responsive to the … needs of students, catering to the requirements of business, government and society', and recognises that 'theory and practice are equally important'. The Panel notes the aspirations of the policy to support student learning. BIT Students take an Internship programme and a Graduation Project which, in the Panel's opinion, supports the development of skills in professional practice and application of theory and independent learning.

- DIT claims that students have the opportunity to 'develop their research skills' and the Panel noted that students are expected to complete a research survey as part of their Graduation Project (CIT498). However, students do not currently learn research methods in any course. The Panel noted that the QAAC minutes of May 2019 indicate the approval of a new Research Methods module (RES300), but this is not currently included in the programme and the research component does not form part of the Graduation Project report. The Panel recommends that Research methods are formally embedded as part of the programme to support students' learning generally and for the Graduation Project in particular. The Panel noted that students are expected to design a solution to a problem within their Graduation Project, however the Panel learned from interviews with external stakeholders that the development of creative and innovative skills is limited across the programme.

- Lifelong learning is identified as an aspiration in the Learning Teaching and Enhancement Policy. It was noted that the Programme Specification refers to teaching methods to be used and these are 'standard' approaches found across the higher education sector. The Panel found evidence that a wide variety of teaching methods are used on the programme to support student learning. This was confirmed in interviews with the staff and students.

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: *Partially Addressed*

- UCB has a set of policies related to assessments. The Learning, Teaching and Enhancement Policy is one of the key policies in this regard. It requires that the course specifications are distributed to students at the beginning of the semester. They contain details on Intended

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Learning Outcomes (ILOs) as well as the assessment tools that are used to determine the achievement of the outcomes. The policy describes the use of formative and summative assessments. DIT provided evidence of moderation processes which showed that there are processes for moderation by an internal moderator and moderation across the programme at the Department meetings. The moderation processes are implemented regularly, however, the Panel noted superficial moderation. This issue is further considered in Indicator 3.3. Formal examination board processes are in place though, in the evidence presented, there was no discussion of individual students' performance. However, the Panel noted that this may be due to the small number of students being considered.

- From interviews and the submitted evidence, the Panel found that the UCB Assessment Policy is disseminated to all staff, that the students and external moderators are fully aware of assessment procedures and that there is an understanding of the procedures by stakeholders.

- Formative and summative assessment is defined in the UCB Teaching, Learning and Enhancement Policy. From interviews and the submitted evidence, the Panel found that there is a good understanding of formative and summative assessment and of formative and summative assessment feedback given to students. As per the SER, DIT claims that feedback is given to students within one week of submission. From interviews with students the Panel found that feedback is generally provided in a timely fashion.

- The BIT Programme Specification includes consideration of ethical issues of the subject area in the programme aims and in PILOs, however there is no evaluation of research, of research ethics nor the principles of research in different subjects within the courses. The issue of research methods is considered further in Indicator 1.4. The Panel learned from staff interviewed that consideration of research ethics, may be included in a proposed module covering research methods, but this has not been implemented on BIT. The Panel learned from interviews with staff that there have been 'one-off' training courses offered that include ethical training, but these are not embedded in the curriculum. During interviews with staff, the Panel found further evidence that this topic is not adequately covered in BIT. The Panel recommends that the ethics of research should be included in a compulsory course content on BIT.

- The UCB Assessment and Moderation Policy defines mechanisms for grading students. As indicated above, the Panel found that these demonstrate an implementation of internal and external moderation. However, the Panel noted that blind double marking is not used. The Panel suggest that the use of blind double marking is considered by DIT. The evidence provided demonstrated little engagement of second markers and very few mark changes for an individual or cohort. The Panel notes that there is one external moderator covering all modules on both specializations of the programme, an issue discussed further in Indicator 3.3, and that there are only three specialist staff to cover all IT specialist courses,

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an issue further discussed in Indicator 2.2. In addition, the Panel noted that some of the grading provides no feedback, even though the assignment is meant to be summative. For instance, Assignment 1 in CIT 317 contains minimal feedback. Although the students' solution contains errors (e.g., in the Reception Use Case), the students appear to have received full marks for the erroneous part of the Assignment. The Panel therefore concluded that whilst there are mechanisms implemented to enable transparent, fair marking and provision of feedback to students, these mechanisms are not implemented rigorously. The Panel recommends that DIT should review its implementation of the assessment policy to ensure that the policy is implemented consistently and rigorously.

- The process for addressing academic misconduct was not covered by DIT in the SER. The Panel found evidence of two versions of a plagiarism policy: UCB Guidance Plagiarism Procedures and Practice, dated 30-10-2018 and Academic Honesty and Integrity Policy. The policy defines plagiarism at UCB and defines a paragraph to be included in all course specifications, which the Panel was able to confirm is the case. The policies also define the process to investigate plagiarism and the penalties. However, the policy refers to the use of Grammarly software for assessing plagiarism but is also investigating the possible use of Turnitin, whereas the Panel learned from interviews with academic staff and students that Turnitin is routinely used. This issue is further considered in Standard 3.2. The Panel noted that the Student Handbook, available on the UCB website, includes policies and procedures, however it does not include the plagiarism policy or processes. The Panel was, however, able to confirm from interviews with students that they understand the concept of plagiarism, the consequences and process for assessing plagiarism.

  The process for students appealing a grade decision and appealing a disciplinary decision are defined in the Student Handbook. During interviews with students the Panel noted that they understood the regulations and processes for appeal.

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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: *Not Addressed*

- UCB has a clear Admissions Policy which is usually available to stakeholders on the UCB website and available to students in the Student Handbook although the Panel noted that the Admissions Policy not on the web site at the time of the review. During interviews with staff, the Panel learned that the website was being revised at that time. The admissions page of the web site would normally specify that admission does not discriminate on the basis of nationality, gender, colour, disability or religion. Statistics provided by UCB generally show that for BIT, more males are admitted and registered than females and more Bahraini students than other nationalities, in line with the statistics for this discipline in Bahrain. The Panel recommends that UCB should ensure that the admissions policy is published through all relevant media at all times.

- The criteria for admission to BIT is the Bahrain Scientific or Technical Secondary School Certificate or equivalent with minimum cumulative average of 60%. In addition, students must provide proof of a minimum IELTS score of 5.0 or equivalent. Alternatively, students must pass the UCB English examination as defined in the Student Admissions Policy. UCB has benchmarked its admission requirements against one local, one regional and one international university. Results showed that UCB academic entry requirements are lower than those of the benchmarked institutions. English language requirements are also lower than the benchmarked institutions. The DIT has discussed increasing the entry criteria for the programme, to include an interview for all candidates and, if applicants exceed places available, to raise the threshold level for Mathematics and Science to 70% and to use a 'general aptitude test'. From interviews with the BIT faculty, the Panel learned that these changes had not been fully implemented nor had there been a noticeable change in student intake abilities. The Panel notes that a review of admission criteria was a condition of the programme periodic review in 2019. The Panel recommends that DIT should review the

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admission requirements in relation to the specific technical requirements of the programme and to professional body expectations. Other admission requirements are not out of line with similar institutions in the region.

- Students who do not meet the required standard in the English examination are required to take the UCB Foundation English Programme prior to enrolment on BIT. The SER does not mention benchmarking of the Foundation English Programme. From the submitted evidence and interviews with staff, the Panel learned that the DIT did not offer their Foundation Programme for the 2020 intake although it had previously been offered and is likely to be reoffered in the future. The Panel requested evidence of benchmarking the foundation programme and noted that there had been no benchmarking of either the UCB Foundation English Language programme entry nor exit tests against international standards such as IELTS and so there is no certainty that students entering the programme through this route will have achieved the required IELTS 5.0 or equivalent. The Panel recommends that UCB should benchmark the Foundation English Language programme entry and exit test against international standards when it is reoffered, to provide confidence that students enrolling on BIT through this entry route meet the required English language standards.

