Directorate of Higher Education Reviews

Programmes-within-College Reviews Report

B.Sc. in Information Technology

University College of Bahrain

Kingdom of Bahrain

Date Reviewed: 3–4 February 2013

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Acronyms

BSIT	Bachelor of Science in Information Technology
CS	Computer Science
DHR	Directorate of Higher Education Reviews
HEC	Higher Education Council of the Ministry of Education, Kingdom of Bahrain
HoD	Head of Information Technology Department
ILO	Intended Learning Outcome
IT	Information Technology
LRC	Learning Resources Center
MIS	Management Information Systems
PPR	Policies, Procedures, and Regulations
SER	Self-Evaluation Report
QAA	Quality Assurance and Accreditation
QAMS	Quality Assurance Management System
QQA	National Authority for Qualifications & Quality Assurance of Education & Training
UCB	University College of Bahrain

1. The Programmes-within-College Reviews Process

1.1 The Programmes-within-College Reviews Framework

To meet the need to have a robust external quality assurance system in the Kingdom of Bahrain, the Directorate of Higher Education Reviews (DHR) of the National Authority for Qualifications & Quality Assurance of Education & Training (QQA) has developed and is implementing two external quality review processes, namely: Institutional Reviews and Programmes-within-College Reviews which together will give confidence in Bahrain's higher education system nationally, regionally and internationally.

Programmes-within-College Reviews have three main objectives:

- to provide decision-makers (in the higher education institutions, the QQA, the Higher Education Council (HEC), students and their families, prospective employers of graduates and other stakeholders) with evidence-based judgements on the quality of learning programmes
- to support the development of internal quality assurance processes with information on emerging good practices and challenges, evaluative comments and continuing improvement
- to enhance the reputation of Bahrain's higher education regionally and internationally.

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

Indicator 1: **The Learning Programme**

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

Indicator 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 3: **Academic Standards of the Graduates**

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

Indicator 4: **Effectiveness of Quality Management and Assurance**

The arrangements in place for managing the programme, including quality assurance, give confidence in the programme.

The Review Panel (hereinafter referred to as 'the Panel') states in the Review Report whether the programme satisfies each Indicator. If the programme satisfies all four Indicators, the concluding statement will say that there is 'confidence' in the programme.

If two or three Indicators are satisfied, including Indicator 1, the programme will receive a 'limited confidence' judgement. If one or no Indicator is satisfied, or Indicator 1 is not satisfied, the judgement will be 'no confidence', as shown in Table 1 below.

Table 1: Criteria for Judgements

Criteria	Judgement
All four Indicators satisfied	Confidence
Two or three Indicators satisfied, including Indicator 1	Limited Confidence
One or no Indicator satisfied	No Confidence
All cases where **Indicator 1** is not satisfied	

1.2 The Programmes-within-College Reviews Process at the University College of Bahrain

A Programmes-within-College review of the University College of Bahrain (UCB) was conducted by DHR of the QQA in terms of its mandate to review the quality of higher education in Bahrain. The site visit took place on 3–4 February 2013 for the academic IT programme offered by the college, that is: Bachelor of Science in Information Technology (BSIT) with specializations in Management Information Systems (MIS) and Computer Science (CS).

This report provides an account of the review process and the findings of the Panel for the Information Technology (IT) programme based on the Self-Evaluation Report (SER) and appendices submitted by the University College of Bahrain (UCB), the supplementary documentation made available during the site visit, as well as interviews and observations made during the review site visit.

UCB was notified by the DHR/QQA in September 2012 that it would be subject to a Programmes-within-College review of its IT programme with the site visit taking place on 3–4 February 2012. In preparation for the review, UCB conducted its college self-evaluation of all its programmes and submitted the SER with appendices on the agreed date in December 2012.

The DHR constituted a Panel consisting of experts in the academic field of Information Technology and in higher education who have experience of external programme quality reviews. The Panel comprised three external reviewers.

This Report records the evidence-based conclusions reached by the Panel based on:

(i)   analysis of the Self-Evaluation Report and supporting materials submitted by the institution prior to the external peer-review visit;
(ii)   analysis derived from discussions with various stakeholders (faculty members, students, graduates and employers);
(iii)   analysis based on additional documentation requested and presented to the Panel during the site visit.

It is expected that UCB will use the findings presented in this report to strengthen its IT programme. DHR recognizes that quality assurance is the responsibility of the higher education institution itself. Hence it is the right of UCB to decide how it will address the recommendations contained in the Review Report. Nevertheless, three months after the publication of this Report, UCB is required to submit to DHR an improvement plan in response to the recommendations.

The DHR would like to extend its thanks to UCB for the co-operative manner in which it has participated in the Programmes-within-College review process. It also wishes to express its appreciation for the open discussions held in the course of the review and the professional conduct of the faculty in the IT programme.

