University of Asia Pacific
Dhaka, Bangladesh

External Peer Review Report

on

Computer Science & Engineering Department

External Peer Review Team (EPRT)

Professor B V Babu, International QA Expert, EPRT Leader

Professor Mosharraf Hossain, Local QA Expert, EPRT Member

Professor M Zahidur Rahman, Subject Expert, EPRT Member

Visit of the External Peer Review Team (EPRT)
January 17-19, 2018

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Chapter-1

This chapter outlines the main principles of program review, lists the aspects under review and describes the peer review process.

1.1. Main Principles of Program Review

To enhance and ensure quality in higher education, educational institutions are required to be more responsive to the changing needs of the stakeholders. It is very important for the educational institutions to know how well they are doing and how can they do even better to meet the needs of the stakeholders. The self-assessment exercise is an effective approach to gain a clear understanding of current situation by an informative SWOT analysis. Thus, self-assessment becomes one of the core activities of credible quality assurance system. This is followed by an External Peer Review Team's visit to the Institute and review by finding facts of self-assessment report.

1.2. List of Aspects under Review

External review is one of the internationally accepted critical component of Quality Assurance (QA). A panel of experts or internationally credible QA agency (for institutional self-assessment) taking part in the process of reviewing the self-assessment of any institution or program is generally known as External Peer Review Team (EPRT). In case of external peer review the host university invites the peer reviewers beyond the university to review the academic process as reflected in the self-assessment report. In response, the peer review team will share internationally accepted standards and good practices, their experiences and observations as the outcomes of an onsite visit and critical review. The visit by the review team gives the institution or program offering entity an opportunity to discuss and find ways of consolidating and improving the academic environment.

The nine aspects under review are:

Criteria 1: Governance

Criteria 2: Curriculum Content Design & Review

Criteria 3: Student Admission, Progress and Achievements

Criteria 4: Physical Facilities

Criteria 5: Teaching - Learning and Assessment

Criteria 6: Student Support Services

Criteria 7: Staff and Facilities

Criteria 8: Research and Extension

Criteria 9: Process Management & Continuous Improvement

1.3. The Peer Review Process

Key features of the external peer review process include:

1. Critical analysis of the Self-Assessment Report (SAR);
2. Peer observation of the key aspects of the self-assessment exercise;
3. Gathering information on activities relating to quality assurance in higher education through discussions with major stakeholders, i.e., students, faculty members, staff members, alumni, university administration and management (academic and non-academic) and employers;
4. Identifying the strengths and weaknesses of the program offering entity or the university;
5. Identifying the areas that need further improvement for quality enhancement of higher education;
6. Providing guidelines for effective quality assurance in education.

As per Self-Assessment Manual, the External Peer Review Team consists of one as subject expert (for program review) one recognized QA expert and one International QA expert. The peer review panel members visited the university and facilities as stated in the SA report. It was a three-day visit under a well-structured schedule. The university/program offering entity under self-assessment made the arrangement for peer review. External peer review is based on the SA Report prepared by concerned program offering entity or university and other documents made available during the external peer review. Subsequently, the review panel prepared and submitted the peer review and validation report collectively to the Director-IQAC. The Director-IQAC will place the reports in the QAC meeting and forward one copy of

the report to the QAU. The sequential activities related to the external peer review process are as follows:

The Director IQAC requests PSAC to submit three sets of CVs, each set consists of three experts, to construct the external peer review team (EPRT) consisting panel members as described above. The IQAC in consultation with the concerned SAC, selects and appoint three experts, one from each set, following the World Bank guidelines for procuring services of consultants. In case of institutional self-assessment, IQAC takes the responsibility to propose and hire the external peer review team by following relevant procurement of services guidelines of the World Bank. The concerned SAC sends the SAR to the external peers at least 15 (fifteen) days before the scheduled visit so that they can go through the SAR and plan their activities earlier.

The concerned SAC planned and scheduled the EPRT visit in consultation with the Director IQAC. The EPRT using the given checklist gone through the physical facilities, observed the classroom teaching, reviewed the documents made available to them during the visit, and met the representatives of major stakeholders separately.

At the end of the peer review visit the external reviewers presented their critical observations in an exit meeting that is attended by the concerned SAC, faculty members of the entity, Dean and IQAC personnel.

The EPRT submits their peer review report, both soft and hard copy, to the concerned Head of the SAC and copy to Director IQAC with specific recommendations within next 03 (three) weeks of their visit.

The External Peer Review Team (EPRT) reviewed the Self-Assessment Report (SAR) that has been prepared by the Self-Assessment Committee (SAC) of the Department of Computer Science and Engineering (CSE), University of Asia Pacific (UAP), Dhaka, Bangladesh. The team also noted that a SWOT analysis has been undertaken and that program assessment has been conducted by obtaining feedback from multiple stakeholders, in order to gauge the value and effectiveness of the program thus far, and to determine opportunities for improvement.

The site visit took place during January 17-19, 2018. The report is compiled based on the observations and findings of the EPR team on various relevant aspects of the BSc (Engg) and MSc (Engg) programme offered at the Department of Computer Science and Engineering, School of Engineering, University of Asia Pacific, Dhaka, Bangladesh.

1.3.1 Scope of the External Peer Review

The team consisted of three members as follows:

1. Prof Dr B V Babu [Former Vice Chancellor, Galgotias University (GU) and Graphic Era University (GEU), India] – International QA Expert: Team Leader-EPRT
2. Prof Dr Mosharraf Hossain [Professor of Industrial and Production Engineering, Director-IQAC, Rajshahi University of Engineering and Technology (RUET), Rajshahi, Bangladesh] - Local QA Expert: Member-EPRT
3. Prof Dr M Zahidur Rahman [Professor of Computer Science and Engineering, Jahangirnagar University (JU), Dhaka, Bangladesh] – Subject Expert: Member-EPRT

The academic audit was implemented using the following audit strategy:

Methods	Entities
1. Meetings	Top management (Vice Chancellor, Pro Vice Chancellor, Treasurer, Registrar, Controller of Examinations, Director-IEERD, Director of Student Welfare and Head of the Department), SAC members, Librarian, Proctor, Medical Centre Doctor, Stake holders consisting of the members of academic and non-academic staff, students, alumni and employers, and Student club members.
2. Documents audit	Meeting/discussion notes, Student's Handbook, Sample Question Papers and Answer Scripts, etc.
3. Site visits	Observation of the teaching process, teaching and learning facilities and recreational facilities

The peer review considered the national requirements as provided in the Self-Assessment Manual (SA Manual; *SAOM Annex 10*). It covered the following criteria: (1) Governance, (2) Curriculum Content, Design and Review, (3) Student Admission, Progress and Achievements, (4) Physical Facilities, (5) Teaching-Learning and Assessment, (6) Student Support Services, (7) Staff and Facilities, (8) Research and Extension, (9) Process Management and Continuous Improvement.

The EPRT visited the following facilities:

i. Class rooms
ii. Laboratories
iii. Teachers Seating Rooms
iv. Seminar Library
v. Administrative Office
vi. Student Activity Clubs
vii. Central Library
viii. Boys Common Room
ix. Girls Common Room
x. Medical Centre
xi. University Data Centre (Central Computer Centre)
xii. Sports Facilities
xiii. Gymnasium
xiv. Auditorium
xv. Cafeteria, etc.

The EPRT also examined the following records and documents:

i. Exam procedures
ii. Admission test question papers
iii. Academic calendar
iv. Student record (academic)

v. Academic handbook
vi. Lesson plan
vii. Record of training/workshops
viii. Teaching load of individual teachers
ix. University organogram
x. Minutes of meetings of Statutory Bodies
xi. List of Academic Staff members and their qualifications
xii. List of publications
xiii. Documents for fund hunting
xiv. Syllabus
xv. Activities of Committee of Courses & Studies
xvi. Sample of exam questions
xvii. Sample of term papers
xviii. Sample assignment
xix. Student attendance file
xx. Class schedule
xxi. Course Files
xxii. Ordinances for UG & PG Programs.
xxiii. Evidence of extra and co-curricular activities
xxiv. Evidence of employability
xxv. Promotion/recruitment policy
xxvi. Scholarship/Stipend policy
xxvii. Research policy, etc.

The EPR team also witnessed a nice short cultural program organized at the department where the students of Department of Computer Science and Engineering have performed very well.

Chapter-2

This Chapter provides a brief history of University of Asia Pacific (UAP) and Department of Computer Science and Engineering (CSE), and describes the program(s) offering entity and the program(s) in details being reviewed. Program Offering Entity (POE) data is provided at the end of this chapter.

2.1. Brief History of the University

University of Asia Pacific (UAP) was established in 1996 with a vision to enhance the opportunities for higher education in Bangladesh. The University, under the Private University Act 1992, started its operation in 1996 by offering a four-year Bachelor Degree Programs in Computer Science and Technology and Business Administration only. Now UAP offers undergraduate programs in nine disciplines and post-graduate programs in eight disciplines. Its curriculum has been approved by the University Grants Commission of the Government of the People's Republic of Bangladesh.

