

Executive Summary

Program Associate Degree in Computer Science

Cycle III (2022-23)

The Department of Computer Sciences has been chosen to commence and implement the Self-Assessment procedure proposed by HEC's Quality Assurance Agency (QAA) in order to pursue the VU mission of quality education. The current document summarizes the findings of the self-assessment process executed for the Associate Degree in Computer Science program.

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's** and **Bachelor's** levels. The department feels satisfied upon completion of the following list of tasks:

1. **Development of Self-Assessment Report (SAR)** by the Program Team (PT) for the AD (CS).
2. Conduct of critical review and submission of the **Assessment Report (AR)** by the Assessment Team (AT) for the AD (CS) 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 on the recommendation of the Department.

Methodology

The department adopted the identical methodology defined by the QAA. The methodology includes the nomination and notification of PT and AT after approval of the competent authority. Initial orientation and training sessions for all members were arranged. All the relevant materials like the manual, survey forms, etc. were provided to PT and AT.

Program & Assessment Teams

Sr.#	Name	Type	Designation
1.	Mr. Qaiser Shabbir	PT	Tutor (Computer Science)
2.	Dr. Said Nabi	AT	Tutor (Computer Science)

PT developed the SAR in accordance with the following eight (8) criteria provided by QAA.

- Criterion 1: Program Mission, Objectives, and Outcomes
- Criterion 2: Curriculum Design and Organization
- Criterion 3: Laboratory and Computing Facility

- Criterion 4: Student Support and Advising
- Criterion 5: Process Control
- Criterion 6: Faculty
- Criterion 7: Institutional Facilities
- Criterion 8: Institutional Support

Various recommended surveys (Graduating, Alumni, and Faculty satisfaction) were also conducted to collect diverse feedback. A meeting was arranged on May 24, 2023, at the Lawrence Road office for critical evaluation of the program by AT in which all DQE team members were also present. After the meeting, AT submitted a report and feedback form (Rubric Form) to DQE. Based on the findings of AT, the Head of the Computer Science Department was requested to develop a rectification plan. Continuous support, guidance, and feedback were provided to both PT and AT members to prepare the SAR and AT Reports for the said program. DQE will now monitor the implementation of the Rectification Plan.

Key Findings of SAR:

A summary of the key findings from SAR is given below:

Academic Observations:

1. The academic observations presented in Cycle II are still not rectified yet. The status of the previous implementation plan is not traceable from the SAR.
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 learning objectives and outcomes of the program are not mapped appropriately and therefore are also not measurable. The mechanism behind this mapping is also not defined.
4. Employer's survey to assess the quality of the program graduates is missing.
5. Feedback in terms of various surveys like employer surveys, course evaluation, etc. to assess the program's effectiveness is not available. No proper findings and analysis are made in the report.
6. The learning objectives and outcomes of the courses offered in AD programs are abstract and difficult to measure regardless of whether these courses are owned by the department or taken from other departments.
7. The study scheme of AD CS must be revised according to the new curriculum of HEC.

8. There is a gap between the University program outcomes and Industry requirements.
9. The various survey form needs to be improved to collect feedback regarding various aspects.
10. AI-enabled automation must be incorporated to make certain processes automate and to reduce the workload of the faculty.
11. For the AD program in Computer Science, it is reported that lab work is being offered; however, no information regarding the conduct of those labs, the assessment, and the monitoring of lab work is available.

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.
- Lack of time for research activities is identified as a major weak area of the job description of faculty associated with the Virtual University of Pakistan.
- To engage and incentivize the faculty, the University must devise a mechanism of flexible working hours, increase salary, and reduce workload.

DQE Observations

1. To represent the course type, VU internal terminology is used which is not common for all readers. Therefore, it suggested revising the categories similar to HEC nomenclature like Foundation, Compulsory instead of “Required” etc. In addition to this, publish updated information on the website.
2. VU-owned and private campuses have well-equipped latest computer labs. However, this claim must be rationalized through facts and figures provided in periodic campus audit reports. There must be periodic auditing for Labs / PVCs.
3. The fact that facilities in the classrooms at campuses are available can be verified either through physical visits or through annual audit reports of the campuses.
4. The evaluation mechanism to evaluate any process is not defined in the document. Who initiates the evaluation? How frequently are the processes evaluated? How are the outcomes of such evaluations used for decision-making? The answer to these questions is unavailable. Summarize all the processes being followed by the department in a tabular format along with the parameters mentioned above.
5. The manual of LMS is not available for end-users. How newly enrolled students become familiar with LMS for various activities.
6. There is no mechanism available to evaluate the program’s performance as a whole. The different interfaces like LMS or VIS are designed to evaluate different courses. A

dashboard must be designed to review the program's performance after defining various KPIs at the program level.

7. The SAR contains too many grammatical and formatting errors. Despite repeated directions, the problem persists. One of the faculty's excuses is that the WPS software is not user-friendly and has compatibility concerns with Microsoft MS Word.
8. It is not predictable from the report that any mechanism is in practice to assess the overall performance of the department periodically using quantifiable measures.
9. There are no such guidelines available about soft skills and ethics available for students. In the online mode system, students miss the opportunity of learning ethics, communication skills, and the experience of the teacher.

Conclusion and Recommendations:

While analyzing Criteria Referenced Self-Assessment, it has been found that the performance of the department is **Good to Excellent** but still, many gray areas keep it from performing well. It is reflected in terms of the moderate overall assessment score (73/100) reported by AT. This average score demands that the rectification plan should be implemented immediately. According to the scorecard, criterion # 8 is rated low and becomes a major reason for this moderate score. The criterion is related to "Institutional Support" and according to AT, 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:



Mubashar Majeed Qadri
Manager Quality Assurance

Endorsed by:

Dr. Raja Fakhar Ul Inam
Director,
Directorate of Quality Enhancement