1.3   Overview of the University College of Bahrain

The University College of Bahrain (UCB) was founded in 2001 as a private 'Western-style' institution designed to provide an international teaching and learning experience. The institution offers three Bachelor programmes in Business Administration, Media and Communication, and Information Technology, as well as a master programme in Business Administration. All Bachelor programmes have been developed initially through collaboration with McMaster University, Canada. UCB has three departments including the Department of IT which consists of three full-time faculty members at the time of the site visit. The mission statement of the Department of IT is '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.'

1.4 Overview of the Bachelor of Science Degree in Information Technology

Currently, the programme offers the enrolled students two choices of concentrations: Computer Science and MIS. A third concentration in Software Engineering has been recently closed by the department due to a decrease in market demand. The language of instruction is English and the mode of attendance is fulltime. The aim of the IT programme is '*to provide students with strong basic information technology knowledge based on steeping in the Humanities, Social Science and Liberal Arts.*' During the 2012/2013 academic year, 12 students were accepted in the programme; two female and ten male. There are 22 students currently registered in the programme.

1.5 Summary of Review Judgements

Table 2: Summary of Review Judgements for the Bachelor of Science Degree in Information Technology

Indicator	Judgement
1: The Learning Programme	satisfies
2: Efficiency of the Programme	satisfies
3: Academic Standards of the Graduates	does not satisfy
4: Effectiveness of Quality Management and Assurance	does not satisfy
Overall Judgement	**limited confidence**

2. Indicator 1: The Learning Programme

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

2.1 The high-level mission and programme aims are clearly presented. In particular, there is an emphasis on IT with respect to 'Humanities, Social Science and Liberal Arts'. However, the Panel noted that there is no clear academic planning framework, and that the link between the programme aims and strategic goals is not clearly stated. The Panel encourages UCB to develop formally an academic planning framework that explicitly articulates the mapping between the BSIT programme aims and the overall UCB strategic plan pillars and goals.

2.2 The programme's structure in terms of available modules is clearly laid out, including practical and more theoretical courses, with prerequisites clearly stated. Overall the programme meets the needs of students and is fit for purpose and the curriculum is organized in an appropriate manner. However, the Panel is of the view that the balance of theory and practice need to be clarified. The Panel recommends that UCB improve on the practical skills-based aspects in the programme, specifically laboratory-based teaching and learning. More diagrammatical presentation of the progression could be helpful to give an overview of progression and the exact amount of laboratory work could be clarified more formally.

2.3 The course specifications are generally appropriate. The syllabus generally meets the norms for IT-based programmes. However, some courses are rather narrow in scope. For example, the software engineering course (CSC442) is entirely based around the 'Personal Software Process', a very specific approach. The students may have a rather limited view with such an approach. The course descriptions for mathematical courses were provided in the SER. The Panel notes that mathematical courses that are fundamental to an IT programme, such as Discrete Mathematics (MAT 211), are included as part of the programme's compulsory courses. The Panel suggests that UCB clarify and enhance the use of references to professional practice and published research, especially for more advanced courses.

2.4 The programme Intended Learning Outcomes (ILOs) are specified. Evidence of attempting to improve the programme ILOs and their alignment with aims and the overall mission was presented. The Panel is of the view that the alignment of ILOs with the 'needs of the region', could be clearer. There are knowledge-based and skills-based ILOs but these are sometimes misplaced (e.g., 'able to apply' is a skill and 'demonstrate knowledge' is understanding). Thus, further improvement is still needed. The Panel encourages UCB to provide the faculty with more training in the use of ILOs.

2.5   The course-level ILOs are included in the course specifications. The Panel is of the view that these ILOs are over-complicated and that more specific outcomes for the particular course in question rather than generalizations is needed. A reduction in the number of learning outcome for each course could help in making a mapping to the programme ILOs more manageable. Moreover, there should be a balance of knowledge-based and skills-based ILOs. The Panel is of the view that the mapping of course ILOs and programme ILOs is inadequate. For example, the mappings of the internship and graduation project ILOs were omitted. The Panel recommends that the programme and course ILOs should be reviewed and aligned with the programme aims and objectives. The mapping from programme level to course level will need to be reformulated and covered by a faculty member with appropriate training and aptitude.

2.6   There is an internship (CIT 497) that is part of the BSIT programme, documented with a 16-page Internship Practicum Handbook. However, the Grading Policy section is very short (one line and a 4×3 cell table). During the site visit, the Panel learned that a site supervisor and an advisor from the BSIT programme are involved with the internship. Students interviewed by the Panel indicated general satisfaction in the internship. Overall, the internship is a positive aspect of the BSIT programme.