To accommodate its rapidly increasing students, UAP foundation has undertaken activities to hasten the construction of its own permanent “CITY CAMPUS” on a previously bought 99 decimals piece of land in the center of the capital at Green Road to shift there as many of the Departments as possible. Migration started in September 2015 by shifting the Administrative office to permanent campus and by April 2016 all Departments of UAP were shifted to the permanent campus in Green road except Civil Engineering Department which was migrated just one semester later. City campus is located at House 74/A, Green Road, Dhaka and includes 2449.25 square meters (i.e. 3,88,800 sq.ft) of space in a 10 storied building with 3 basements (with the possible scope of extension of 2 more stories). The campus is designed to meet all academic, professional and social requirements of the university to provide a 3-stimulating environment for education having standard classrooms, labs, a large auditorium, library, reading rooms etc. with enriched facilities. However, as the “city campus” was not enough to accommodate the growing size of UAP, two floors were rented at a giant building adjacent to the permanent campus for BBA and Law Department.

Vision and Mission of the University

Vision

UAP holds steadfastly its' passion to do better and better in fulfilling our young generations' needs and aspirations for a caring and quality education in casting their future career and become a desirable destination for an identity.

Mission

UAP mission is to offer best possible education to our young generation. Towards the mission, UAP continues to develop a sustained culture of ascending to a top-tier of vibrant academic environment; maintain and foster well qualified faculty, provide adequate research support for cutting - edge research in-house and in collaboration national and international peers; update curricula to keep up with advancing trend in science and technology, use state-of-the-art best practices in teaching-learning and modern facilities in laboratories and libraries; and provide other supports in aid to students becoming competent graduates with their potential fully realized and personality well-developed for joining the global forces in making the future of society in a changing world.

University Administration

Vice-Chancellor

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Academic Programs Being Conducted

Program and Name of Degree	Field/ Specialization	Full/ Part time	Year of Starting	Duration
Undergraduate	Architecture, B. Arch	Full time	1997	5 years
	Business Administration, BBA	Full time	1996	4 years
	Civil Engineering, B.Sc. in CE	Full time	1997	4 years
	Computer Science & Engineering, B.Sc. in CSE	Full time	1996	4 years
	Electrical & Electronic Engineering, B.Sc. in EEE	Full time	2004	4 years
	English, B.A Hons	Full time	2010	4 years
	Laws, LL.B, Hons	Full time	2005	4 years
	Pharmacy, B. Pharm. Hons	Full time	1996	4 years
Postgraduate	Business Administration, MBA, EMBA	Full time	2000	1-2 years
	Civil Engineering, M.Sc. in CE	Full time	2009	1-2 years
	Computer Science & Engineering, M.Sc. in CSE	Full time	2006	1-2 years

	M.A. in English	Full time		1 year
	M.A. in English (Preliminary & Final)	Full time		2 years
	Laws, LL.M	Full time	2005	1 year
	Pharmaceutical Technology, MS. Pharm. Tech.	Full time	2003	1year

Student Service and Facilities

A wide range of support services is provided by UAP to assist the students with any problems they may face, including those of an academic or personal nature. A brief description of various student support services and other facilities is given below.

Student Services

Central and Departmental Clubs

A variety of co- curricular activities are provided to the students. There are 17 Central Clubs, besides host of other clubs specific to each department. Students are encouraged to become member of at least one club; however, there is no bar of a student becoming member of more than one club. DSW Office supervises and assists all Central Clubs, while Head of Department supervises department specific clubs. All Clubs have a Faculty Advisor and a students' committee that organizes various activities round the year.

Career Services

Career Counseling Centre (CCC) under Directorate of Students Welfare (DSW) provides internship placement and job placement for UAP graduate students in. This Center also provides career development training and socio-psycho counseling to UAP graduates and undergraduates. Major functions of this centre includes-

- Internship placement for UAP graduates
- Part-time and full-time job Placement for UAP graduates
- Arranging workshops & seminars
- Training program

- Job fair & career fair
- Trade show at home or abroad
- Maintaining graduate database/ profile
- Maintaining employer database
- Company visit
- Relationship development

Waiver Policy

3% of total seats are reserved for the children of Freedom Fighters and another 3% for meritorious but poor students from remote areas of Bangladesh. They will be offered full free education opportunity.

- Top 3% students in each department will be offered 100% tuition waiver based on semester results.
- Vice Chancellor‘s special tuition fee waiver will be offered in amount 10%-100% to poor but meritorious students.
- 50% waiver for students with individual GPA of 5.00 in S.S.C and H.S.C.
- 25% waiver for students with individual GPA of 4.50 in S.S.C and H.S.C.
- 10% waiver for students with individual GPA of 4.00 in S.S.C and H.S.C.

Counseling

An advisor is assigned to each student who helps the student to make overall planning for the undergraduate program and to choose suitable courses in a particular semester. The advisor also monitors the progress of the student. In case the student attains a cut off GPA, he is warned beforehand and his guardian is being informed accordingly about the academic performance of the student.

Campus/ Infrastructure Facilities

Library

The University has a fairly well stocked central library. Adequate facilities exist with a large number of textbooks, reference books (currently more than 10,000) and journals, periodicals for study in the reading room of the library in a quiet and congenial environment. A number of local daily newspapers and international news magazines are also subscribed for the benefit of students. The library is being enriched day by day. Students can borrow books from the library. There is also CD library for the students. In the seminar library, books and technical journals relevant to the respective disciplines are available.

Laboratory

UAP provide laboratory facilities for the students of respective departments. The laboratories are self-sufficient and rich in instruments and other facilities to carry out sessional/practical classes for different courses. Unlike many other private Universities, UAP does not depend on any other institutions for its laboratory classes. Other than sessional/practical classes, the faculties of UAP do their research work in these laboratories also.

Website and Internet Facility

University of Asia Pacific (UAP) provides twenty-four hour high-speed Internet facilities to its students. All the computers of lab and other places of each department of UAP are connected under a LAN and high-speed Internet line. There is a website of UAP that contains important information about faculty members, ongoing research, admission, faculty search, exam of UAP etc., which is updated each week and URL is www.uap-bd.edu. Each student of UAP is given an individual email account at uap-bd.edu domain that recognizes the UAP students. Students can submit their assignments through the Internet.

Other Facilities

The University runs a well-equipped Medical Center for medical consultation, free of cost for students. The University has its own canteen, which provides hygienic foods at a reasonable cost for the students, faculty, and staffs. In near future, the University plans to provide

transport facilities for students and also to provide the residential facility, especially for female students.

2.2. Overview of Department of Computer Science and Engineering (CSE)

The Department of Computer Science and Engineering established in 1996, with the full support of the Administration and the UAP Foundation Members, is thriving forward in disseminating knowledge in this emerging field. Such endeavor is not only helping in developing the human resources of this country but also in earning foreign exchange by exporting skilled manpower abroad. Till to date, B.Sc. Engg. The degree has been conferred on 1100 graduates and these graduates are making positive contributions in the field of Computer Science and Engineering.

The prime objective in establishing the Computer Science & Engineering Department at University of Asia Pacific is to make a concerted effort towards achieving the goal of providing quality education for the duration of 4 years at the undergraduate level. Later it is to be followed by higher academic degree programs such as MS/Ph. D.

The courses in the undergraduate programs are designed to give students a rigorous and comprehensive academic training on both the fundamental and advanced aspects of Computer Science & Engineering (CSE). It would concentrate both on software and hardware aspects. A student in CSE must not only have a sound basis in the fundamentals of computer but also should be aware of socio-economic problems of the country. Therefore, courses in science, humanities, economics, accounting, finance, and management are also included in the curricula. The last two semesters will offer the students a number of alternatives to choose from and to specialize in a particular one. Theory and seasonal work will be supplemented by Project/Thesis work, Seminars and visits to relevant research and development organization. Following table depicts the current scenario of the department's student-teacher ratio.

Faculties	37
Undergraduate Students	985
Postgraduate Students	24
Staff	10

Degrees Offered

Title of Program	Field of Specialization	Full Time Duration	Sanctioned Strength	Year Starting
Undergraduate	CSE	4 Years (8 Semesters)	250 per year	1996
Graduate	CSE	2 Years (4 Semesters)	20 per year	2006

Vision, Mission Statement and Program Objectives of the Department of Computer Science and Engineering, UAP

Vision:

The department of CSE, UAP is striving for pioneer role in ICT through excellence in education, research and development towards preparing graduates as a global leader with quality education, innovative ideas, extra-curricular activities and collaboration between industry and academia.