- The SER does not address Recognition of Prior Learning (RPL) and credit transfer. The Admissions Policy, however, includes provision for credit transfer and RPL. The Panel concluded that this provision is adequate.

- The admissions policy was benchmarked against other universities in 2019 and reviewed by an external reviewer as part of a periodic review of the programme in 2019. The external review in 2015 did not include the admissions policy, but in 2019 it was reviewed. The Panel did not find sufficient evidence that this is a regular process taking account of all relevant data. The Panel recommends that the programme should conduct a regular formal review of its admissions policy, taking account of student performance and feedback from stakeholders.

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: *Not Addressed*

- In the UCB Strategic Plan, 'Staffing and Staff Engagement' is one of the six strategic goals, with objectives to attract and retain well qualified staff, strengthen staff support and to support staff with appropriate IT, teaching and learning and student support systems.

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UCB has a Human Resource (HR) policy and procedures for staff recruitment, induction, appraisal, and promotion. The Panel found evidence of the template recruitment forms and evidence of the process being followed, and forms being used for recruitment. From interviews with staff, the Panel learned that recruitment processes are followed by UCB, but that there is no evidence of promotion of the BIT academic staff, which is understandable with the limited staffing base. The Panel noted evidence of appraisal processes being followed but that the appraisal discussion is focused on standard headings for achievement and does not take account of the extent to which previously set appraisee-specific performance objectives have been achieved. The Panel recommends that DIT should review its appraisal processes to ensure that the appraisal cycle is completed and is based on evaluation of previously set objectives.

- UCB Strategic Plan (2018- 2024) indicates that it aims to align research with the aims of the Bahrain National Strategy by more effective allocation of resources for research, development of a more effective administrative and financial support mechanism for departments, encouraging research informed teaching and supporting research aligned to the National Strategy. The Panel found a research strategy that identifies generic areas of activity and KPIs and a research policy that identifies lists of operating procedures and permitted expenditure. The Scientific Research Council (SRC) monitors and approves annual research plans. The Panel found that the research strategy is too general to be useful in determining the direction for DIT research, highlighting that IT is an important component of organisational governance, business sectors rely on agile and robust solutions, is fast developing and that there is growth potential. The Research Plan is implemented as evidenced by research carried out within DIT, however the Panel suggests that DIT develop a more detailed Department research strategy to identify a focus and direction for research in the Department.

- The SER did not consider staff workload. The Faculty Staff Guidebook specifies that a non-Professorial lecturer may teach a maximum of 15 credit hours per week. The Panel found evidence of staff workload. This showed staff in DIT having 15 contact hours per week before additional allowances, such as for example: supervising projects, academic advising, programme/course administration and research. The Panel was provided with evidence of processes to monitor staff workload. Evidence of monitoring included minutes of an Information Technology Committee (ITC) meeting considering weak students, a schedule of staff teaching commitments with no discussion and an HR Committee meeting with no discussion of DIT staff workload. The Panel, therefore, found that there is insufficient evidence of monitoring staff workload and believe that the workload figures indicate that academic staff workload is inappropriate and does not provide staff with sufficient time to engage in competitive research, industrial and community engagement and programme administration. Further, there are no rigorous workload monitoring processes in place. The Panel recommends that DIT should review

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its staffing levels to ensure an appropriate workload for all staff and processes for regular monitoring and review of staff workload.

- The SER did not consider whether there are sufficient staff members with range of qualifications to teach the programme. The Panel reviewed staff Curriculum Vieta (CVs) provided and concluded that the BIT academic staff are well qualified with appropriate specialisms. All three of the specialist staff have research interests in the broad area of artificial intelligence and industrial experience. The Panel noted that UCB claims there are staff from other Departments who also teach on the programme. The Panel found evidence of the courses staff teach in one academic year. It is clear to the Panel that the programme, which includes two broad specialisms (computer science and MIS), has insufficient staff members to ensure the breadth of courses on the programme as well as insufficient range of experience to teach the required depth in all subject areas, one faculty member has been involved in over 25 different courses whilst at UCB. The Panel recommends that DIT should review the faculty staffing to ensure that there are enough staff and breadth of experience to deliver the programme.

- UCB claims that the Lifelong Learning Committee (LLC) has oversight of non-research-based applications for professional development. The LCC minutes indicate oversight of Department professional development plans, however, the LLC terms of reference indicate that the committee is concerned with encouraging mature students to study at UCB, professional training for mature students, new courses to attract mature / mid-career students. UCB claims that staff wanting to take professional development discuss it with their line manager during an appraisal and forward a proposal to LLC. The Panel was able to confirm this process during interviews with staff. Departments provide a professional development plan for the academic year to LLC. Professional Development (PD) activity results in a PD annual report. Evidence was not provided that this report is reviewed at LLC. The Panel notes that UCB support for PD is positive and that it is led by staff requests rather than institution needs. However, the Panel recommends that UCB should consistently monitor and evaluate the professional development needs of its staff to ensure that staff requests support the development of staff and meets the requirements of the institution.

- The SRC has responsibility for providing a framework and infrastructure for research development, management, and continuing support for research activities. The Panel noted evidence of staff support to attend research conferences and found that UCB financial support for research is appropriate, though the Panel noted workload constraints mentioned above. From interviews, the Panel learned that there have been ad-hoc training events provided, particularly related to research ethics, to support staff in supervision of the students' capstone projects. The Panel suggests that UCB consider a more systematic and proactive approach to the development of faculty to enable supervision of research.

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- UCB did not address the issue of staff turnover in the SER. The Panel noted that staff turnover in DIT is low. From interviews and the evidence provided, the Panel notes that UCB reports on and monitors staff turnover through the HR Committee. The Panel acknowledges that there are effective processes to monitor staff turnover.

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: *Not Addressed*

- UCB has conducted an inventory of ICT learning resources in laboratories and classrooms, which lists the hardware and software facilities. UCB has an IT Learning Resources Policy which describes the facilities and services. Classrooms are equipped with PCs with Windows 7 and projectors. From interviews and the Virtual Tour, the Panel confirmed that general laboratories and classrooms were adequate to meet students' requirements. This issue is considered further below.

- The IT facilities listed in the UCB audit indicate that there are six computer laboratories. The IT Resource Policy and resource audit does not include a replacement policy for IT hardware resources. It was confirmed that the operating system in use is Windows 7, with many PCs having been updated to Windows 10 in January 2020. The Panel noted that in the exit survey there were no specific questions about the IT facilities, however, in free text there were requested improvements to the Wi-Fi and IT laboratories. During interviews with students, it was confirmed to the Panel that the current students feel that the IT infrastructure is inadequate. Furthermore, during interviews with staff, the Panel learned that student survey questions, which are reviewed by the Quality Assurance & Compliance Department do not provide sufficient feedback to enable meaningful decision-making. It was noted that there are no specialist laboratories to enable students to gain practical experience in compulsory subjects such as Computer Networks and Network Security. The Panel recommends that UCB should review their IT Resource Policy and infrastructure to ensure that the hardware, software, Wi-Fi and Internet are fit for purpose.