2.7   The SER refers to an appropriate range of teaching methods; these include lectures, tutorials, self-learning, in-class exercises, homework, and team learning/group discussion. Students interviewed by the Panel indicated that the programme was more knowledge-based than skills-based, with more lecture-based and less practical-based sessions than is desirable on an IT-based degree programme. The Panel is of the view that the documented teaching methods in the course specifications do not always support the attainment of the course ILOs adequately. There is some mention of responsibility in the Student Handbook with respect to academic dishonesty and achievement of programme requirements. This could be reinforced to the student more. Independent learning is achieved through assignments undertaken outside classes and the graduation project. During interviews, the Panel learned that there is general satisfaction from students with the availability of faculty members for individual help when needed with independent learning. The Panel is of the view that the amount of independent learning could be documented better to ensure balanced efforts across the courses. Overall, the Panel recommends that the alignment of teaching methods in the courses be checked against the attainment of the course ILOs, and teaching methods should be augmented where needed, especially with respect to skills-based outcomes and practical laboratory-based work.

2.8   The SER includes 'By-Laws for the award of the Bachelor's Degree' and 'Examinations Regulations'. However, there are no documents in the form of policies and procedures on assessment arrangements. Interviewed staff informed the Panel

that assessment is largely through examinations and assignments. During interviews, the students informed the Panel that they had no specific issues with assessment methods. Due to the size of the faculty and number of student, individual feedback is possible if desired. The Panel is of the view that, in particular, there is currently a mismatch of what is assessed compared to the programme aims and ILOs. The assessment instruments with the emphasis on examinations have a bias towards knowledge-based outcomes compared to skills-based outcomes. The Panel recommends that UCB develop appropriate stand-alone assessment policies and procedures in line with the existing regulations, especially with respect to the alignment of assessment instruments to ILOs. These policies and prcoedures should be formulated for appropriate presentation to academics and students.

2.9   In coming to its conclusion regarding The Learning Programme, the Panel notes, *with appreciation*, the following:

- The programme meets the needs of students and is fit for purpose.
- The curriculum is organized with an appropriate academic progression.
- The syllabus generally meets the norms for IT-based programmes.
- The internship is a particularly positive aspect of the programme, with a comprehensive handbook.
- Independent learning is undertaken by students through assignments and the graduation project.

2.10   In terms of improvement the Panel **recommends** that UCB should:

- give more emphasis to the practical aspects in the programme, specifically laboratory-based teaching and learning
- review the programme and course ILOs, ensuring that they are aligned with the programme aims and objectives
- ensure that the documented teaching methods in the course specifications support the attainment of the course ILOs adequately
- develop and implement appropriate stand-alone assessment policies and procedures, in line with the existing regulations.

2.11   **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **The Learning Programme.**

3. Indicator 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.

3.1 UCB sets the admission criteria in the By-laws for the award of the bachelor degree. The admission requirement to UCB is a secondary school diploma or equivalent with a minimum 60% pass or 2.0 GPA, and a candidate for Information Technology must have credits in senior English and Mathematics. The admission criteria are listed under the Programme Specification and can be downloaded from the college website. However, the Panel was not provided with a separate document for an admission policy. The Panel encourages UCB to set a clear separate admission policy for the programme and revise it periodically.

3.2 The profile of admitted students for the BSIT programme matches the programme aims and available resources. Applicants that do not submit a TOEFL score or submits a score below 500, have to sit the English Entrance Exam to determine the Foundation Courses required (I, II or III). This is evidenced in the sample of transcripts that were provided from the registration office. Admitted students decide on one of the current concentrations in which to specialize (CS or MIS).

3.3 The submitted UCB organization chart shows that there is a Head of IT department and a Director of IT department. During interviews, the Panel was informed that the Head of the IT department (HoD) is appointed by the President in consultation with the Board of Trustees. The HoD is responsible for the development of the department in regards to the academic programmes, curricula, academic personnel, student body, and physical facilities. At the time of the site visit, there was only three academic staff, one of which is also acting as HoD and vice-president. In light of different interviews with senior management, the Panel is of the view that the management of the programme is not clear; the 'Dean' and 'Head' are used interchangeably to refer to the HoD, while the 'Director' is assumed to be the deputy head. The Panel is particularly concerned that one faculty member was acting as vice president and dean/head. This represents a serious challenge to the effective management and delivery of the BSIT programme. The Panel was informed that, prior to the site visit, there were some unexpected changes in the management at the department level. While the Panel affirms that these changes have adversely affected the management of the programme, it is of the view that UCB needs to improve the management of the programme. The Panel recommends that UCB revisit the college organizational chart to show clear lines of accountability with regard to the management of the BSIT programme.