Mission:

Department of CSE believes in the pursuit of excellence by developing students in creating, applying and imparting knowledge of ICT. Educational curriculum, research and collaboration between academia and industry are given highest priority. CSE, U AP aspires to produce graduates capable of taking leadership on the field of their best interest. We nurture graduates in

- Understanding the basic principles of computational, electronic and modern technologies
- Promoting creativity by applying their theoretical knowledge in practical problem solving
- Enabling them to communicate ideas clearly and concisely both in written and verbal forms
- Creating awareness about environment, social responsibility, and economic development within the ethical boundaries
- Engaging for further research or professional involvement

Program Educational Objectives (PEO):

The primary goal of the B.Sc. degree program in Computer Science and Engineering is to provide students the foundations for future work and careers in computation-based problem-solving. These foundations support both a successful career path in computing as well as provide appropriate qualifications for further degree work in computation related disciplines. The following objectives are to be met by students obtaining a degree in Computer Science. Students, upon graduation, will:

PEO 1: Possess theoretical and practical knowledge of Computer Science and Engineering to establish successful computing or engineering careers in industry, government, and academia that will advance the economic development of the country, the region, and beyond.

PEO 2: Enhance skills and creativity, and embrace new computing technologies through self-directed professional development and post-graduate education.

PEO 3: Apply the ethical and social aspects of modern computing technology to the design, development, and usage of computing artifacts.

PEO 4: Be committed to active participation in life-long learning and socio-economic development through research and development of Computer Science and Engineering to adapt to an ever-changing real-life environment.

This success is reflected in their job satisfaction, the respect of their peers, their highly valued work and their competitive salaries.

2.3. Details of Programs being reviewed

Academic Program

Key aspects of the Undergraduate program of CSE, UAP

Title of Program	Field of Specialization	Full time Duration	Sanctioned Strength	Year Starting
Undergraduate	CSE	4 years (8 semesters)	250 per year	1996

A year is counted as two semesters, namely: Spring Semester and Fall Semester. The Bachelor of Computer Science and Engineering Program consists of 162 credit hours spread in 70 courses, including departmental and non-departmental theoretical courses, laboratory courses and project/thesis. Besides this, practical teaching mechanisms like seminars/presentations, project development, workshops etc. are arranged by the department on a regular basis. Basic information is depicted in the table given below:

Numerical Information of CSE, UAP

Items	Quantity
First year enrollment (recent)	123
Total undergraduate students	985
Total backlog students	88
Fulltime faculties	25
Part-time faculties	12
Academic staffs on study leave	15
Non-academic staff	10

2.4. POE Data

2.4.1. Overview of POE

Table 2.1 shows the basic information on Programs offering entity.

Table 2.1: Basic information of POE

1	Background of PEO establishment	
2	Year of establishment	1996
3	Purpose of establishment	
4	Degree offered	B.Sc. and M.Sc.

2.4.2. Academic Staff and Students

Table 2.2 shows the information on staff and students of POE. The information makes positive indication on students' enrolment and academic research.

Table 2.2: Information on staff and students

1	Total number of present students	965
2	First year enrolment (this year - 2017)	280 (2017)
3	First year enrolment (last year - 2016)	362 (2016)
4	Average HSC GPA score of enrolled students(Last Year)	4.7 (Spring '17) 4.4 (Fall '17)
5	Yearly first year pass rate (Last year - 2016)	87%(Fall-17), 96.7% (Sprint-16)
6	Yearly first year transfer rate (Last Year - '16)	1.65% (6/362)
7	Yearly number of undergraduates passed	Total: 984 , 2016: 82
8	Yearly undergraduates drop-out	37 (Fall 2017)
9	Yearly first year retention rate	
10	Yearly Total enrollment in Masters	This Year:16 Last Year:15

11	Yearly Total enrollment in MPhil/Phd	Last Year: N/A
12	Yearly Number of Masters passed	This year:7 Last year:8
13	Yearly Number of MPhil/Phd passed	This year Mphil: N/A This year PhD: N/A
14	Total number of full time academic staff	On Rolls: 25 On study leave: 13
15	Total number of full time academic staff with Phd	7
16	Staff on study leave for Masters/Phd	Academic: 13 Non-Academic: 0
17	Total Number of external(other than GOB) funded research projects	Last year: 0 Since Beginning: 0
18	Total number of (GOB) funded research projects	Last year: 0 Since Beginning: 0
19	Number of theses/research monographs/publications	Professor: N/A Associate Professor: 94 Assistant Professor: 284 Lecturer: 39
20	Teacher-student ratio	1:27
21	Number of training programmes organized for staff	Academic: 3 (ILTS,ToT,IEB) Non_Academic: 1

2.4.3. Program Summary

The courses in the undergraduate programs are designed to give students a rigorous and comprehensive academic training on both the fundamental and advanced aspects of Computer Science & Engineering (CSE). It would concentrate both on software and hardware aspects. A student in CSE must not only have a sound basis in the fundamentals of computer but also should be aware of socio-economic problems of the country. Therefore, courses in science, humanities, economics, accounting, finance, and management are also included in the curricula. The last two semesters will offer the students a number of alternatives to choose from and to specialize in a particular one. Theory and seasonal work will be supplemented by Project/Thesis work, Seminars and visits to relevant research and development organization. Following table depicts the current scenario of the department's student-teacher ratio.

A year is counted as two semesters, namely: Spring Semester and Fall Semester. The Bachelor of Computer Science and Engineering Program consists of 162 credit hours spread in 70

courses, including departmental and non-departmental theoretical courses, laboratory courses and project/thesis. Besides this, practical teaching mechanisms like seminars/presentations, project development, workshops etc. are arranged by the department on a regular basis. Basic information is depicted in the table given below:

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Title of Program	Field of Specialization	Full Time Duration	Sanctioned Strength	Year Starting
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MSc (Engg)	CSE	2 Years (4 Semesters)	20 per year	2006

Chapter-3

This Chapter presents the Aims, Learning Outcomes of the program(s) provided by the department in its Self-Assessment Report (SAR).

3.1. Aims of Programs offered at Department of CSE

The primary aim of the B.Sc. degree program in Computer Science and Engineering is to provide students the foundations for future work and careers in computation-based problem-solving. These foundations support both a successful career path in computing as well as provide appropriate qualifications for further degree work in computation related disciplines.

3.2. Learning Outcomes of the Programs offered at Department of CSE

The following objectives are to be met by students obtaining a degree in Computer Science. Students, upon graduation, will:

- Possess theoretical and practical knowledge of Computer Science and Engineering to establish successful computing or engineering careers in industry, government, and academia that will advance the economic development of the country, the region, and beyond.
- Enhance skills and creativity, and embrace new computing technologies through self-directed professional development and post-graduate education.
- Apply the ethical and social aspects of modern computing technology to the design, development, and usage of computing artifacts.
- Be committed to active participation in life-long learning and socio-economic development through research and development of Computer Science and Engineering to adapt to an ever-changing real-life environment.

This success is reflected in their job satisfaction, the respect of their peers, their highly valued work and their competitive salaries.

3.3. Graduate Profile

Neither the department nor the university does have an organized graduate profiles through which the graduates can understand what they are going to learn their future education or employment, or the description of curriculum, guideline for the development of learning outcomes, teaching activities, assessment etc. However, the department of Computer Science and Engineering has taken some initiatives to review the course curricula and incorporate an effective graduate profile.

Chapter-4

This chapter is the main body of the report that summarizes the findings as the outcomes of the external peer review in each of the aspects of self-assessment. This chapter clearly highlight the strengths and good practices found by the reviewers in each aspect; clearly describe any weaknesses identified by the team; and identify the possibilities and scope of further improvements.

The External Peer Review Team (EPRT) reviewed the Self-Assessment Report (SAR) that has been prepared by the Self-Assessment Committee (SAC) of the Department of Computer Science and Engineering (CSE), School of Engineering, University of Asia Pacific (UAP), Dhaka, Bangladesh. The team also noted that a SWOT analysis has been undertaken and that program assessment has been conducted by obtaining feedback from multiple stakeholders, in order to gauge the value and effectiveness of the program thus far, and to determine opportunities for improvement.

The site visit took place during January 17-19, 2018. The report is compiled based on the observations and findings of the EPR team on various relevant aspects of the BSc (Engg) Program offered by the Department of Computer Science and Engineering (CSE), School of Engineering, University of Asia Pacific (UAP), Dhaka, Bangladesh.