- The UCB library includes a group study area and a presentation area. The library resources include books, journals, audio-visual and electronic resources including, Springer Open, Elsevier Open Access, and Science Direct Open Access. The library subscribed to 'Questia Library' in 2017/18. The student survey did not include library specific questions, however there were no specific additional comments made about the library facilities. The Panel learned from interviews with students that the library resources are sufficient though

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some books need updating. See recommendation under Indicator 1.3. The Panel concluded that the library facilities are adequate.

- The classrooms, IT facilities and library are not specifically included in the student exit survey. The Panel did not find evidence of a formal review of facilities, although an inventory of IT and classroom resources is taken and there is an IT and Library committee to consider operational aspects. The IT Resources Policy and audit did not refer to a regular monitoring and review of IT resources. This was confirmed by the Panel during interviews with staff. The Panel recommends that UCB should implement a formal monitoring mechanism to ensure the maintenance of classroom, IT and library facilities and resources.

- Health and safety were not addressed in the SER. UCB has an occupational health and safety policy which refers to a Health and Safety Committee that meets twice per year. However, terms of reference for this committee were not listed in the UCB committees' terms of reference. The Panel was provided with evidence of health and safety issues being addressed as a single agenda item, concerned with Covid-19 within an HR Committee meeting. The Panel was not provided with evidence of reporting processes on health and safety issues, reviewing health and safety risks, incidents and accidents. It was confirmed during the virtual site visit tour that fire signage for fire evacuation were not in place. The Panel recommends that UCB should review its processes for managing health and safety, bring their practice in line with their policy and ensure that evacuation signage around the campus is put in place.

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: *Not Addressed*

- UCB claims that the Management Information System (Logsis) includes modules on admission, attendance, course and schedules, grades and records, programmes, advising and registration and student accounting. The Panel requested Logsis reports that demonstrate informed decision making using Logsis reports. The information provided was minutes of an ITC meeting which did not show utilisation reporting. The Panel concluded that the Logsis reporting is not being used to inform management decision making. See recommendation below.

- The SER claimed that Logsis generates reports on tracking and utilisation of laboratories. This was not confirmed by the Panel. The Panel did not find evidence of resource

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utilisation reports being used to monitor and review resource adequacy and utilisation to inform decision making in DIT. The Panel recommends that MIS reporting should be fully embedded within the decision making of the institution and that tracking reporting is used to monitor laboratory and resource utilisation at UCB.

- UCB has a Security of Learner Records and Certificates Issuance Policy and Results and Reporting Policy. These cover the process of course grade submission, processing by the IT Department, Registry, and the Examination Board and accurate reporting/publication of results. The Panel noted that the IT Resource Policy and Resource Audit does not specify a backup and restore / on and off site back up, however, during interviews with staff the Panel was able to confirm that backups are made regularly to the cloud site. The Panel recommends that the IT Resource Policy and Resource Audit should be updated to reflect current practice at UCB.

- The BIT certificate and transcript are accurate and describe the learning of the student. The Panel confirmed during the virtual site visit interviews that they are issued in an appropriate timescale following approval of the Examination Board.

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: *Partially Addressed*

- The SER does not address student support available for use of the library, laboratories, e-learning, e-resources, counselling, or career guidance. The Panel found evidence of one library support staff, one IT administrator, one student affairs counsellor, and one specialist external counsellor to assist students. In addition, the Library Guide provides guidance to students on use of library and e-resources including, OPAC, Questia and electronic journals. The Panel concluded that student support in the library, laboratories, e-learning and social/counselling is appropriate.

- The SER did not address the provision of career guidance. The Panel found evidence of an annual career's guidance day. Interviewed students confirmed that the event took place, but it was felt insufficient to prepare them (students) for their future careers. The Panel, therefore, found that the activities in place were insufficient to support students preparing for their career journey. The Panel suggests that the UCB should provide more detailed and focused career guidance to support BIT students in planning and preparing for work.

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- The SER does not describe the induction processes in place for new and transferring students. The Panel found evidence of a general orientation presentation which provides a good profiling of UCB but little in the way of useful orientation and induction information for students. The Panel was provided with further evidence of additional BIT specific orientation, which included details about the assessment process, class attendance, textbook use and the use of Microsoft Teams, the programme structure and expectations of UCB staff and students. The Panel found that overall, the induction information provided to students was adequate.

- The UCB Academic Advising Policy describes the advising a student can expect, including selection of courses and academic advice. Students are assigned an academic advisor on enrolment by the Department. There is evidence to show that advising meetings are recorded. Meetings tended to be with the group and focused on advice about registering for courses, additional tutorials to support specific courses, and preparation for the internship course. The regularity of meetings is not defined in the policy. During interviews with the academic staff, the Panel learned that meetings with the academic advisor could be initiated by the student if they felt they were struggling; however, the Panel did not find evidence of this taking place. During interviews with the BIT faculty, the Panel learned that there are two systems in use for academic advising, a formal UCB system and an informal notes system used by academic staff. The Panel recommends that academic advising should be extended to include formal regular one-to-one meetings with students to provide an opportunity for them to discuss and receive guidance on general academic and non-academic issues and that UCB should review and standardize the advising notes recording system.

- The SER does not consider the provision for supporting women or ensuring equal opportunities. UCB has policies relating to the admission of students with special needs, however it is not clear what the communication process is nor what formal processes are in place to evaluate special needs students' requirements nor how to monitor their implementation and evaluate their success. Additional evidence confirmed that the processes are informal. The Panel recommends that UCB should formalise processes to ensure appropriate proactive support for special needs students is provided and monitored for effectiveness.

- The Academic advising policy defines the intervention that may take place to support an at-risk student. The Panel found evidence of students being formally notified in a timely way that they are at risk. Moreover, during interviews with the academic staff the Panel learned that limits are placed on the number of courses that a student can enrol on if their average is less than 2.0 CGPA. The Panel also noted that students may retake a course up to three times to achieve at least 2.0 GPA, which in the panel's opinion is too generous. However, the Panel did not find evidence of support being provided to students following notification that they are at risk. The Panel is of the view that the support for at-risk

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students is insufficient. The Panel recommends that DIT should review the support provided to students who have been notified that they are at risk.

- The SER refers to student and graduate exit surveys to gain feedback on the student experience of UCB. The Panel noted that neither of these surveys specifically ask about the support services provided by UCB. As noted in Indicator 2.3, indirect feedback about the IT support is collected via the free text section at the end of the survey, however there were no specific comments about support services. Further, during interviews with staff, the Panel learned that UCB is planning to revise its survey questions to ensure that there is sufficient appropriate feedback to inform decision making. The Panel found that this is the primary method of gaining feedback on student support and that this is currently inadequate. It was noted from the evidence provided to demonstrate monitoring and evaluation of support services that this is obtained through the appraisal form of a member of the Student Affairs staff. The Panel recommends that UCB should review its process for monitoring and evaluating student support services to ensure an adequate service is provided.

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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.

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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: *Not Addressed*

- UCB uses a variety of assessment methods typically used at HEIs and appropriate for a Bachelor programme. The Panel learned in interviews that academics are aware of the different kinds of assessments and make use of them in their courses. An exception appears to be the Course Specification of CSC 376 where all course assessments are classified as summative, and no formative assessments take place.

- The Panel noticed that some course specifications require additional attention. For instance, the course specification of CIT 317 indicates that the teaching methods and assessment methods are the same every week of the course, i.e., they are not selected based on their suitability for the course material. Furthermore, the course specification states that Projects are used as Assessment Methods. However, it is unclear in section 15 of the course specification (Course Assessment) if and how these Projects contribute to the final course grade. Similarly, Class Interaction is considered as an Assessment Method, however, it is not shown in section 15. Typically, Class Interaction is considered to be a teaching method rather than an assessment method. Similar issues appear in nearly all course specifications. The Panel recommends that all course specifications should be revised to ensure assessment methods are suitable for the subject matter.

