

Executive Summary
Self-Assessment Report of Program MS in Computer Science
Directorate of Quality Enhancement (DQE)
Virtual University of Pakistan

The Virtual University of Pakistan was established in 2002 intending to provide extremely affordable world-class education to aspiring students all over the country regardless of their physical location by alleviating the lack of capacity in the existing universities while simultaneously tackling the acute shortage of qualified professors in the country using free-to-air satellite television broadcasts and the Internet. To pursue this aim, the Department of Computer Sciences is designated to initiate and implement the Self-Assessment process designed by the Quality Assurance Agency (QAA) of HEC. The current document summarizes the findings of the self-assessment process for MS in Computer Science (MSCS).

The department of Computer Sciences is committed to producing graduates who can develop computer applications/processes to enhance the efficiency & effectiveness of organizations to lead in the global marketplace. The department follows its vision in all of its courses and areas of specialization offered at both Master and Bachelor levels. The department feels satisfied upon completion of the following list of tasks:

1. Development of **Self-Assessment Report (SAR)** by Program Team for MSCS program.
2. Conduct of critical review and submission of the **Assessment Report (AR)** by the Assessment Team for the MCS program.
3. Development of **Rectification Plan** by Head of Department.

The tasks were completed according to the set methodology through Program and Assessment Teams nominated by the Rector upon recommendation of the Department.

Methodology

The methodology adopted to complete the whole SAR cycle is described below:

1. A Program Team (PT) was nominated for the program. Initial orientation and training sessions for all the members were arranged by DQE. The composition of PT is given in Table 1:

Table 1: Program Team

Name	Designation
Mr. Shoaib Aftab	Lecturer (Computer Sciences)
Mr. Shah Muhammad	Lecturer (Computer Sciences)

2. All the relevant material such as the SAR manual, survey forms, etc. was provided to PT.

3. Continuous support, guidance, and feedback were provided to PT members to prepare the SAR for the said program.
4. After completion and submission of the final SAR by PT, an Assessment Team (AT) was formed by the Rector upon recommendation of the Department. The composition of AT is given below in Table 2:

Table 2: Assessment Team

Name	Designation
Dr. Saima Munawar	Assistant Professor, CS, Virtual University of Pakistan
Dr. Nida Anwer	Assistant Professor, CS, Virtual University of Pakistan

5. The SAR developed by PT was forwarded to AT for critical review.
6. After completion of the critical review and assessment of the SAR, AT members visited the department and had a meeting with PT.
7. After the visit, AT submitted a report and feedback form (Rubric Form) to DQE.
8. DQE forwarded the observations & findings of AT report to the Head of the Department for developing a rectification plan.
9. DQE will now monitor the implementation of the Rectification Plan.

Parameters for the SAR:

The SAR is prepared on the following eight (8) criteria prescribed by HEC:

- Criterion 1: Program Mission, Objectives, and Outcomes Criterion
- Criterion 2: Curriculum Design and Organization Criterion
- Criterion 3: Laboratory and Computing Facility Criterion
- Criterion 4: Student Support and Advising Criterion
- Criterion 5: Process Control Criterion
- Criterion 6: Faculty Criterion
- Criterion 7: Institutional Facilities Criterion
- Criterion 8: Institutional Support

Key Findings of the SAR:

Following is the summary of the key SAR findings:

Academic Observations:

1. The evidence of approval of university mission from statutory bodies is not provided. In addition to this, the display of the university's mission is insufficient.
2. The departmental and program mission statement should be published on "Department" specific web pages after approval from the statutory bodies. The non-existence of web pages for each 'Faculty' makes it impossible to publish important information like statements and program details for public awareness.

3. The skills identified are mismatched with the PLOs statements. The alignment of PLOs and outcomes is irrational. There is no way to link a single learning outcome with many PLOs at once. Multiple outcomes can be achieved with a single PLO, but the opposite is not true.
4. The standards 2.3, 2.4, and 2.5 are either missing or not addressed properly.
5. The details of research work, allocation of supervisors, and student-teacher interactive sessions are missing in the report.
6. Offering courses to meet each PLO's requirements is illogical because they do not explicitly say that PLOs cover various specializations.
7. A Sufficient number of specialized faculty members are available to address various learning requirements of specializations except "Database Specialization" as no Ph.D. faculty member specialized in this domain is available.
8. Feedback in terms of various surveys like employer surveys, course evaluation, etc. to assess the program effectiveness is not available.
9. As per the information provided by PT, the study centers are sufficient enough to meet the academic needs of the students, however, to assess the adequacy and effectiveness of those recourses to meet student's academic needs, the audit reports of the last three years must be provided with SAR to AT because due to geographical locations of these centers, the physical audit/inspection by AT is not possible.
10. The manual of LMS is not available for end-users. How newly enrolled students become familiar with LMS for various activities.
11. Lab manuals must be prepared and available to students for reading in labs.
12. The contributions of the faculty of the CS department in terms of scholarly activities are not provided. It should be maintained and must be provided to AT for evaluation.
13. There are no such guidelines for ethics that are concerned for students to have provided or conveyed to teachers. In the online mode system students miss the opportunity of learning ethics, communication skills, and the experience of the teacher.

Administrative Observations:

- Faculty development incentives are not sufficient; for instance, faculty should be encouraged with flexible timings or with half-paid salaries to peruse Ph.D. programs
- To engage and incentivized the faculty, the University must devise an internal "Best University Teacher Award" and encourage faculty to participate in that competition.

Conclusion and Recommendations:

While analyzing Criteria Referenced Self-Assessment, it has been found that the performance of the department is satisfactory but still, many gray areas keep it from performing well. It is reflected in terms of a moderate overall assessment score (66/100) reported by AT. This average score demands that the rectification plan should be implemented immediately.

According to the scorecard, criterion # 1 & criterion # 3 are rated low and become a major reason for this moderate score. The criteria are related to "Mission, Vision, and Goals" and "Laboratory" according to AT. The approval of mission states of the university and department are not approved by the competent authority. The labs are there but the implementation of lab work is not done so far which is required for practical exposure of the students.

The Need Improvement areas identified during the self-assessment process have been reported to the Head of the respective Department and specific rectifications have also been requested. DQE will follow up on the implementation plan as per the specific time frame.

Prepared by:

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Director DQE: _____

The Rector: _____