4.1. Summary of Findings

Summary of Commendations, Affirmations and Recommendations are presented for all the identified criteria:

Self-Assessment (SA) is arguably the most powerful means for a tertiary education to understand and improve its educational performance. Program review process involves evaluating the quality of education within a specific subject or discipline, focusing on the student learning experience and on students' achievement related to the following programs of Department of Computer Science and Engineering:

No.	Name of the Program	No of Students Sanctioned	Duration (years)	Course work (Credits)	Remarks (No of students admitted in 2017)
1.	BSc (Engineering) in Computer Science and Engineering	300	4	162	280
2.	MSc (Engineering) in Computer Science and Engineering	20	2	36	16

Program review process at the Department of Computer Science and Engineering of the University of Asia Pacific was conducted following the guidelines described in the Self-Assessment Manual provided by the University Grants Commission under HEQEP. The quality of education was reviewed at the Program level according to the 9 (nine) criterion listed below as given in the Self-Assessment Report (SAR):

1. Governance
2. Curriculum Content Design and Review
3. Student: Admission, Progress and Achievements
4. Physical Facilities
5. Teaching, Learning and Assessment Methods
6. Student Support Services
7. Staff and Faculties
8. Research and Extension
9. Process Management & Continuous Improvement

The Review Team visited the Department of Computer Science and Engineering for three days, from 17th to 19th January 2018. The team consists of three team members as follows:

1. Prof Dr B V Babu [Former Vice Chancellor, Galgotias University (GU) and Graphic Era University (GEU), India] – International QA Expert: Team Leader-EPRT

2. Prof Dr Mosharraf Hossain [Professor of Industrial and Production Engineering, Director-IQAC, Rajshahi University of Engineering and Technology (RUET), Rajshahi, Bangladesh] - Local QA Expert: Member-EPRT
3. Prof Dr M Zahidur Rahman [Professor of Computer Science and Engineering, Jahangirnagar University (JU), Dhaka, Bangladesh] – Subject Expert: Member-EPRT

The academic audit was implemented using the following audit strategy:

Methods	Entities
1. Meetings	Top management (Vice Chancellor, Pro Vice Chancellor, Treasurer, Registrar, Controller of Examinations, Director-IEERD, Director of Student Welfare and Head of the Department), SAC members, Librarian, Proctor, Medical Centre Doctor, Stake holders consisting of the members of academic and non-academic staff, students, alumni and employers, and Student club members.
2. Documents audit	Meeting/discussion notes, Student's Handbook, Sample Question Papers and Answer Scripts, etc.
3. Site visits	Observation of the teaching process, teaching and learning facilities and recreational facilities

The peer review considered the national requirements as provided in the Self-Assessment Manual (SA Manual; *SAOM Annex 10*). It covered the following criteria: (1) Governance, (2) Curriculum Content, Design and Review, (3) Student Admission, Progress and Achievements, (4) Physical Facilities, (5) Teaching-Learning and Assessment, (6) Student Support Services, (7) Staff and Facilities, (8) Research and Extension, (9) Process Management and Continuous Improvement.

The EPRT visited the following facilities:

i. Class rooms

ii. Laboratories
iii. Teachers Seating Rooms
iv. Seminar Library
v. Administrative Office
vi. Student Activity Clubs
vii. Central Library
viii. Boys Common Room
ix. Girls Common Room
x. Medical Centre
xi. University Data Centre (Central Computer Centre)
xii. Sports Facilities
xiii. Gymnasium
xiv. Auditorium
xv. Cafeteria, etc.

The EPRT also examined the following records and documents:

i. Exam procedures
ii. Admission test question papers
iii. Academic calendar
iv. Student record (academic)
v. Academic handbook
vi. Lesson plan
vii. Record of training/workshops
viii. Teaching load of individual teachers
ix. University organogram
x. Minutes of meetings of Statutory Bodies
xi. List of Academic Staff members and their qualifications
xii. List of publications
xiii. Documents for fund hunting
xiv. Syllabus
xv. Activities of Committee of Courses & Studies

xvi. Sample of exam questions
xvii. Sample of term papers
xviii. Sample assignment
xix. Student attendance file
xx. Class schedule
xxi. Course Files
xxii. Ordinances for UG & PG Programs.
xxiii. Evidence of extra and co-curricular activities
xxiv. Evidence of employability
xxv. Promotion/recruitment policy
xxvi. Scholarship/Stipend policy
xxvii. Research policy, etc.

The EPR team also witnessed a nice short cultural program organized at the department where the students of Department of Computer Science and Engineering have performed very well.

4.2 Criteria-wise Judgement

Review Outcomes

The findings are highlighted under the following descriptors:

Commendation	Something that the Entity is doing well and should be recognised.
Affirmation	Something that the Entity has started or aspires to achieve that is positive and should be developed and enhanced.
Recommendation	Something that the Entity should give serious consideration for improvement.

Review Findings

Commendation

1. There is a specific IQAC Office in the university, which signifies the seriousness the university takes in the aspects of Quality Assurance (QA).
2. The peer review was well organized with general adherence to the activity schedule, management of intensive discussions with sincerity and transparency. The IQAC and the Department took great efforts to ensure a smooth flow of the review exercise.
3. The Department's selection of representatives of the stakeholders to meet with the EPRT was an appropriate one and provided fair insight into the program.

Affirmation

1. Quality assurance activities have been initiated at UAP and ongoing work is evident.
2. Academic and non-academic staff of the Program Offering Entity (POE) show awareness of the need for continuous improvement, and efforts towards this should be pursued.

Recommendation

1. UAP authority should speed up QA activities and support initiatives and requests made by the department.
2. IQAC of UAP should put efforts into supporting the implementation of the Department's improvement plan, once it is finalized by the POE.
3. There is a certain gap among the opinion of the current students, alumni and that of faculty members and the gap is evident in almost all the aspects covered in the survey. Therefore, the Department should analyze this difference very carefully and take steps, as required.

Criteria 1: Governance

Commendation

1. The department of Computer Science and Engineering is established in 1996 with departmental objectives.
2. The department works as a cohesive group with harmonious and healthy relationship among students, faculty members, non-academic staff under the dynamic leadership of HOD.
3. All the engineering programs offered by UAP have been accredited with 'Satisfactory' grade by BAETE (Board of Accreditation for Engineering and Technology Education).
4. The department has a well-developed website linked from the University website.
5. Under the current Governance structure, UAP is operating smoothly, as per the ordinance.
6. Academic decisions are taken with fairness and transparency.
7. All documents are properly maintained.
8. Exams are conducted as scheduled and as given in the academic calendar.
9. Results are published on time.
10. Teachers recruitment is fair and transparent.
11. Students obtain a Prospectus at the point of registration at the university, which contains an overview of the department and university, admission requirements, information about academic staff and general rules and regulations.
12. The university has well defined organizational structure, and different policies are periodically reviewed for further improvement.
13. All the committees for academic and non-academic activities exist in the university as per the ordinance of the university and UGC guidelines.
14. Act, Statute, and Ordinance are followed properly.
15. The department maintains adequate transparencies in conducting admission, teaching-learning and student evaluation process.
16. There is strong commitment of the university authority for quality education.
17. The authority ensures financial transparency.

Affirmation

1. UAP-Dhaka is a 10-storied building constructed in approximately around 1-Acre area in the heart of the city of Dhaka. With visionary leadership and proper maintenance budget, the existing campus along with proposed new 3-Acre campus can create a perfect ambience for higher education learning.
2. The vision and mission statements at the University and department level have been formulated, but the same must be formulated for the School also with proper alignment. Vision and mission statements should be disseminated and understood by all stakeholders.
3. Department is operated through functional academic bodies including the Curriculum Committee, Examination Committee, Moderation Committee, Admissions Committee, Student Club Committees, Student Advisory Committee, etc.
4. Semester system is followed since its inception.
5. The University has documented service rules for both academic and non-academic staff, but needs improvement.
6. Staff recruitment and promotion systems are in place, but should be made more transparent.
7. There is a provision of partial financial support for faculty members for attending conferences/seminars, but it needs to be increased.
8. IQAC arranged some training workshops on teaching-learning, curriculum development and quality assurance matter, but more such workshops are needed by inviting global experts in the field.

Recommendation

1. Curriculum review and skill mapping should be done with the participation of all the relevant stakeholders
2. Peer observation practice should be initiated for the improvement of quality teaching-learning.
3. The authority can consider to establish a staff development centre for academic and non-academic staff at the university.
4. At regular interval meeting with stakeholders are needed and stakeholders' view need to be documented and addressed accordingly.

5. Daily schedule of the faculty members need to be more efficient and effective. It shall comprise of student guidance, mentoring, counselling, teaching and research.
6. The department should set measurable and realistic KPIs. Facilitation should be provided towards the achievement of the KPIs.
7. Departmental documentation is reasonably maintained but is mainly conventional (manual). More electronic documentation is needed.
8. All undergraduate and post graduate reports should be placed on online archive (should be made mandatory for the students as a condition for degree completion).
9. Feedback from stakeholders (during syllabus review, teaching-learning, and other processes) for the purpose of improvement needs to be sought in a structured manner.
10. Internship/Fieldwork, which is an important part of the learning process, should be carried out well. It could be each semester/year.
11. Department has produced good graduates, but job fairs and career counselling need to be strengthened.
12. A formal Student progress monitoring (sessional results) through Quality Circle Meetings (QCM) needs to be carried out.
13. Departmental teachers are relatively young and qualified but a formal training on pedagogical methods needs to be given to them.
14. There is a keen interest to carry out research. However, research support, particularly financial research support, needs to be substantially increased.
15. While academic staffs are given provision to improve their expertise from time to time, there is no such provision for non-academic staff development in the department.
16. Student grievance policies should be followed as per the university rules.
17. Apart from faculty deans, functional dean positions may be introduced for proper governance.
18. Career Development Centre for students needs to be established.
19. All the university systems & processes should be automated by using a Professional Business Intelligence (BI) based Learning Management Systems (LMS) & Enterprise Resource Planning (ERP) systems.
20. While recruiting the faculty members, equal emphasis should be given for teaching ability along with research capabilities.