3.4   At the time of site visit, there were three faculty members, and only two with IT qualifications. Upon examining the provided CVs, it was clear to the Panel that the academic staff specialization is not sufficient to match the BSIT programme aims and curricular content. The Panel heard consistently, through different interviews, about the difficulties encountered by UCB in recruiting more faculty members, particularly the fact that most candidates prefer to work in the IT business sector. The Panel learned that the staff teaching loads fall between 15 and 18 credit hours per semester and up to 12 in the summer semester. A faculty member teaches up to six different courses per regular semester and up to four courses in summer. The Panel is of the view that this is a heavy load and impacts negatively on the staff teaching and research performance. UCB, however, has an adequate number of support staff in the library, the Learning Resources Center, the registration office, and bookshop. The Panel recommends that UCB explores ways to recruit more faculty members in line with best practice for IT programmes, in order to ensure that the faculty members are adequate in number and in academic specialization.

3.5   UCB has developed a Faculty Guidebook, which includes related rules and regulations for recruitment, appraisal, promotion and retention of academic staff. During interviews with faculty members, the Panel learned that the small size of the faculty means that it is run in a rather informal manner. For example, there is individual induction on an ad hoc basis and the appraisal process is not formalized. The Panel also learned that a faculty member has been promoted in accordance with the UCB promotion policy; however, no evidence of the implementation of the policy was provided to the Panel. The Panel encourages UCB to ensure the consistent documentation of the promotion procedures of faculty members in the BSIT programme. The academic staff turnover is high, some of the academic members have resigned, and some have been with UCB for only one semester. The Panel suggests that UCB examine the reasons for faculty members' high turnover and develop and implement mechanisms to address this problem.

3.6   UCB has a functioning oracle-based management information system for administrative and academic affairs referred to as 'LOGSIS'. It has modules for Admissions, Attendance Manager, Course and Schedule, Grades & Records, Advising & Registration, Student Account, Standard Letters & Badge Generation (SLBG). The system can generate sets of data that can be used for informal decision-making. The system issues a warning letter for students with GPA less than 1.7 and absences warnings. However, there was no evidence that the faculty members utilize the system for advising purposes, tracking the student's progression and submitting grades. The low student numbers has meant that the process can be dealt with informally in practice. The Panel is of the view that faculty members need to be encouraged to utilize a system for advising students, tracking student's progression, and submitting grades.

3.7   The LOGSIS system is used by the administration and faculty to manage and retrieve various data related to the programme. Examples of information that can be generated by LOGSIS are: list of registered students, exam schedule, and student registration history. The system is hosted both internally and provision for an external data disaster recovery hosting is in place with a local Internet Service Provider (ISP). The Panel is satisfied that this system is in place.

3.8   UCB has suitable buildings and physical resources for the BSIT. During the site visit, the Panel toured UCB facilities and found them to be adequate for the BSIT programme. There are sufficient classrooms, halls, computer laboratories, staff offices, library, Learning Resource Center (LRC), wired and wireless network, internet access, and a bookshop. All the classrooms and laboratories are equipped with projectors. In addition to classrooms and two auditoriums (with 70–80 seats), the programme has assigned four computer laboratories equipped with PCs and Apple iMac's, connected with wired and wireless networks. The laboratories have software such as MS Office packages, C++, SQL Server, Java, and Oracle 10. However, the Panel noted that some equipment is out-dated and needs replacement on a more regular cycle. During their tour of the library, the Panel was informed that UCB has subscriptions with ABI/INFORM offered by Pro-Quest Learning and e-library search function (Online Public Access Catalogue OPAC). However, the library has limited hard copies materials (books and journals) and e-journal and e-books for the subject matters taught in the BSIT programme. The Panel encourages UCB to enhance both the hard copies and e-copies of the books and journals in the library, and to have more e-databases.

3.9   UCB deploys the LOGSIS information system to generate reports on students and staff information, laboratories and lecture rooms, examinations time tables and offered courses and sections. Blackboard (an e-learning management system) is used to support teaching and learning materials. UCB showed samples of enquiries to generate information during the site visit. However, no evidence was presented to show how the system was used to track the usage of the laboratories, e-learning, and e-resources.. The Panel recommends that UCB deploy a tracking system for actual usage of resources such as laboratories and e-resources and evaluate information for decision-making on better utilization of the resources.

3.10   There are enough staff to support the students in the library, laboratories, Learning Resource Center, bookshop, and registration. These are evidenced from the Panel interviews with staff and students. Students are provided with a 'Library Guide' and a Blackboard Manual. The programme assigns an advisor to each student to guide him/her through their course of study. Moreover, the Student Affairs Office, helps the students to have a better learning experience by conducting a range of

extracurricular activities. The interviewed students indicated that they are satisfied with the services and support provided to them.

