

## **Executive Summary**

### **Program BS (Software Engineering)**

### **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 BS Software Engineering 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 BS (SE)
2. Conduct of critical review and submission of the **Assessment Report (AR)** by the Assessment Team (AT) for the BS (SE) 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**

<b>Sr.#</b>	<b>Name</b>	<b>Type</b>	<b>Designation</b>
1.	Mr. Faizan Tahir	PT	Lecturer (Computer Science)
2.	Dr. Maimoona Salam	AT	Assistant Professor, (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 mission statements of the department and program are not available on VU's website for public awareness.
3. The mapping of objectives vs outcomes is not plausible. A single outcome is mapped with too many objectives. The mechanism behind this mapping is also not defined.
4. Employer's survey to assess the quality of the program graduates is missing.
5. The course contents need extensive review and revision to meet the latest technology requirements.
6. The study centers are sufficient to meet the academic needs of the students, but no evidence is available regarding the audit of physical facilities. Are these facilities effective and efficient to meet students' needs? The list of software available to students at study centers is missing.
7. Adobe Connect Sessions are used as a means of student-faculty interaction; however, it is not evident to what extent these sessions are effective. The lab's assessment details are also missing in this report.
8. No formal and systematic career and professional counseling mechanism is available for students.

9. University has the infrastructure to counsel and advise students but how it is measured, is not specified yet. The effectiveness and efficiency of such a system need documented evidence in the form of a feedback survey.
10. The processes of the university are very strong and centralized. The important aspect is the review and evaluation of these processes. No evidence is available to learn when these processes are being evaluated.
11. Lack of library resources is a major issue. The university should ensure that library resources are available for students. The E-library should contain all the required resources especially e-books of BS-SE. It is reported in the document that an e-library or digital library is used but no supporting documents like e-catalog, login logs, a total list of subscribed Journals, e-books, etc. are available.

### **Administrative Observations:**

- It has been seen that the activity calendar is not followed in its letter and spirit, and as a result, the faculty must make extra efforts to rearrange the academic activities; for instance, every semester, the course selection date is extended, because of that, faculty face difficulties to manage all activities required in the course.
- Only one software house is available at LRO, Lahore. This facility is not accessible for those students living in different areas, as observed that the student enrollment in BSSE is very high in several locations, e.g., Rawalpindi, Faisalabad, Gujranwala, Sialkot, etc.
- There is a shortage of faculty offices. However, the existing offices for faculty should be improved to maximize their productivity.
- A shortage of faculty members having SE specialization is observed in the department.

### **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.

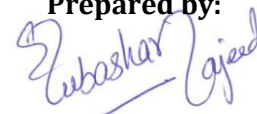
5. The manual of LMS is not available for end-users. How newly enrolled students become familiar with LMS for various activities.
6. There is no mechanism available to evaluate the program's performance as a whole. The different interfaces like LMS or VIS are designed to evaluate different courses. A 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.

### **Conclusion and Recommendations:**

While analyzing Criteria Referenced Self-Assessment, it has been observed that the performance of the department is **Good**. However, many gray areas have been identified/reported by AT due to which the department is perceived as underperformed. This perception is reflected in terms of a moderate overall assessment score (68/100) reported by AT. This score calls for the immediate implementation of a rectification plan. There are two Criteria due to which the department's performance to some extent needs improvement; the first is the **Institutional Facilities** and the second is **Institutional Support** to achieve the program's objectives.

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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