21. Incentives and Awards are to be introduced for faculty members for their research publications in journals with impact factors.
22. Annual appraisal at three levels (self, controlling officer and vice chancellor) should be initiated incorporating API scores and students feedback for their contribution in teaching, research & consultancy, administrative responsibilities and institutional development work for faculty members of the University to sustain their motivation and encourage them by timely promotions.
23. Library budget for the University, in general, and for the department, in particular, should be increased.
24. Digitization process of books needs to be started in the library so as to increase the longevity of the books which usually get damaged due to aging.
25. A separate section for Rare books is to be created in the library.
26. Establishment of a well-defined research system in the university is essential to enhance the research culture at the university.
27. Group medical insurance for students, faculty members, non-academic staff should be initiated.
28. The rules of Earned Leave (EL) encashment and Over Time (OT) compensation needs revision.
29. Sanction of Casual Leave (CL) for non-academic staff needs sympathetic consideration.
30. Maternity Leave (ML) for female staff should be implemented as per the government norms.
31. Apart from merit based annual increments for teaching and non-teaching staff, Dearness Allowance (DA) should be given annually to take care of inflation.
32. More training programs for non-academic staff are needed, especially in multi-tasking.
33. Convocation to be held every year.

Criteria 2: Curriculum Content, Design and Review

Commendation

1. Syllabus was prepared to meet the goals and objectives of the programs offered by the department and reviewed periodically.
2. Syllabus for all courses were developed and generally followed by the faculty members.

Affirmation

1. The Department realises the importance of a properly designed curriculum and the need to have one properly documented. Stakeholders' views must be considered in this endeavour.
2. There needs to be a clear understanding of the ILOs (Intended Learning Outcomes) and the way in which the ILO statements should be written.
3. The content of the syllabus is well organized according to the level of understanding of the students. However, the present form of the curriculum is not a complete one as is globally defined. It can be denoted as syllabus.
4. The department is expecting to update its syllabus transforming it into actual curriculum by incorporating all other necessary components after getting feedback from the EPRT.

Recommendation

1. The curriculum has to be updated regularly using bench marking as it is very traditional as of now and new courses should be included. Content repetition should be avoided.
2. Invitation of potential employers/ successful alumni for special talks needs further strengthening.
3. The department should consider some open elective courses for the students to develop their knowledge and skills in the field of their interest.
4. Major and minor options in Hardware and Software with appropriate elective options should be given to students to specialize as per their interest.
5. Course curriculum needs to be realigned to implement Outcome Based Education (OBE) in toto. Vision & Mission of the University, Vision & Mission of the School, Vision & Mission of the department, Graduate Attributes (GAs), Program Educational Objectives (PEOs), Program Outcomes (POs), Program Specific Outcomes (PSOs), and Course Outcomes (COs) should be in synchronisation with each other. The PEOs and POs are to be mapped with

the courses at 3 levels of attainment (low, medium and high). The POs and COs should be measured using direct and indirect methods and analysis of the results should be used for taking corrective measures for improvement on a continuous basis. There is a need to explicitly define in the course syllabus the skills (in addition to knowledge) that the students are expected to hone, and how this can be done. This can be implemented by mapping them against the graduate profile. Prior to this however, the graduate profile needs to be established by involving the stakeholders.

6. Faculty should be trained on concept and constituents of OBE. Understanding of the OBE system may be disseminated to all stakeholders, especially the students.
7. The current syllabus should be reviewed to convert into a complete curriculum and should include generic skills, analytical skills etc. There has to be skills mapping for the program. Courses on basic communication, professional communication, soft skills, aptitude building and campus-to-corporate should be incorporated as a part of the curriculum structure.
8. Although the syllabus is well structured and organized, there is a scope for improvement.
9. More emphasis should be given to areas where jobs for the graduates are traditionally available.
10. Soft skills like project writing, proposal writing, skill development on presentation of report etc. can be increased.
11. Faculty should encourage the students to come up with ideas for project oriented practical and research work.
12. The curriculum lacks in modern teaching–learning and assessment strategies. Diverse methods of teaching-learning and assessment methods such as usage of MOOCs (Massive Online Open Source Courses), giving self-learning task, routine and surprise quizzes and tests, home and instant assignments, group discussion and presentation should be introduced.
13. Credit hours must be properly calculated and implemented by providing required number of lectures and lab experiments.
14. Access to more number of free online journals should be provided to both faculty members and students to strengthen current knowledge in theory and research.

15. Arrangement of scientific conferences, seminars and workshops on regular basis is warranted further to strengthen practical and research knowledge of students and the faculties, though they have some recent activities.
16. Courses on environment & energy sustenance and other allied courses are to be included in the curriculum.
17. The department may think of incorporating some contents related to other allied fields such as economics, commerce, etc. in the curriculum to widen the horizon of job opportunities for the students.
18. There should be optional courses offered (departmental electives and open electives) to the students in all programs. The provision will enable students to choose from a variety of courses that is related to their interests. The department should consider increasing the proportion of interdisciplinary courses in its curriculum.
19. The graduate profile should be linked to the program learning outcomes.
20. Teachers should receive training on curriculum design & development and teaching pedagogy. This should be sustained and ongoing so as to ensure quality curriculum.
21. Project based and research based learning should be introduced, which will allow students to practise relevant skills and allow them to get a feeling of the world of work, so as to prepare them towards employment.
22. The references and reading lists in each course should be updated on regular basis.
23. In reviewing or designing any curriculum, feedback from employers and alumni representative should also be considered. Meaningful curriculum review should be done on a regular basis.
24. Teaching strategy for every course need to be developed.
25. Entrepreneurship as a culture needs to be introduced in the University education system by establishing a Centre for Entrepreneurial Leadership with incubation facility.
26. All software packages used in laboratory and the departmental office should be licensed ones.

Criteria 3: Student Admission, Progress and Achievements

Commendation

1. The department goes through an intensive and fair admission test for selecting students.
2. The entity maintains individual student records properly.
3. There is policy to cater to the needs of students who are underprivileged through need based scholarships.
4. Merit Scholarships are offered to students who perform well in their academics.
5. Students of UAP have good adaptability, resilience and level of professionalism.
6. Some of the Alumni of the department are in prominent positions as CEOs, CSOs of industries and also working in the Department of Telecommunications under Ministry of Telecommunications.

Affirmation

1. Academic staff of the department recognizes the need for more emphasis on formative assessment and this should now be implemented in the department.

Recommendation

1. The university might think to set admission test centres outside Dhaka region to attract more non-local students to maintain diversity.
2. Course files should be maintained by the faculty members for each and every course offered in a program of the department. The contents should include detailed lesson plan, records of student performance in various evaluation components, minutes of quality circle meetings (QCM), question papers and solutions of all the evaluation components, etc. to monitor the progress of students.
3. While the admission process is transparent, it should also satisfy students' priorities in program selection.
4. While students feel that they are cared for by the teachers, a formal policy through Academic Monitoring and Counselling Board (AMCB) towards students who show poor progress except informal counselling should be in place.

5. Teachers are keen and committed in their work, but their workload needs to be re-assessed to ensure proper delivery of the courses and counselling services.
6. Students' recognition system (for excellence in certain fields or areas) is not in place but should be increased to encourage as many students as possible to do better in all undertakings.
7. Student progress should be monitored through structured mentoring system on regular basis and the faculty members should provide regular academic counselling to the students about their academic progress.
8. Dialogues between the faculty members and students needs further strengthening to improve the academic performance of the students and to prevent the drop-out rate.
9. The department can introduce series of workshops focusing on the career for the students.

Criteria 4: Physical Facilities

Commendation

1. A new 10-storied building owned by the university equipped with reasonably good facilities.
2. Cafeteria and wash room facilities are hygienic.
3. Wi-Fi facilities are available throughout the campus.
4. E-journals are available for the students and faculty members.

Affirmation

1. The university library is well-equipped with sufficient books, comfortable reading space and internet facilities. There are some textbooks available in the library. However, additional updated collection should be considered based on the demand and number of students. New editions should be made available. The journal and periodical collection needs to be updated and upgraded.
2. A common room in one of the buildings at the university exists, however, a gymnasium should additionally be provided for the physical and mental well-being of the students.