3.11   Orientation sessions are conducted for newly admitted students at the start of each academic year. During these sessions, the HoD provides an overview of the BSIT programme including the programme aims, study plan and specialization tracks. In interviews with administrative staff, the Panel was informed that newly admitted students are also introduced to UCB policies and regulations and are provided with a copy of the 'Student Handbook'. Students interviewed by the Panel, including a student transferred from another institution, stated that they participated in orientation sessions and that they found them to be useful and informative.

3.12   The registration office at UCB use the LOGSIS system to generate reports related to student's grades. From these reports, the registration office can monitor the students' progress, and identify students at risk of failure. Students with a GPA lower than 1.7 are given a warning letter. During interviews with academic staff, the Panel learned that students at risk of academic failure are motivated by engaging in discussions with teaching staff and peer tutoring. However, UCB did not provide evidence to show the progression rates semester by semester and year by year for the BSIT students and how it handles students at risk of failure. The Panel recommends that UCB formalize the interventions mechanisms and support provided for students at risk of academic failure.

3.13   UCB recently established a LRC for students to enhance their learning environment, which was viewed by the Panel on the site visit tour. As a new facility, the LRC has been little used by students as yet. The students also have access to seating areas to work on group projects and assignments. Student interviewed by the Panel indicated that they are provided with opportunities to engage in extracurricular activities, including seminars, conferences and liaising with various industries for internship placements. The Panel acknowledges UCB's effort to expand the students' experiences and knowledge through informal learning.

3.14   In coming to its conclusion regarding the Efficiency of the Programme, the Panel notes, *with appreciation*, the following:

- There are clear admission criteria that are appropriate to the level and type of the programme.
- There are approaches for backing up and safeguarding access to the programme's data and information.
- There are adequate physical resources in number and type of equipment for students. Laboratories and classrooms are more than adequate in size.
- There is an appropriate number of support staff in the library, laboratory, Learning Resource Center, registration, guidance office, and student support.

- There are adequate opportunities and resources for students to engage in informal learning activities.

3.15   In terms of improvement, the Panel **recommends** that UCB should:

- implement clear lines of accountability with regard to the management of the programme
- recruit more faculty members, with appropriate academic qualification and specialization
- deploy a tracking system for actual usage of resources such as laboratories and e-resources and evaluate information for decision-making on better utilization of the resources
- formalize the intervention mechanisms and support provided for students at risk of failure.

3.16   **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Efficiency of the Programme.**

4.   Indicator 3: Academic Standards of the Graduates

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

4.1   The BSIT programme graduate attributes are clearly stated and are comparable to academic standards in the region and at the lower end of international standards. As indicated earlier, the programme and course ILOs are included in the SER documentation. The Panel is of the view that the assessment instruments require enhancement, especially with respect to skills-based outcomes. The Panel recommends that UCB evaluate the appropriateness of assessment methods, especially for skills-based ILOs, and revises them where needed.

4.2   Benchmarking is mentioned in the mission statement. The SER covers benchmarking, with mention of internal benchmarking against the guidelines of the Association for Computing Machinery (ACM), The Institute of Electrical and Electronics Engineers (IEEE), Association of Information Technology Professionals (AITP) and Association for Information Systems (AIS). The BSIT programme originated from McMaster University, but is now independently run by UCB. During the site visit, it became evident from interviews that there is no effective on-going external benchmarking. The Panel recommends that UCB develop and effectively implement formal benchmarking policies and procedures for the BSIT programme. These should include explicit regular external benchmarking.

4.3   As indicated earlier, UCB has not yet developed stand-alone assessment policies and procedures, it has managed with regulations in the 'Bylaws for the award of the bachelor degree' alone in this area until now. Evidence of plagiarism in students' work was found by the Panel. However, faculty members interviewed by the Panel indicated that they were not aware of this problem, and that there was no training or plagiarism detection software support available. The Panel recommends that explicit assessment policies and procedures be developed as well as regulations, together with an effective review process (ideally on an annual basis), to provide better guidance to academics on assessment aspects, including with respect to plagiarism.

4.4   Evidence for mechanisms to ensure the alignment of assessment to learning outcomes was lacking. During interviews, the Panel learned that this process is currently undertaken informally by the head of department. The Panel was not presented with evidence of a formal mechanism for the alignment of assessment to ILOs. The Panel recommends that UCB develops appropriate and effective formal mechanisms for the alignment of assessment instruments with ILOs (e.g., annually).

4.5   The Faculty Guidebook and SER refer to a moderation system for examination papers as well as for assessment of examination answer sheets by alternate subject faculty. A moderation form and a sample of moderated final exams were presented during the site visit. From discussions during the site visit, the Panel is of the view that the moderation process is rather informal in practice. This is possible due to the small size of the faculty at present but it is not scalable. Thus, this aspect needs serious and urgent attention. The Panel recommends that UCB develop and implement formal mechanisms for internal programme moderation and monitor its effectiveness.