- A review of examination questions reveals that the level of complexity is inadequate. For instance, Question 5 in CIT 317 is at too low a level for a 3rd year course. In addition, the question allows students to design any system, rather than a system that is being specified in the question. This allows students to use a memorized solution rather than apply design skills to a new problem. In the Pre-Assessment Moderation Form, this question was classified as difficult. This was not a cause of concern for either the internal or the external moderator.

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- The Panel also noted that in some instances the grading was very generous (e.g., Question 3 in the final examination of CIT 317). In addition, all students in CIT318 received an A grade, except one student who apparently did not participate in the course and received an overall grade of 0%. The End-of-Semester Course Review Report (signed by the instructor and Head of Department) does not comment on this unusual grade distribution and described it as "uniform". The Panel recommends that End-of-Semester Course Review Reports should be revised to ensure that they carefully reflect on course assessments and make meaningful recommendations for improvement.

- The Programme Specification of the BIT contains the mapping of courses to ILOs of the relevant concentration. The concentration ILOs are also mapped to the PILOs. During interviews, the Panel learned that this mapping is regularly reviewed and adjusted if needed. The coverage of the PILOs through the various courses in the programme is appropriate with the exception of D4, a PILO related to communication. Only two required courses contribute to the communication skills of students. As the Panel learned from the DAB that soft skills, including communication skills are of critical importance for them, the Panel recommends that the various mappings be revised to ensure that students have adequate opportunity to improve their communication skills within the programme.

- Further mappings take place in the course specifications as they state which assessment tools are used to determine the achievement of CILOs. This mapping is confirmed in the Pre-Assessment Moderation Form, on which moderators sign that the ILOs for each question are specified and appropriate to assess the achievement of ILOs. The Panel noticed some inconsistencies between various documents. For instance, the Post-Assessment Moderation Form for CIT231 states that ILOs A1, A2 and C3 are assessed, whereas the course specification of CIT231 states that only A2 and C3 are being assessed. Similarly, the information about CSC457 contained in the provided evidence is inconsistent. The Pre-Assessment Moderation form states that the Mid-Term Exam assesses ILOs A3 and C3, while the course specification states that the Mid-Term Exam assesses A3 only. The Panel recommends that mappings in the various course documents should be reviewed to ensure consistency between documents.

- Although extensive mappings take place particularly in the programme specification and the various course specifications, the Panel was not able to find evidence that the achievement of UILOs, PILOs and CILOs was measured or evaluated. No action appears to have been taken based on the level of achievement of the ILOs. This was confirmed in interviews with DIT academic staff and administrators. The Panel recommends that the achievement of ILOs at all levels (Course ILOs, Programme ILOs, University ILOs) should be carefully measured, analysed and used for programme improvement.

- The Annual and Periodic Programme Review Policy indicates two review periods. The Annual Monitoring and Review follows HEC requirements and looks at ILOs, assessment

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methods and schemes to ensure relevancy of ILOs and course content. The second category of reviews are Periodic Reviews and takes place every four years.

- Although the extent to which learners achieve the learning outcomes is part of the Annual Monitoring and Review, this aspect does not take place. The Panel noticed that the template of the Programme Monitoring Report does not include any section or heading where the results of the students' achievement of ILOs is to be reported. While changes are recommended based on for example: instructor input, student feedback, external moderators, advisory board and benchmarking, the reporting of ILO achievement is not sought. The Panel recommends that the Department should review the effectiveness of its assessment process and adjusts its annual programme review to include the reporting of ILO achievements.

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: *Partially Addressed*

- A policy on Academic Honesty and Integrity has existed since 2018. It defines different kinds of violations (e.g., plagiarism, collusion) and contains procedures for investigation and possible penalties. While the Policy refers to Grammarly as the tool to detect plagiarism, the SER indicates the usage of TurnItIn. Faculty and students interviewed seemed to be aware of the importance of detecting and dealing with plagiarism. This indicates that current dissemination channels are effective. Information about plagiarism is distributed to students through the Student Handbook, Course Specifications and the Student Code of Conduct. The policy specifies that a similarity of 20% means that plagiarism has taken place. Normally a percentage similarity is considered a starting point for investigating plagiarism. The Panel noted that students may submit coursework to Turnitin as often as they wish until the formal submission date, an approach that encourages students to adjust their assignment wording to get a Turnitin result below the 20% threshold. The Panel recommends that UCB should revise its plagiarism policies to ensure that 20% is used as a starting point for investigating plagiarism.

- Based on the SER and interviews, TurnItIn is the main tool that is being used to detect similarity in assignments. During the virtual site visit interviews, the Panel learned that students, faculty and administrators equate similarity with plagiarism. However, the exceeding of a 20% TurnItIn similarity index does not necessarily constitute plagiarism. On the other hand, text with no similarity could nevertheless be plagiarized. This limited understanding of plagiarism calls into question the effectiveness of the plagiarism policy.

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The current approach allows the cutting and pasting of information from the Internet and subsequent repeated editing until the similarity index drops below 20%. Despite the Panel's request that evidence of the handling of plagiarism cases be provided, the DIT did not provide any evidence. If a case of cheating takes place in the midterm examination, the Department is responsible for the handling of the case. However, based on the documents submitted, it is unclear who handles these cases. The SER states that the instructor handles the case, while the Academic Honesty and Integrity Policy states that it is the Department Head. Cases of suspected academic misconduct in the final examination are handled by the Examination and Scheduling Committee. The Panel recommends that the Policy on Academic Honesty and Integrity should be applied consistently.

- The policy on Academic Honesty and Integrity states that the Registrar's Office maintains a record of all violations by a person. The policy requires that in each case of plagiarism, the Registrar's Office is to be contacted to determine any previous offenses. The Panel received evidence that cases of plagiarism are reviewed by the Examination and Scheduling Committee and appropriate actions are being taken. However, given that the UCB did not submit an ongoing register of cases of academic misconduct even though it was requested by the Panel, there is an apparent lack of proper recording. The Panel, therefore, recommends that the institution should maintain an ongoing register of cases of academic misconduct and plagiarism.

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*

- The Examination and Scheduling Committee is responsible for the moderation processes. This includes internal/external moderation as well as pre-assessment/post-assessment moderation. The Chair of this committee, the HoD and the Quality Assurance Office all contribute to the moderation process. Internal moderation takes place every semester. The policy requires that moderation takes place at least one week before an assessment is taking place. In various interviews, the Panel learned that the moderation process is well established and ensures that all ILOs are addressed by assessment. The moderator also provides feedback on the correctness and appropriateness of questions. The one-week timeline for the moderation process was confirmed by faculty members.

- The Department Head selects internal moderators. Given the small size of the Department (three faculty members, including the Department Head), the options are very limited. As a result, faculty members may need to review examination papers of courses of which they have limited knowledge.

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- The internal moderation process is being followed and has the potential to contribute to the improvement of courses and the programme. However, the evidence provided shows minimal feedback from internal moderators. In fact, of the ten courses offered in Spring 2019/2020 for which the Panel received pre-moderation evidence for final examinations, none had received any comments. Other submitted documents state that there are technical errors in the examination papers, however, these errors are not specified. In addition, many answers in the Moderation Forms were not completed (they still contain all possible answer options, i.e., 'YES/NO (delete one)'. These examples clearly indicate that the internal pre-moderation process, although carried out, is ineffective and therefore does not contribute to the improvement of the courses or the programme.