Recommendation

1. The location of University being in a crowded part of the city, measures for safety and security of students and staff needs further strengthening.
2. Language Lab needs to be established with professional software packages loaded onto the systems.
3. The Journal and periodical collection should be updated in the library.
4. University has internet connection. However, internet bandwidth should be improved for faster connectivity.
5. The university should provide residential halls for students.
6. The quality of food in the cafeteria needs improvement with reasonable pricing of items.
7. Research lab facility to be provided for students to ensure project & research based learning (PBL & RBL).
8. Separate Prayer Rom facility for girls needs to be created.
9. There is a need to provide individual office space for all teachers so as to provide privacy for teachers to discuss matters with students and carry out their individual research.
10. Health care facilities needs strengthening for all (academic and non-academic staff and students).
11. Outdoor sports facility needs to be created.
12. Student Activity Centre with a provision for office space for various student clubs needs to be created.
13. Library ambience should be made conducive for learning by providing carols to serious readers and maintaining strict silence.

Criteria 5: Teaching, Learning and Assessment

Commendation

1. Qualified, young and energetic faculty members run the departmental programs smoothly.
2. Classes are interactive in nature.

3. Teachers provide handouts to students to help them with their learning.
4. The university authority is taking students' feedback after completion of each course and communicating the results with the course teachers.

Affirmation

1. While department has class rooms allotted centrally by the University, it becomes operationally difficult at times to find vacant class rooms in case of need for conducting extra classes as no dedicated class rooms are provided to the department.
2. Sample viewed indicates that exam questions incorporate mostly lower order thinking skills (LOTS) with few higher order ones (HOTS). The department should ensure that there is appropriate application of Bloom's taxonomy in teaching-learning and assessment.
3. There is an advisor for each batch of students on yearly basis. However, mentoring system should be in place by allotting a few students to each and every faculty member of the department with regular interaction, monitoring, mentoring and counselling.

Recommendation

1. At the beginning of each semester, a course handout with full lesson plan (for the duration of the course) should be made available to the students. The course handout should include Course title, Course code, Aim & Objectives of the Course, Names of the Instructors/Faculty members, Prescribed Text Books & Reference Books in standard format, Detailed Lecture Plan Specifying Lecture number, Learning outcomes, Topics covered in each Lecture, References, Evaluation Scheme, Chamber consultation hour, Notices, etc.
2. The concept of credit-hour system needs to be understood complete with contact hours and additional notional hours of efforts students need to put in for earning credits.
3. Teaching should be made more interactive and student-centric to have experiential learning for the students.
4. Rubrics/ marking criteria should be defined for assessment to ensure objectivity in the marking. These should also relate closely to the learning outcomes of the course Assessment and teaching strategies should be carefully aligned with ILOs.
5. The department should consider increasing the weightage of continuous assessment and reduce the existing overemphasis on final (end term) exam.

6. Students should be trained on soft skills aspects by establishing language lab and strengthening computer lab facilities.
7. Various evaluation components such as Quizzes, Surprise Quizzes, Assignments, Seminars, Group Discussions, Group Tasks, Class Tests should be included in continuous assessment.
8. Memory based questions are to be avoided and questions based on thinking & logical skills are to be incorporated in the examinations to test the creativity.
9. Question papers should avoid repetition of questions from previous ones.
10. The department should consider practising peer observation.
11. 24x7 online anonymous Student feedback system should be introduced in the department.
12. The University might think to use relative grading system.
13. Different inputs to slow, normal and fast learners to be provided.
14. Expert lectures from the professionals from industry, and other academic institutions, NGOs, and alumni need to be arranged on regular basis.
15. Answer scripts are to be shown to the students and step-wise marks distribution need to be explained to the students.
16. Experiential learning to be provided to the students through project based and research based learning using the tools of model video lectures from experts of other institutions across the globe, MOOCs (Massive Open Online Courses), etc.
17. Lecture plan should be well distributed throughout the semester so that no extra pressure and load is created prior to the term end exam.
18. Semester long Internship needs to be introduced for the students to have work experience of doing live projects in industry.
19. Transparent evaluation systems and mechanisms should be in place to avoid individual biases.
20. The result processing should be automated which will speed up the result declaration and increase the accessibility for students, parents/guardians and teachers.
21. Grade improvement policy is to be incorporated in the examination regulations.
22. Co-curricular and extra-curricular activities for students should be further strengthened to enrich students' learning experience on regular basis.
23. Workshop and seminars need to be arranged on contemporary issues for the faculty members as well as for the students.

24. Training should be given for teachers on curriculum design and development, benchmarking, teaching pedagogy, assessment and quality assurance ensuring outcome based education.
25. Teachers should encourage all students to get involved with the co-curricular and extra-curricular activities.
26. Dedicated research lab with sufficient research fund for students and faculty members needs to be established.
27. Separate and structured policies including Recommendation and Approval by competent authority/body/committee for Make-up Examination (for those students with acceptable justification for missing regular examination), Backlog Examination (for those students who fail in the examination), Grade Improvement Examination (for those students who wish to improve their existing grades) should be formulated.
28. Guidelines/template for the final year project report should be provided to the students.

Criteria 6: Student Support Services

Commendation

1. Students are engaged in holding farewell/welcome party for the outgoing and incoming students at least once in a year.
2. There are opportunities provided for students to engage in sports and cultural activities, including regular inter-departmental tournaments and external sports tournament and cultural activities
3. Life insurance policy exists for the students.

Affirmation

1. The university has a broad scholarship scheme for the poor students although it is limited.
2. The Health Centre is equipped to support students' very basic healthcare needs with two part-time doctors, and it should be substantially improved with a fully-equipped Ambulance of their own.
3. Spiritual classes and training may be initiated for students.

4. There is a common prayer room for students & staff. Separate prayer room should be provided for girl students & female faculty members.
5. There is an academic advisory service including counseling, careers, students' academic and personality development, societal values, morality, ethics and focusing on generic skills development. A structured mentoring and counseling system should be in place for supporting the students.
6. An alumni association in the department has been formed recently and should be made more active.

Recommendation

1. The authority should consider establishing gymnasium and playground facilities for better physical and mental health of the students.
2. The alumni can take part in the professional development of future graduates as well as ensuring quality education in the university. Expertise, experience and strengths of the alumni members may be used for capacity building and organizing career counseling sessions on a regular basis for the students of the department.
3. The university should consider incorporating co-curricular activities into the curriculum, thus making it compulsory for all students to engage in some sort of co-curricular activities during their studies.
4. Student mentoring system should be in place. Teachers should provide counseling to students, with a certain number of hours allocated for the purpose. Academic guidance and counselling should be formalized with proper documentation.
5. Formal HOD-Student interactions should be arranged periodically to address the student problems & grievances.
6. Professional counselling for students needs further strengthening.
7. Alumni association at the University level should be registered and to be made more active.
8. The university should consider the setting up of a specific office to cater to the needs of job placement for future graduates of the university. This office will function to link employers with students, groom students to be job-ready, provide training for interviews, writing resume etc. The department should cooperate and help the students to establish network with Alumni, who are very keen to give supporting hand.

9. Financial support /assistance to be provided to the students to carry on their practical work/field work.
10. The facilities for the students to be involved in the community service needs strengthening.
11. Career counselling and industry visits need to be practiced in the department.
12. University may build a career visioning center to motivate the students towards their work and achievement in their respective fields.
13. To increase the communication skill of the student, the university/department may introduce 'English Proficiency Club/Clinic'. Moreover, professional communication skills and presentation skills need to be improved.
14. Annual Job Fair for students needs strengthening.
15. To ensure skill development and quality education, the department need to establish linkages with the industry.
16. Formal system need to be developed to receive feedback from all the stakeholders.
17. Food courts are to be established in the campus.
18. The university should provide transportation facility for students.
19. Central support services for organising events needs to be created.

Criteria 7: Staff and Facilities

Commendation

1. The teaching staff are qualified and meritorious, as well as having commitment and dedication for the growth of the department.
2. Contributory provident fund for the faculty and staff exists.
3. Life insurance policy for the faculty and staff is provided by the university.
4. Different types of leaves as per the rules of the university are available for teaching and non-academic staff.

Affirmation

1. There are basic infrastructure facilities to support teaching-learning process and needs further strengthening.

2. Some academic staff have been given research grants. The university should provide more opportunities for this. Teachers should also apply for external research funds.
3. Each of the faculty members is provided with sitting space in the department. However, every faculty member should have an independent office chamber.