4.6   Moderation of grades is informally implemented and there is no external moderation. The Panel learned from interviews with academic staff that BSIT does not employ external examiners for assessment monitoring purposes. As evidenced earlier (section 4.4 & 4.5), there is no real moderation in effect on the BSIT programme at present. This is an aspect that needs to be addressed to ensure the effectiveness of the BSIT programme and its academic standards. The Panel recommends that UCB develop and implement procedures for external moderation of the assessment on the BSIT programme and monitor its effectiveness.

4.7   Samples of student work during the site visit were limited since the number of students on the BSIT programme is so low. A sample of a student graduation project, evaluation forms and feedback, course files, and final exams were provided as evidence on-site. Overall, the quality of assessment is at the lower end of international standards. In particular there is a bias towards knowledge-based assessment as opposed to skills-based assessment. This needs to be addressed on the BSIT programme, in particular with more practical assessment.

4.8   There was no evidence, in submitted SER documentation or during the site visit, that external scrutiny is conducted to ensure that the level of achievement of graduates meets the BSIT programme aims and ILOs. A moderation form and sample of moderated final exam showed a move towards internal scrutiny. Knowledge-based ILOs are achieved in assessments to the detriment of skills-based ILOs, which need more consideration in general. During interviews, the Panel was informed that students must maintain a GPA of at least 1.7 in order to maintain good standings in the programme. The Panel is of the view that this GPA criterion is not well justified compared to national and international standards. The Panel recommends that UCB revise the GPA criterion in light of a benchmarking exercise with reputable international institutions. The use of external examiners is also a possible approach to external scrutiny. The Panel recommends that UCB develop mechanisms for the internal and external scrutiny of the students assessed work to ensure that the level of graduates achievement meets programme aims and ILOs.

4.9   The SER provides some statistical information on students and graduates. The student numbers for the BSIT programme are very low, making any statistical information less reliable. The progression rates from year to year and the percentage that graduate were not clearly stated in the SER. Additional progressing statistics were provided during the site visit. However, the low student numbers on the BSIT programme impede worthwhile statistical analysis. The Panel encourages UCB to monitor the ratio of admitted students to successful graduates, progression, retention, and destination of graduates, as the numbers increase and become more statistically valid.

4.10   The internship is a compulsory course within the BSIT curriculum. An Internship Handbook exists with a short Grading Policy section. However, there is no separate policy/procedure documentation on the internship. The Panel encourages UCB to develop a separate policy/procedure documentation relating to the internship, which should be largely aimed as guidance to the student.

4.11   There is a Graduation Project (CIT 498) which is compulsory. There are no separate policies and procedures for the project, just the information in the course specification documents. This was confirmed in interviews with students and teaching faculty at the site visit. Interviewed students also informed the Panel that they meet informally with their project supervisors, at least once a month to discuss their projects. No evidence was presented to the Panel that there is a formal mechanism to monitor implementation and improvement. The Panel recommends that UCB develop, implement, and then monitor a policy/procedure on the supervision of projects that clearly states the guidelines for and responsibilities of supervisors and students.

4.12   The Panel notes the recent establishment of a UCB advisory board. There is only one 'IT expert', who is business rather than technology oriented, and no representation from the student alumni. The advisory board has yet to function effectively. Furthermore, this existing advisory board is at UCB rather than BSIT programme level. The Panel recommends that a more specific advisory board is instituted as a BSIT programme advisory board with an appropriate balance of members that can usefully advise on the BSIT programme.

4.13   SER provides some information on graduates and employers, although with no real written evidence. However, during the visit there was a general graduate and employer satisfaction with the programme, evidenced during interviews.

4.14   In coming to its conclusion regarding the Academic Standards of the Graduates, the Panel notes, *with appreciation*, the following:

- Overall the graduate attributes are clearly stated and comparable to academic standards in the region.
- There is a general graduate and employer satisfaction with the programme.

4.15   In terms of improvement, the Panel **recommends** that UCB should:

- evaluate the appropriateness of assessment methods, especially for skills-based ILOs, and revises them where needed
- develop and effectively implement formal benchmarking policies and procedures for the BSIT programme
- consistently implement, monitor and regularly review assessment policies and procedures, especially with respect to plagiarism awareness and training
- develop appropriate and effective formal mechanisms for the alignment of assessment instruments with ILOs
- develop and implement formal mechanisms for internal programme moderation and monitor its effectiveness
- develop and implement procedures for external moderation of the assessment on the BSIT programme and monitor its effectiveness
- formally moderate grades, ideally through an external moderation process
- revise the GPA criterion in light of a benchmarking exercise with reputable international institutions
- develop mechanisms for the internal and external scrutiny of the students assessed work to ensure that the level of graduates achievement meets programme aims and ILOs
- develop policies and procedures for conducting, supervising, and monitoring the graduation project, including formal criteria for evaluating projects
- include appropriate personnel such as one or more IT experts and student alumni on the recently established university advisory board.