- Similar comments are valid for the internal post-moderation process. The Panel noticed that grades given by the internal moderators tend to be identical to those of the original grader. This is the case even for written answers, thus further putting the effectiveness of the internal moderation process into question. The Panel recommends that the DIT should review the implementation of its internal moderation process to ensure that it contributes to the improvement of courses and the programme.

- There is evidence that the internal moderation process is carried out. However, considering the above-mentioned evidence as well as the fact that the Coursework and Examination Pre- and Post-Assessment Moderation Forms contain incomplete forms (e.g., Sections D & E have not been completed), the Panel concludes that the internal moderation process is ineffective. Based on the SER as well as statements made in interviews, the Panel finds that there is a lack of awareness of the current status of the internal moderation process, in terms of effectiveness among the DIT Faculty. The Panel, therefore, concludes that there is no formal or appropriate mechanism for the evaluation of the effectiveness of the internal moderation process. The Panel recommends that the DIT should establish formal and appropriate evaluation mechanisms to ensure effective implementation of its internal moderation process.

- The External Moderators Policy requires that external moderators be formally appointed. The HoD nominates moderators following a specified set of criteria. The external moderator is provided with information on the programme and courses, as well as relevant regulations, policies and procedures. From the interview with the external moderator, the Panel was able to confirm that the appointment process is in place.

- The External Moderators Policy specifies that 'all assessments that count towards gaining credit … are subject to internal and external moderation'. However, in interviews the Panel learned that midterm examinations are not externally moderated. The Panel recommends that the DIT should review its external moderation process and the related policy to ensure that they are consistent.

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- The Panel learned in interviews that the external moderation process takes place every semester. The external moderator is involved in pre- and post-assessment moderation of examinations, course work as well as graduation projects. However, the Panel also learned that the programme currently uses only one external moderator. Although the external moderator is highly competent, this calls into question the effectiveness of the process as one person cannot adequately comment on detailed examination questions of every course of the BIT programme. Nevertheless, the evidence provided shows that the external moderator does provide pre-moderation feedback across the range of assessments, although limited.

- The external moderator also participates in post-moderation. However, the evidence submitted indicates that usually no comments are provided. Furthermore, the external moderator gives the same grade as the instructor.

- While the Panel found some evidence that external moderation improves final examinations, no evidence could be found that external moderation improves courses or the programme. Further, the Panel noted that there is only one external moderator appointed for the programme and given the lack of breadth of expertise within the Department, the DIT should use more external moderators to ensure external breadth of expertise. The Panel, therefore, recommends that the UCB should review its external moderation process and how it is implemented, including the inadequacy of the number of external moderators to ensure that it contributes to the improvement of courses and the programme.

- There is evidence that the external moderation process is carried out. However, considering the above-mentioned evidence, the Panel concludes that the external moderation process is not as effective as it could be. Based on the SER as well as statements made in interviews, the Panel finds that there is insufficient awareness of the current status of the external moderation process, in terms of effectiveness among the DIT Faculty. The Panel, hence, concludes that there is no formal or appropriate mechanism for the evaluation of the effectiveness of the external moderation process. The Panel recommends that the DIT should establish formal and appropriate evaluation mechanisms to ensure the effectiveness of its external moderation process.

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*

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- Details of the mandatory internship are contained in the Internship Handbook. This handbook specifies the minimum requirements of the internship (200 hours of work) as well as its prerequisites (completion of 90 credits). It is a 3-credit course with a Pass/Fail grade. The responsibilities of all stakeholders are described. Templates of letters for the initial contact with employers are available. The academic supervisor is required to visit each student at least once during the internship placement. Students who are in full-time employment can use their regular employment as internship, as long as their work is related to their studies. The Panel considers the policy and procedures related to the internship to be appropriate.

- Responsibilities of students, academic supervisor and employer supervisor are provided in the Internship Handbook. Students have to ensure that they spend at least 200 hours on their internship and complete an internship report, a presentation, and other administrative documents.

- The academic supervisor facilitates the process by helping students find an internship and by providing the necessary documents. During the internship, the academic supervisor maintains contact with the student and conducts a site visit.

- The course specification of the Internship CIT 497 shows that the internship mainly focuses on general and transferable skills, especially those related to employability and personal development. The Programme Specification also shows how the internship course contributes to the achievement of six of the 12 PILOs. The Panel concurs with UBC's view about the role of the internship regarding the achievement of the PILOs.

- The Department provides a template for the internship report that specifies three sections that need to be addressed. The first section focusses on the learning of the student and the achievement of personal goals. The second section focuses on the organization for which the student works. Finally, an evaluation of the internship experience is required. The format of the report encourages the student to be reflective and evaluative. A detailed and well-defined rubric is used to grade internship reports. The rubric ensures consistency and fairness in grading amongst all students. The course specification also indicates that a presentation about the internship is required and is part of the grading. The Panel is satisfied with the implementation, assessment and management of the work-based learning.

- The Course Review Reports at the end of every semester are the typical means through which courses and their effectiveness are evaluated. However, the End of Semester Course Review Report of the Internship course provided to the Panel shows that there is minimal evaluation of the effectiveness of the internship and related processes. No evidence was provided that the internship contributes to the achievement of the programme aims. Although the Panel learned in interviews that the previously centralized internship supervision was decentralized to departments, no evidence was provided to show if the

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effectiveness of this change was evaluated. The Panel recommends that the BIT should conduct a formal evaluation to measure the effectiveness of the internship.

- Overall, the employer supervisors interviewed as well as students, emphasized the importance of the internship to the Panel, as it allows students to gain practical, real-world experience. However, they also pointed out the challenges that internships currently experience due to the Covid-19 pandemic. It means that internship students partially have to work remotely and, at times, have difficulties with fully participating in the work environment. In interviews, employers and students confirmed that adequate adjustments are being made and that internships still are a valuable experience for students.

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: *Partially Addressed*

- The Programme Specification states that each student has to complete a 3-credit Graduation Project (CIT498), typically in the last semester of the 4-year programme, after completing at least 90 credit hours. Details of this project are contained in the Graduation Project Handbook. The project is intended to be hands-on and requires developmental work. It contributes to five of the 12 PILOs. However, as has been discussed in 3.1, the Panel could not find any evidence that a review of the effectiveness of the contribution of the Graduation Project to the achievement of the PILOs is taking place.

- The Graduation Project Handbook specifies the responsibility of the student, supervisor and the panel of examiners. Supervisors provide a list of possible topics from which a student can choose. The student then has to develop a project proposal to be approved by the panel of external examiners before starting the actual work on the project. Supervisors guide the student and provide advice throughout the semester on a weekly basis. The panel of examiners, consisting of two academics, approve the proposal and evaluate the student's progress in the middle and at the end of the semester. They play a major role in the grading of the graduation project. However, from the submitted evidence, the Panel notes that the guidance of the supervisor needs to be more rigorous with more detailed feedback being provided to students. For instance, the final project report contains errors that should have been identified by the supervisor before the project is finalized. The Panel recommends that supervisors should conduct a more thorough review of the graduation projects to ensure technical correctness.

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- While the weekly meetings are informal consultation times during which the supervisor advises, explains the project work and guides the next step, formal evaluations take place in the 7th week and the 15th week by the panel of examiners. To assist students with their progress, the project work is broken down into several components: (1) Survey work, (2) Draft proposal submission in the first week of the semester, (3) Presentation on progress (7th week), (4) project documentation and (5) system development. The Panel finds this structure together with the weekly progress meetings indicative of regular monitoring and review of the progress of students.