Recommendation

1. The university should recruit some senior and highly qualified academics to provide effective leadership, good management and effective teaching and learning in the department.
2. The department needs some more supporting staff for conducting routine activities effectively.
3. The university should consider improving the medical facilities in terms of diagnostic tests and cost of drugs for the students.
4. The university should establish a day care centre for infants to support the female academic and non-academic staff.
5. The department should take initiatives for improving the sitting arrangement for the teachers.
6. The maternity leave rules should be revised as per the provision of the government's instruction.
7. Professional development of faculty members is required in the form of training or peer sharing both on teaching pedagogy and Outcome Based Education (OBE).
8. Number of teachers should be increased maintaining the cadre ratio, with appropriate qualifications and experience, based on the number of students and courses. This is essential for quality education and research.
9. Teachers need to be trained in the usage of software packages using licensed versions.
10. The University should consider diversity in terms of location, gender, and varsity, etc., while recruiting teachers for the department.
11. Faculty residences and student hostels are to be provided within the campus to create a continuous learning ambience.
12. Grievance cells for faculty members and students are to be established.
13. Periodic training programs are needed for non-academic staff of the department.

14. Man power (both for faculty members and non-teaching staff) needs to be increased in accordance with the number of students admitted.
15. Staff promotion should be linked to Academic Performance Index (API) based on teaching, research & consultancy, administrative contribution and Institutional development effort.
16. The department should maintain and update the list of publication of the academic staff on regular basis.
17. Intensive Teaching Workshops are needed for the newly joined faculty members and the faculty members whose feedback by students is not satisfactory. Such workshops must include pedagogical training on various teaching methods, art of constructing question paper, university rules and regulations, etc.
18. University and department should arrange, and encourage the faculty members to participate in the staff development activities.
19. Lecture series, seminar and workshop need to be arranged at regular interval for the skill development of the faculty members.
20. Adequate training for the non-academic staff are needed to keep themselves with the current issues related to their job areas and to be prepared for multi-tasking.
21. University may establish a staff development centre to enrich the knowledge of the staff.
22. Existing bureaucratic processes need to be streamlined to make the systems & processes faster.
23. Transport facility should be provided for teaching and non-academic staff.
24. Day care centre for the infants of staff members should be established in the university.

Criteria 8: Research and Extension

Commendation

1. The department shows interest in research work.
2. A few faculty members published their research findings in some good journals.

Affirmation

1. Some funds are available at the university for research activities and teachers must bid for these. However, further development should consider a research policy to ensure that all faculties are engaged in some kind of research activity, the result of which should go back into the teaching and learning processes.
2. The publication of staff was evident. However, staff should venture into publishing in more reputable and well-known journals.

Recommendation

1. There should be training for faculty on research methodology and fund hunting to encourage more research activities.
2. The faculty should hunt for research grants from national and international sponsoring agencies.
3. The faculty should establish some collaboration with industry and reputed universities worldwide.
4. The newly joined faculty members should be provided with seed funding for initiation of their research work.
5. Research component has to be incorporated/strengthened in the undergraduate and postgraduate programs.
6. Focused thrust areas are to be identified in the department and senior teachers with experience and expertise in these subject areas need to be recruited.
7. Centres of Excellence (CoEs) with focused thrust areas of research at University level are to be established for bringing the faculty members of various departments together on interdisciplinary & collaborative research in the University.
8. Industries/Corporate Sectors should be attracted for establishing Collaborative Centres of Research Excellence in the University Campus.
9. Financial support needs to be increased to the faculty members for attending international conferences.
10. The extension activities are not visible at all in the department, where the entity should place emphasis.
11. The potential sources of research projects of national importance need to be explored.

12. There is a need to have recognition/reward system for the teachers who contribute to quality research.

Criteria 9: Process Management and Continuous Improvement

Commendation

1. The department has conducted SWOT analysis and identified its strengths and weaknesses.
2. There is a culture for feedback and improvement in place – for example, informal counselling, informal academic feedback, and a process of checks and balances. This culture is suitable to implement improvement programs.
3. The University's IQAC is available for assistance and guidance in quality development programs.
4. The University and the department are committed to go for improvement in order to provide conducive teaching-learning environment for all.
5. Self-assessment of department has started and should be continued.
6. There is a cordial working relationship between the department and IQAC.

Affirmation

1. IQAC looks very active and provides some relevant training on quality assurance mechanism.
2. Faculty members are qualified but a good cadre ratio of Professor:Associate Professor:Assistant Professor needs to be maintained by attracting highly qualified persons.
3. Quality of students, in general, is good. Diversity of students can be improved by taking policy measures of attracting students from all parts of the country and international students from a few parts of the world by maintaining a balance based on gender, rural/urban, rich/poor, etc.

Recommendation

1. The University may take initiative to review its existing policies and procedures, which are very important for better program management and QA.
2. Grievance redressal systems for students, faculty members and non-academic staff should be in place.
3. Employers inputs to be taken on Governance & Curriculum development also.
4. The department should execute self-assessment periodically.
5. Stakeholders' opinion should be sought on a regular basis on all aspects associated with teaching-learning processes.
6. Parents also one of the most important indirect stakeholders and hence provision has to be made to take their inputs also on all 9 criteria of quality assurance.
7. The university should ensure that all entities at the university have their own website, which are updated and provides key information about the entities.
8. The University/Department might think to introduce a structured and transparent performance appraisal system for teaching and non-teaching staff.
9. Training need to be provided to the administrators for improving their inter-personal skills and to create a harmonious work ambience and culture.
10. Some assistance needs to be provided to faculty members in answer book checking so that faculty members can get enough time for carrying out their research activities.
11. Multi-section courses are to be properly coordinated to ensure the same course coverage and quality of teaching in all sections.
12. Infrastructure (both physical and intellectual capital in terms of faculty members) needs to be improved so as to cater to the needs of increasing number of students.
13. The IQAC needs to play a very important and prominent role in ensuring that the faculty members of the department are well-trained and well-versed in teaching-learning, pedagogy and assessment-related matters.
14. Training programs are to be arranged for non-academic staff in multi-tasking to sustain their interest and to break the monotony.
15. Effective Memorandum of understanding/agreement (MoU/MoA) needs to be established with industries/universities to enable students to get internship opportunities and enabling faculty members to establish research collaborations at departmental and University level.

16. Training need to be imparted to administrative staff of the department for proper labelling, numbering, tabulating, and maintaining the documents/files.
17. Dress code may be specified for the students.

The information provided above demonstrates that as a technical discipline, the department is gaining strengths steadily towards achieving its goal of becoming an advanced academic school comparable in the global context. The affirmations that are identified can be improved by continuous efforts and engagement of the faculties in collective decisions and actions. There are certainly good opportunities and scope for overcoming the current weaknesses in all major academic and governance areas as identified in the table.

If efforts are made to utilize the scope and opportunities identified in the SAR and by the external peer review team, it is expected that the Computer Science and Engineering Department will achieve higher quality in teaching and learning. There are some weaknesses and challenges clearly identified by the peer review team as discussed above. Based on the discussion with the multi-stakeholders at University of Asia Pacific (UAP), the peer review team understands that UAP is committed to face the challenges of overcoming the current weaknesses in its academic environment. It is appreciable that the Computer Science and Engineering Department is making good progress in right direction.

Making resources available for continuous improvement in teaching and learning is a challenge faced by individual academic discipline. The cooperation and collective efforts of the discipline, the Faculty and the University will create scope for better outcomes in this respect.

The alumni and employers have a positive view about the performance of Department of Computer Science and Engineering. Both stakeholders suggested for more constructive discourses on curriculum improvement between them and the academic entity. This is needed to face the challenges of market demands.

It is appreciable that there is no lack of willingness from all quarters of the University to make improvement to achieve higher standing in education. The Computer Science and Engineering department of UAP has made an appreciable progress towards achieving targeted standards

in all indicators. This advancement requires to be continued with utmost care and efficiency with systemic support from the University.

Chapter 5

This chapter provides the concluding remarks and specific recommendations for further improvement and overcome the limitations of the program offering entity by the review team. This chapter also include judgments on overall performance of the entity specifying the judgments for each aspect of self-assessment following the sample format and rating scale given in the annexes 10 & 11 respectively of the SA Manual. In addition, the review report is signed by the review team members with acknowledgement and affirmation.

5.1. Concluding Remarks

The external peer review team members have made an all-out effort to review the quality of Computer Science and Engineering Department of School of Engineering at University of Asia Pacific during their visit. The following are some specific conclusive remarks of the team.

1. The department of Computer Science and Engineering has its own articulated vision, mission and well-defined learning objectives.
2. Admission process and procedures are competent and transparent.
3. IQAC objectives are known and initiatives are taken at departmental level.
4. Periodic curriculum review process is in place through curriculum committee consisting of all faculty members.
5. Physical infrastructure in terms of most of the facilities is good.
6. Good, cohesive and qualified team of faculty members with some of them having international exposure.
7. Conducive teaching and learning environment in the department.
8. Inquisitiveness for learning new methods of quality assurance, and teaching-learning processes.
9. Career development programmes are in place for enhancement of qualifications of the junior faculty members.