4.16   **Judgement**

On balance, the Panel concludes that the programme **does not satisfy** the Indicator on **Academic Standards of the Graduates.**

5. Indicator 4: Effectiveness of Quality Management and Assurance

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

5.1   The institution has documented policies, procedures, and regulations (PPR) as evident in, e.g., Research Policy, Faculty Guidebook, By-laws for the Award of Bachelor's Degree, Examinations Rules, Regulations and Process By-laws, Internship Practicum Handbook and Guidelines, and Student Handbook. The Panel appreciates that external consultations with McMaster University and American University of Beirut were used effectively to develop some of the institution PPR and that some of them (such as Research Policy and Student Handbook) are publicized to students and faculty, e.g., through the UCB website. However, the Panel noted during the site visit that many policies and procedures are either missing or embedded in the university college regulations or Bylaws. In particular, UCB needs to develop policies and procedures for benchmarking of programmes, development and approval of new programmes, annual and periodic evaluation/review of existing programmes, supervision and examination of graduation projects, academic advising and support for at-risk students. Furthermore, during interviews and from submitted documents the Panel noted that some faculty and staff are unaware of the existing PPR. The Panel recommends that UCB develop a quality monitoring process to ensure effective development and consistent implementation of all PPR.

5.2   The Faculty Guidebook defines and describes briefly some of the roles and responsibilities of the university committees, dean/head of department, faculty and students. The head of the Department of IT, who is the programme leader, is responsible for the management and development of the department in terms of the academic programme, faculty and staff, student body and the physical facilities. The Panel learned during interviews that the HoD manages the programme in coordination with the Registrar's and Quality Assurance and Accreditation (QAA) Offices and his advisory committee which consists of all faculty members within the department. The Panel was informed during interviews that the department does not have any strategic, operational or action plan. The Panel did not find any evidence within the documents submitted or at the site visit of an effective and responsible leadership or management within the Department of IT. The Panel is of the view that the reporting lines within the Department of IT and at the institutional level are not clear among faculty and staff. During the site visit, the Panel was informed that there were some unexpected changes in the governance and management at the institutional and the departmental levels. The Panel affirms that personnel changes have adversely affected the management of the programme. The Panel emphasizes the importance of the development and implementation of formal processes at the

department and institution levels for making decisions related to the conduct, management, review and improvement of the BSIT programme.

5.3   There are some elements of quality assurance in place with respect to the conduct of the BSIT programme, such as implementation and review of the programme specification and course specification, examination rules and regulations and internship practicum guidelines. However, the Panel is of the view that the arrangements in place for managing the quality assurance aspects of the programme are not sufficient. In particular, the Panel has serious concerns regarding the quality of the submitted Self-evaluation Report of the BSIT programme and hence suggests that UCB establish a practical mechanism to assure, monitor, review and evaluate the validity, accuracy and quality of the Self-evaluation Reports. The Panel also recommends that UCB urgently establish a robust Quality Assurance Management System (QAMS) that is implemented, monitored, evaluated, and improved continuously and consistently. Within this QAMS, the roles and responsibilities of the senior management and the QAA Office with respect to the QAMS should be defined and described clearly.

5.4   Some of the roles and responsibilities of academic and administrative staff towards students and with respect to quality assurance are described in the Faculty Guidebook which is given to all faculty members and staff. In addition, there is some evidence that faculty have attended few external workshops and some internal seminars and training sessions prepared by QAA Office to enhance the awareness amongst academics and support staff. However, it is evident from interviews and from the examined evidences and documentations, e.g., the SER, sample course files and programme specification, that some faculty are either unaware of their roles and responsibilities in assuring and monitoring the quality of the IT programme or not adhering to the quality assurance procedures and regulations. The Panel notes the absence of a formal monitoring mechanism of policies and procedures related to the quality of the BSIT programme by senior management and the QAA Office.

5.5   Originally all Bachelors' programs offered by UCB were developed in collaboration with McMaster University. The Panel was informed during interviews that currently the university college does not have any formal policy or procedures for developing and approving new programmes. The Panel recommends that UCB develop policies and procedures for the development of new programmes to ensure that they are relevant to the labour market needs.