- Summative assessment takes place twice during the Graduation Project course. The first assessment is carried out in the 7th week and is worth 20% of the final grade. The second assessment, the final examination, is based on an overall presentation of the developed system and documentation and is worth 80% of the total grade. This is a typical way to assess graduation projects. The final presentation is evaluated by internal and external examiners.

- Evidence provided to the Panel shows that projects are not very challenging. Despite the fact that external moderation of the graduation projects takes place, the Panel is concerned about the level of the projects. The Panel recommends that students should be given more challenging graduation projects to ensure that the projects are appropriate for the Bachelor level.

- The graduation project course is evaluated as part of the annual monitoring programme review. Various stakeholders provide input into this process, such as the industrial and academic supervisor, the advisory board, external moderators, etc. In addition, students complete the usual course evaluation survey. Overall, stakeholders seem to be satisfied. However, the Panel learned in interviews that some stakeholders are of the view that the graduation projects are very similar in type and too narrow in scope. The Panel could find no evidence that these concerns have been addressed and suggests that a greater variety of projects be offered. Please refer to the recommendation above.

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: *Not Addressed*

- The level of difficulty of each course is provided by the faculty member in the course files, which specify the level of difficulty of each final examination question of each course. Although internal and external moderators mainly agree with the classification of difficulty, the Panel considers the level of difficulty to be below the typical level of

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complexity for a Bachelor programme (see 3.1). This view was confirmed by numerous stakeholders in the various interviews held by the Panel. The Panel recommends that the level of difficulty in courses should be raised to be appropriate for a Bachelor programme.

- The course files provided by the DIT do not show any advanced level of creativity and innovation. Although creativity is part of the mission statement of the IT Department as well as the programme graduate attributes, there is no evidence that the achievement of this attribute is being monitored over time. This issue is further discussed in Indicator 3.1.

- The statistical data of the programme shows that enrolment numbers are very low. The Panel learned in interviews that the retention rate is high, which is likely a result of the high staff-student ratio as it allows individualized mentoring of students.

- However, the Panel could not find any evidence that progression data and graduate destination data is being used for programme improvement. The Panel recommends that the BIT should use student progression and graduate destination data for programme analysis and improvement.

- While there is evidence that some employers are satisfied with the level of education that students receive in the BIT, the Panel learned in interviews that they continue to ask for a more practical skills that focuses on tools and technologies currently being used in industry. In addition, the Panel noted their concerns about an outdated curriculum with an inadequate level of knowledge and skills. The Panel recommends that the DIT should review its curriculum taking into consideration the detailed feedback of graduates and employers.

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Standard 4

Effectiveness of Quality Management and Assurance Academic Standards of Students and Graduates

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: *Partially Addressed*

- At UCB, the quality assurance management system is entrusted, at the university level, to the Quality Assurance & Compliance Department (QACD) and, at the IT Department level, to the Office of the Department Head. Both departments refer to the Quality Manual that sets the necessary guidelines for approving programmes and courses, requesting external feedback on programmes and assessments, performing annual and periodic reviews, and conducting benchmarks. The Quality Manual is complemented by different policies, procedures, and regulations related to academic programmes, student management, faculty hiring, to cite just some. However, in interviews with the stakeholders involved in quality assurance, the Panel was informed that the QACD is going through restructuring which will result in multiple organizational and functional changes. While the restructuring is underway, the Panel suggests that the duties and responsibilities of each quality-assurance stakeholder should be clearly defined and articulated so that efficient management of quality-assurance matters is ensured.

- According to UCB organizational structure diagram, QACD has responsibility for the QAO and ensures the consistent implementation of quality assurance policies and procedures across all the university academic units. The QACD directly reports to the Vice President for Academic Affairs who chairs both the QAAC and the LTCDC. However, from interviews with the quality-assurance stakeholders and because of the ongoing restructuring of the QACD, the Panel was informed that the LTCDC and the Academic and Curriculum Development Committee (ACDC) do not exist anymore. At the level of the IT Department, the head is responsible for the consistent implementation of all policies and procedures including those related to quality assurance. The Panel concluded that with the review of QACD and removal of committees that the quality assurance management system is not clear. The Panel recommends that the quality assurance management system is clarified.

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- The QAAC has representatives from all the university academic and administrative units including the Vice President for Academic Affairs, Quality & Accreditation, Department Heads, University Registrar, Office of Student Affairs, Director of Administration and Finance, Executive Director of the QACD, and Quality Assurance Manager. Among the duties of the QAAC are establishing, monitoring, and enforcing quality assurance policies, regulations and standards to enhance the quality of academic practice across all programmes and courses, making recommendations for risk management and enhancement of academic practice, and scrutinising external moderator nominations and make recommendations. From review of the relevant documentation, the Panel notes the different meetings that the QAAC held from October 2016 until September 2018. However, there are no indications in this documentation neither about the items discussed during these meetings, nor that the discussion ensures consistent implementation of UCB quality assurance policies/processes, nor about the meetings that took place after September 2018 until the submission of the SER. Therefore, the Panel recommends that the UCB should ensure the continuous reporting of the meetings that the QAAC holds.

- From analysis of the relevant documentation, the Panel noted that all academic policies, procedures, and guidelines are posted on the University One Drive (I-Cloud) server. Department meetings are also used to ensure that the faculty in the DIT are aware of these policies, procedures, and guidelines as well as to discuss other quality assurance matters such as course specification review, moderation, programme review, and meeting outcomes with the DAB.

- The quality assurance management system is monitored based on the formal meetings that the QAAC holds and the meetings that heads of academic departments, with the participation of both the President and the Vice-President, hold. From review of the relevant documentation, the Panel notes the comprehensive review of both the academic governance and the quality management system of UCB that was conducted by the Vice-President for Academic Affairs in September 2018, where duties and responsibilities of the different committees have been adjusted while some committees have been merged such as the Development Committee (DC) with the UCC. The Learning, Teaching and Enhancement Policy was also revised in 2018 and is expected to be reviewed again in 2022. The Panel notes the regular monitoring of the quality assurance management system is in place.

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*

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- From interviews with senior management and faculty, and review of the relevant documentation, the Panel confirms that the department's organizational chart is restricted to two positions: HoD and lecturer position. Currently there are three full time faculty members, one of whom acts as the HoD. Other UCB departments provide support to the DIT, including student affairs, admission and registration, IT services, and library services.

- The HoD reports directly to the Vice President for Academic Affairs, Quality & Accreditation, chairs two committees referred to as Academic Department Committee (ADC) and Department Advisory Committee (DAC), serves on the UCC and its DAB, the QAAC, the University Examination Board (UEB), and the heads of academic department committee, and is expected to chair the Life-Long Learning Committee (LLC) every 4 years from the end of the chairing term. The Vice President for Academic Affairs, Quality, & Accreditation (VPAAQC) chairs the QAAC and LTCDC. In its virtual site visit and interviews with different stakeholders, the Panel found that the existing reporting lines are clear and that it supports adequate communication and decision-making.

- Because of the small size of the DIT and from review of the relevant documentation and interviews with academic staff, two committees only exist at the department level: the ADC, established as a sub-committee of QAAC and consisting of the HoD and all faculty members and the DAB, consisting of the HoD and external members. The rest of committees are all at the University level. The Panel notes that the duties of both ADC and DAB are clearly stated as per the reviewed documentation.