5.2. Specific Recommendations for Further Improvement & to Overcome the Limitations

The specific recommendations provided below are based on the external peer review team's observations and interactions with the stakeholders and analysis of the Self-Assessment Report and other documents provided by the Computer Science and Engineering Department. The SAR itself has identified a number of areas for improvement together with weaknesses and challenges to achieve desired outcomes in teaching and learning. The external peer review team believes that recommendations provided below will valuably add to the already identified areas for improvement in SAR. The specific recommendations of the team are as follows:

1. University of Asia Pacific should speed up the operations to make the campus fully residential (for students, faculty members and non-academic staff) and to make it an International University.
2. The School of Engineering should formulate its Vision & Mission Statements in line with those of the University. The department should realign its Vision & Mission statements in synchronization with those of University & Faculty.
3. Infrastructure facilities (class rooms, labs, office space, faculty chambers, seminar library, etc.) needs upgradation both in terms of space and number.
4. Research Lab facilities in specific areas such as Machine Learning and Signal Processing are to be created.
5. Labs needs to be maintained by qualified technical staff.
6. Major/Minor/Combination options should be made available to the students in Hardware and Software parts of Computer Science and Engineering.
7. Masters Program should be strengthened.
8. A separate prayer room for women faculty and female students to be created.
9. Study leave rules may be relaxed for post-doctoral fellowships of faculty members on a case-by-case basis for genuine cases.
10. Maternity leave needs to be provided as per the government norms.
11. Outdoor sports facility needs to be created.
12. Library ambience needs to be improved with proper control on maintaining silence.
13. Delays due to bureaucratic processes in releasing the sanctioned research projects should be avoided.

14. Seed funding needs to be provided for newly joined faculty members to encourage research in the University.
15. Periodic peer review process of the faculty members needs to be formalized.
16. List of Scholarships/stipends to be made available to the students beforehand.
17. Detailed handout including learning objectives, course outcomes, prescribed text book(s) & reference books, lecture wise plan, evaluation scheme, chamber consultation hour, make-up policy (if any) are to be incorporated.
18. Registration and other learning systems & processes including library operations need to be automated using a Business Intelligence (BI) based ERP system.
19. Vision & Mission of the University (VMU), Vision & Mission of the Department (VMG), Graduate Attributes (GAs), Program Educational Objectives (PEOs), Program Outcomes (POs), Specific Program Outcomes (SPOs), Course Outcomes (Cos) are to be in total sync.
20. Curriculum ILOs are to be systematically aligned with mission and objectives of the POE.
21. Training part of education (basic communication, professional communication, soft skills and aptitude building to make the students corporate ready) needs to be incorporated in the program structure.
22. Benchmarking with globally acclaimed institutions for curriculum development with reasoning & justification has to be an integral part of curriculum planning & development.
23. Periodic review of curriculum for the content and structure keeping in pace with technological advancements globally by taking the inputs from industry, alumni and students.
24. Outcome Based Education (OBE) has to be implemented with proper checks & balances in terms of specification and measurement of outcomes using direct and indirect methods.
25. Entrepreneurship as a culture at the University level needs to be initiated.
26. Remoteness and social responsibilities are to be addressed in the entrance examination. Off-campus test centres can mitigate this issue. Diversity of students in terms of geographical distribution of the county needs to addressed with immediate effect.

27. More interactive methods of learning to make students more engaged and to expose them to experiential learning such as project-based learning (PBL) and research-based learning (RBL).
28. Faculty Offices/Chambers need to be upgraded.
29. Extra space for extra- and co-curricular activities of students may be provided.
30. Lifts and Ramps to be provided to cater to the needs of specially abled students/ faculty members/non-academic staff.
31. Electricity Backup to be provided through Generators.
32. Sports facilities need to be improved to cater to the needs of entire student population.
33. Exam questions to test all cognitive categories: recall, understand, apply, analyse, evaluate and create - to avoid the existing practice of overwhelmingly test recall, occasionally understand and rarely others.
34. Updated training of the faculty members in contemporary pedagogy, e.g., Revised Bloom's Taxonomy (RBT).
35. Multi-tasking training for non-academic staff to be initiated to sustain interest and motivate them.
36. 24x7 online feedback system by the students to be in place.
37. Structured counselling & mentoring processes need to be initiated.
38. Different inputs for slow, normal and fast learners to be initiated.
39. Support services need upgradation.
40. To establish systems for Waste Management and Sewage Treatment Plant (STP).
41. To increase the budget for library.
42. To provide a separate common room with wash room facility in the department/faculty division for girl students.
43. Regularization of some of the non-teaching staff who are on probation/daily wages.
44. To specify KPIs and performance appraisal based on API score including teaching, research, consultancy, institutional development and administrative contributions.
45. To avoid academic-inbreeding in recruitment of faculty members.
46. To establish meaningful research and extension policy and procedures.
47. To establish placements division for campus job placements of students.
48. To obtain corporate funding through industrial collaborations.

49. To strengthen student-faculty interaction.
50. To establish registered alumni association.
51. Process definition of knowledge transfer and its continuous improvement plan need to be in place.
52. Program Learning Outcomes (PLO) or Program Outcomes (PO) should be communicated to students so that they can articulate the knowledge and skills they have acquired.
53. Delay in result declaration and resulting session jam should be avoided.
54. Credit-content balance needs to be maintained in the courses and overlapping course content needs to be removed.
55. Centralised and uniform examination system needs to be followed across the departments in the University.
56. Cafeteria needs to be upgraded and quality of food should be hygienic.
57. A formal registered Alumni Association needs to be established in the department.
58. Day care centre should be established in the campus for the infants of faculty and staff members of the University.
59. Transport facility should be provided to students and faculty members.
60. Wash room facilities should be increased.
61. Central facility for organization of events needs to be created.
62. University ambience should be improved to provide a sense of safety taking into account of the campus being situated in a very crowded location.
63. Group medical insurance to be provided to staff members.
64. Overtime compensation for non-academic staff needs revision.
65. Full time medical doctors should be recruited in the medical centre.

5.3. Judgements on Overall Performance in Specified Aspects

Computer Science and Engineering Department of University of Asia Pacific has been producing graduates for the past six years and committed to provide quality education in the years to come. The Self-Assessment Report of the Department, site visits, and meetings with various stakeholders at the University and outside the University were the source of information for analysis and review on the performance quality of the academic entity. The external peer review team found successes in some good practices. There are some areas where improvements are required. The team has made judgments on specific and overall performance of self-assessment. Based on the observations during the peer review visit by the Review Team, various aspects were judged using the given rating scale as shown in Table 5.1.

Table 5.1: Numerical weights of judgement in different aspects

S No	Aspects Reviewed	Judgement Given	Numerical Weight
1	Governance	Very Good	4
2	Curriculum Design and Review	Very Good	4
3	Student: Admission Progress and Achievements	Very Good	4
4	Physical Facilities	Good	3
5	Teaching and Learning	Very Good	4
6	Assessment of Student Performance	Good	3
7	Student Support Services	Very Good	4
8	Staff and Facilities	Good	3
9	Research and Extension	Good	3
10	Process Management for Continual Improvement	Very Good	4
Total		**Very Good**	**36**

5.4. Overall Judgement

The score achieved in different aspects of review was totalled for overall rating of performance. Table 5.2 provides the final score and overall judgement.

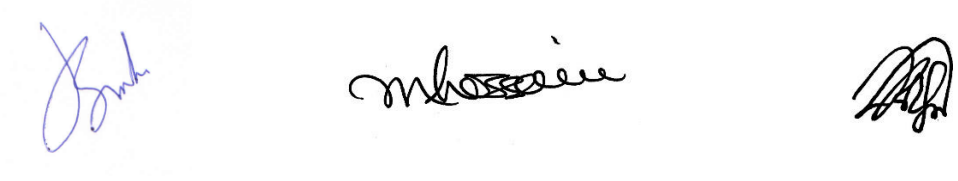
Table 5.2: Final score and overall judgement by external peer review team

S No	Final Score	Overall Judgement
1	0-15	Unsatisfactory
2	16-25	Poor
3	26-35	Good
4	**36-45**	**Very Good**
5	46-50	Excellent

Considering the judgements given for the different QA aspects, the Review team is able to give an overall judgement of **Very Good** for the **Department of Computer Science and Engineering (CSE) of School of Engineering at University of Asia Pacific (UAP), Dhaka, Bangladesh**.

5.5. Acknowledgement and Affirmation of External Peer Review Report

The members of the external peer review team prepared this report of Computer Science and Engineering Department of University of Asia Pacific, Dhaka, Bangladesh. The findings and recommendations of this report are based on the critical observations of the team on various aspects of the entity and its current status of performance stated in the Self-Assessment Report and outcomes of discussions with the representatives of major stakeholders within and outside the University during the visit of the team on January 17-19, 2018.



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