5.6   It was reported during interviews and in the SER that an internal evaluation of the BSIT programme was conducted in the Fall Semester, 2012/2013. The evaluation was done in consultation with the Registrar's and QAA Office, whereby feedback from students and course evaluation results were collected and taken into consideration.

The evaluation included the revision of programme and course specifications which covers the review ILOs, textbooks and assessment methods. The Panel was informed during interviews that the course 'CSC 101-Computing Essentials' was improved based on the last evaluation of the BSIT programme. However, the Panel was unable to verify, from the submitted evidence, that such internal programme evaluation has been conducted annually or that there are formal mechanisms to ensure that it will be conducted annually. Moreover, it was evident to the Panel that the programme and course ILOs, curriculum mapping skills, and alignment between ILOs and teaching and assessment methods have not been thoroughly reviewed and revised. The Panel recommends that UCB develop and implement formal mechanisms for annual internal programme evaluation and consistent implementation of improvement recommendations.

5.7   There are no formal arrangements for the periodic review of BSIT. However, there is some evidence that internal and external feedback was incorporated in an informal review of the BSIT programme, and which led to the closure of the Software Engineering Concentration last year. The Panel recommends that UCB develop and implement formal processes for the periodic review of BSIT, that incorporate feedback from internal and external stakeholders, as well as a mechanism for implementing improvements.

5.8   All stakeholders surveys are designed and conducted by the QAA Office. There is some evidence that feedback and structured comments regarding the BSIT programme is collected from some stakeholders regularly, e.g., student feedback is collected through course evaluation surveys, which are conducted in every semester, employer's feedback is collected through surveys and usually informally during university events such as the annual career day. The results of course evaluations are given to the head of BSIT programme to inform decisions pertaining to the programme. The Panel noted at the site visit that there are no formal mechanisms through which surveys are designed, implemented, analyzed, and evaluated. The Panel recommends that UCB develop a formal mechanism to solicit feedback from internal and external stakeholders and to ensure that their results are used for improvements.

5.9   UCB encourages faculty members to attend workshops, seminars and conference in QA and in their fields of research and supports faculty to publish in international journals and conferences. There is some evidence of faculty development workshops conducted by the QAA Office based, e.g., on BSIT programme and course ILOs. The Panel was informed during interviews that the HoD informally evaluates the training needs of faculty and accordingly faculty development workshops are planned in coordination with the QAA Office. The Panel did not find any evidence of a formal continuing faculty professional development plan/programme. The Panel

encourages UCB to establish a faculty development committee or office to identify the training needs of faculty and staff and to accordingly design, implement, monitor and evaluate the effectiveness of a continuing professional development plan/programme.

5.10   The labour market is scoped by collecting feedback from alumni and employers during the annual alumni reception and career day where employers are asked to fill out the Employer Survey. Furthermore, UCB has recently established an External Advisory Board which will be used in the future to provide more insight into the labor market needs and hence to ensure programme relevancy. The Panel encourages UCB to enhance the role of the External Advisory Board with respect to the BSIT programme.

5.11   In coming to its conclusion regarding the Effectiveness of Quality Management and Assurance, the Panel notes, *with appreciation*, the following:

- External consultations with McMaster University and American University of Beirut were used effectively to develop some of UCB's policies, procedures and bylaws.

5.12   In terms of improvement, the Panel **recommends** that UCB should:

- develop a quality monitoring process to ensure effective development and consistent implementation of all policies, procedures and regulations
- establish a clear, sound and complete QAMS that is implemented, monitored, reviewed, evaluated, and improved continuously and consistently
- develop and implement formal decision making processes at the departmental and institutional levels related to the conduct, management, review and improvement of the BSIT programme
- develop and implement policies and procedures for the development of new programmes to ensure that they are relevant to the labour market needs
- develop and implement formal processes for the periodic review of BSIT, that incorporate feedback from internal and external stakeholders, as well as a mechanism for implementing improvements
- develop and implement formal mechanisms for annual internal programme evaluation and consistent implementation of improvement recommendations
- develop and implement formal processes for the periodic review of BSIT, that incorporate feedback from internal and external stakeholders, as well as a mechanism for implementing improvements
- develop a formal process/procedure to design, implement, analyze, and evaluate surveys for soliciting feedback from internal and external stakeholders and to ensure that their results are used for programme improvements and made available to relevant stakeholders.

5.13   **Judgement**

On balance, the Panel concludes that the programme **does not satisfy** the Indicator on **Effectiveness of Quality Management and Assurance.**

6. Conclusion

Taking into account the institution's own self-evaluation report, the evidence gathered from the interviews and documentation made available during the site visit, the Panel draws the following conclusion in accordance with the DHR/QQA *Programmes-within-College Reviews Handbook, 2012*:

There is limited confidence in the BSc in Information Technology offered by the University College of Bahrain.