- The IT Department is the custodian of the BIT programme. The Department ADC is constituted as a sub-committee of QAAC, chaired by the Vice President for Academic Affairs, Quality & Accreditation with responsibility to 'monitor and enforce quality assurance policies, regulations and standards to enhance the quality of academic practice across all programmes'.

- From interviews with the department staff, administrative staff, and students, the Panel found that there is appropriate leadership and coordination in the management of the programme. However, the Panel raises some concerns regarding the long list of duties assigned to the HoD and would advise the UCB senior management to consider delegating some duties to appropriate parties.

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.

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Judgment: *Not Addressed*

- The annual & periodic programme reviews policy and review, evaluation & improvement policy set the necessary guidelines and steps for conducting annual reviews of all UCB academic programmes. The DIT implements an annual review and develops an annual improvement plan as evidenced by those prepared for the Academic Year 2016-2017, 2017–2018 and 2018-2019. The plans include improvement goals (e.g., review the programme and course ILOs while ensuring that they are aligned with the programme aims and objectives and recruit more faculty members, with appropriate academic qualification and specialization), proposed actions, responsibility for actions, evidence for successful implementation, and status (e.g., done and in-progress). The Panel noted that the 2019–2020 improvement plan for the BIT has been prepared to address the recommendations of BQA and feedback of stakeholders.

- The Panel noticed that the annual and periodic programme review policy is sometimes referred to as review, evaluation & improvement policy while at other times it is called a procedure. The Panel encourages UCB to use consistent terminology as policies and procedures serve different purposes and usually have different approval processes.

- As also discussed in Indicator 3.1, learner achievement of the learning outcomes is part of annual monitoring and review, however, this aspect does not take place. and the template of the Programme Monitoring Report does not include any section or heading where the results of the students' achievement of ILOs is to be reported. The Panel recommends that the Department should review the effectiveness of its annual review process.

- While the Panel acknowledges the efforts of the DIT in preparing annual programme reviews, it did not find any mechanisms or means that would allow assessing the effectiveness of the actions included in the improvement plans. Therefore, the Panel recommends that the DIT should develop formal mechanisms for the evaluation of the effectiveness of actions included in the improvement plans of the annual programme reviews.

- At UCB, the necessary guidelines and procedures for performing periodic reviews of all academic programs are included in the Review, Evaluation & Improvement Policy. The review also includes teaching and support services as well as corporate business practices. To ensure a successful external programme review, a set of guidelines and template for producing the review report are made available for the external reviewers.

- At UCB, the periodic programme reviews happen every four years. The BIT had two periodic reviews; one in 2015 by an external examiner who had to fill-out forms and multiple choice questionnaires, and one in 2019 by an internal review and revalidation panel consisting of the Vice President for Academic Affairs, an external examiner from London South Bank University, the Head of General Studies, the Registrar, the Executive

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Director of QACD, the Quality Assurance Manager, the Quality Assurance Office, and the President as observer. The Panel notes that the 2019 periodic review was referred to as review and revalidation of the BIT programme. The Panel notes the improvements in the periodic review process of 2019 compared to that of 2015. The periodic programme review includes feedback from internal and external sources. Internal sources include students who complete the evaluation and feedback questionnaire, Student Council, and senior exit survey. External sources include the DAB, on-site internship supervisors, external moderators, external reviewers, and alumni. Although the Student Council members serve on the University Student Affairs, Marketing and Recruitment Committee (SAMRC), the reviewed documentation and conducted interviews do not indicate any meeting between the Student Council and the DIT. Therefore, the Panel advises the DIT should hold meetings with the Student Council to collect feedback and discuss matters related to IT students, only.

- Although the Review, Evaluation & Improvement Policy ensures the reviews of academic programs, the Panel noted that neither the reviewed documentation nor the conducted interviews indicated how the measures (whether preventive or corrective) in the improvement plans from the 2015 or 2019 reviews are implemented and then, assessed effectively. The Panel recommends that the DIT should track the measures that it implements in compliance with quality assurance best-practices and assess their effectiveness.

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: *Not Addressed*

- The UCB benchmarking policy sets the necessary mechanisms for performing academic programmes benchmarking in terms of criteria, process, reporting, implementation and monitoring. To initiate the benchmarking, the HoD fills out a dedicated Benchmarking Proposal Form requesting the approval of the Head of the QAAC. From interviews with the DIT staff and review of the relevant documentation, the Panel learned that the DIT completed 3 types of benchmarking targeting the programme structure, PILOs, and admission criteria. While the Panel acknowledges the existence of benchmarking, the institutions involved in benchmarking are not of the same profile (whether in terms of number of students, number of programmes, number of faculty, etc.) as UCB. Hence, the Panel recommends that the UCB should review its criteria for selecting institutions and programmes for benchmarking taking into consideration similarity in profile such as type and size of the institution/ programme.

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- From review of the relevant documentation and interviews with the DIT staff, the Panel did not find pertinent details about the use of benchmarking outcomes to implement necessary actions. For instance, one item in the DIT meeting's agenda does not reflect the integration of benchmarking outcomes with the decision-making process. The Panel recommends that the IT Department should capitalize on the benchmarking outcomes to ensure the quality of its academic programme and implements any changes in this programme in compliance with quality-assurance practices.

- At UCB, different mechanisms for collecting comments exist, including external review and internal mechanisms such as classroom observation, student evaluation feedback questionnaire, internal and external moderation, field trip feedback, graduate exit survey, employer survey (internship feedback), alumni survey, and feedback from DAB. In addition to all these mechanisms, the Panel suggests that the UCB should consider collecting feedback from non-senior students (i.e. years 1, 2, and 3) on the existing facilities.

- While many mechanisms for collecting internal and external comments exist, the Panel notes that some mechanisms like graduate exit survey are not fit-for-purpose. Indeed, the analysis of 2016-2017 and 2017-2018 graduate exit surveys does not provide useful insights into the quality of academic programmes per type (IT versus Business) and the quality of facilities (library versus IT versus cafeteria). Indeed, the existing surveys are too generic, do not enable feedback on specific areas of activity such as suitability of IT facilities and wi-fi, and are not categorized in terms of programme type and facility type, for example. The Panel was informed during interviews that along with the restructuring of the Quality Assurance Department, some surveys are being revised. The Panel recommends that the UCB should redesign surveys used for collecting comments in a way that would allow better analysis of the collected comments to be carried out.

- From interviews with external moderators, and members of the DAB, the Panel was informed that some of their recommendations, such as including more critical thinking questions in the final examinations, offering certifications, and using different programming languages, have been implemented by the DIT. The Panel notes the active role of external moderators and the DAB; however, it was clear from interviews that students were not aware of improvements made to the programme as a result of their feedback. Further, the Panel did not find evidence of the programme improvements being evaluated by the DIT following implemented changes. The Panel recommends that the IT department should communicate any implemented improvements to all stakeholders and assesses the effectiveness of these improvements.

- From review of the relevant documentation and interviews with different stakeholders, the Panel finds that stakeholders, particularly some members of the DAB, were generally satisfied with changes implemented based on their feedback. As indicated above students

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were not aware of improvements made nor have they been asked to comment on their satisfaction with changes.

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 DAB has clear terms of reference, as listed in Indicator 4.2, and membership consisting of workplace representatives from the public and private sectors. Meetings with the DAB are held on an annual basis.

- There is evidence that the feedback from the DAB is considered when decisions about the programme are made. For instance, the DAB suggested introducing the 'Web Design and Development' course and more credit hours for the graduation project course and advises that any changes are made in compliance with quality assurance best-practices.

- The DAB, employers, and alumni provide inputs from a market perspective allowing the IT department to take the necessary measures, as it sees fit. This perspective is in line with the 'Industry and Employer Graduate Skills Requirement' prepared by the Higher Education Council in the Kingdom of Bahrain.

- The SER refers to the use of two studies to enable scoping of the labor market and assessing the national and societal needs. The first study, 'Market Need Analysis Report 2016-2017, was conducted by UCB. And, the second study, 'Industry and Employer Graduate Skills Requirement' was conducted by the Higher Education Council in the Kingdom of Bahrain. The Panel noted that the first study mentions 'certified software application technical skills' as an ICT skill gap in Bahrain's labor market. However, the Panel noted that the DIT does not include the development of practical skills in some subject areas, such as computer networks, where it is clear that these are required in the labour market. This concern was also echoed by some alumni during the virtual site-visit interviews as well as recommended by the DAB. The Panel concluded that whilst DIT have formal studies available, this has not been fully used to ensure the programme meets the needs of the labour market. The Panel recommends that the DIT should review the programme to ensure that it fully addresses the needs of the labour market. Please also refer to indicator 1.3.

- The Panel did not find evidence of regular collection, analysis and monitoring of graduate employment data to demonstrate that BIT is meeting labour needs. This issue is also addressed in Indicator 3.6. Further, with the ongoing restructuring of the QACD, it is not

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clear to the Panel how programme improvements done in response to internal review and external changes (e.g., new government policy) are being monitored and reviewed. While improvement reports are generated by the IT Department, the Panel recommends that the DIT should clearly track the recommendations of the DAB that the IT Department implements as well as follow-up on the implementations of the DAB's recommendations.

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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 No Confidence in the Bachelor of Science in Information Technology of Department of Information Technology offered by the University College of Bahrain.**

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

1. Incorporate the development of entrepreneurial skills into the programme.

2. Review the PILOs / programme aims mapping and ensure that this process is embedded in the programme development and review.

3. Use benchmarking more rigorously to refine the PILOs.

4. Revise all course specifications to ensure that the CILOs are measurable and meaningful and that the CILOs refer to the relevant NQF descriptor and level.

5. Perform a more rigorous benchmarking to support the update of curriculum on BIT.

6. Review the amount and level of practical work included in BIT and embed a process to regularly review the balance between theory and practice in the programme.

7. Regularly review textbooks and references for currency.

8. Monitor and evaluate teaching and learning in line with the UCB policy and Department Philosophy.

9. Review the Learning, Teaching and Enhancement Policy to include e-learning to be in line with teaching on BIT

10. Embed formally Research methods as part of the programme to support students' learning generally and for the Graduation Project in particular.

11. Include Ethics of Research in a compulsory course content on BIT.

12. Review implementation of the Assessment Policy to ensure that the policy is implemented consistently and rigorously.

13. Ensure that the admissions policy is published through all relevant media at all times.

14. Review the admission requirements in relation to the specific technical requirements of the programme and to professional body expectations.

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15. Benchmark the Foundation English Language programme entry and exit test against international standards when it is reoffered, to provide confidence that students enrolling on BIT through this entry route meet the required English language standards.

16. Conduct a regular formal review of the admissions policy, taking account of student performance and feedback from stakeholders.

17. Review the appraisal processes to ensure that the appraisal cycle is completed and is based on evaluation of previously set objectives.

18. Review staffing levels to ensure an appropriate workload for all staff and processes for regular monitoring and review of staff workload.

19. Review the faculty staffing to ensure that there are enough staff and breadth of experience to deliver the programme.

20. Consistently monitor and evaluate the professional development needs of the staff to ensure that staff requests support the development of staff and meets the requirements of the institution.

21. Review the IT Resource Policy and infrastructure to ensure that the hardware, software, Wi-Fi and Internet are fit for purpose.

22. Implement a formal monitoring mechanism to ensure the maintenance of classroom, IT and library facilities and resources.

23. Review processes for managing health and safety, bring their practice in line with the policy and ensure that evacuation signage around the campus is put in place.

24. Fully embed the MIS reporting within the decision making of the institution and use tracking reporting to monitor laboratory and resource utilisation at UCB.

25. Update the IT Resource Policy and Resource Audit to reflect current practice at UCB.

26. Extend academic advising to include formal regular one-to-one meetings with students to provide an opportunity for the students to discuss and receive guidance on general academic and non-academic issues and review and standardize the advising notes recording system.

27. Formalise processes to ensure that appropriate proactive support for special needs students is provided and monitored for effectiveness.

28. Review the support provided to students who have been notified that they are at academic risk.

29. Review process for monitoring and evaluating student support services to ensure an adequate service is provided.

30. Revise all course specifications to ensure that assessment methods are suitable for the subject matter.

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31. Revise End-of-Semester Course Review Reports to ensure that they carefully reflect on course assessments and make meaningful recommendations for improvement.

32. Revise the various mappings to ensure that students have adequate opportunity to improve their communication skills within the programme.

33. Review mappings in the various course documents to ensure consistency between documents.

34. Carefully measure, analyze and use achievement of ILOs at all levels (Course ILOs, Programme ILOs, University ILOs) for programme improvement.

35. Review the effectiveness of the assessment process and adjusts the annual programme review to include the reporting of ILO achievements.

36. Revise the plagiarism policies to ensure that 20% is used as a starting point for investigating plagiarism.

37. Consistently apply the Policy on Academic Honesty and Integrity.

38. Maintain an ongoing register of cases of academic misconduct and plagiarism.

39. Review the implementation of the internal moderation process to ensure that it contributes to the improvement of courses and the programme.

40. Establish formal and appropriate evaluation mechanisms to ensure effective implementation of the internal moderation process.

41. Review the external moderation process and the related policy to ensure that they are consistent.

42. Review the external moderation process and how it is implemented, including the inadequacy of the number of external moderators, to ensure that it contributes to the improvement of courses and the programme.

43. Establish formal and appropriate evaluation mechanisms to ensure the effectiveness of the external moderation process.

44. Conduct a formal evaluation to measure the effectiveness of the internship.

45. Ensue that the supervisors conduct a more thorough review of the graduation projects to ensure technical correctness.

46. Ensure that the students are given more challenging graduation projects to ensure that the projects are appropriate for the Bachelor level.

47. Raise the level of difficulty in courses to be appropriate for a Bachelor programme.

48. Use student progression and graduate destination data for programme analysis and improvement.

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49. Review the curriculum taking into consideration the detailed feedback of graduates and employers.

50. Clarify the quality assurance management system.

51. Ensure the continuous reporting of the meetings that the QAAC holds.

52. Review the effectiveness of the annual review process.

53. Develop formal mechanisms for the evaluation of the effectiveness of actions included in the improvement plans of the annual programme reviews.

54. Track the measures that the DIT implements in compliance with quality assurance best-practices and assess their effectiveness.

55. Review criteria for selecting institutions and programmes for benchmarking taking into consideration similarity in profile such as type and size of the institution/ programme.

56. Capitalize on the benchmarking outcomes to ensure the quality of academic programme and implement any changes in this programme in compliance with quality-assurance practices.

57. Redesign surveys used for collecting comments in a way that would allow better analysis of the collected comments to be carried out.

58. Communicate any implemented improvements to all stakeholders and assesses the effectiveness of these improvements.

59. Review the programme to ensure that it fully addresses the needs of the labour market.

60. Track clearly the recommendations of the DAB that the IT Department implements as well as follow-up on the implementations of the DAB's recommendations.

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