Executive Summary
Self-Assessment Report (SAR) of Program BS Bioinformatics
Directorate of Quality Enhancement (DQE)
Virtual University of Pakistan

The Virtual University of Pakistan established in 2002 with the aim to provide extremely affordable world class education to aspiring students all over the country regardless of their physical location. The University also seeks to alleviate 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 Bioinformatics and Computational Biology is designated to initiate and implement the Self-Assessment process designed by Quality Assurance Agency (QAA) of HEC. The current document summarizes the findings of self-assessment process of BS Bioinformatics program.

The department is committed to producing graduates who can lead organizations towards success and prosperity in the global marketplace. The department follows its vision in all of its courses and areas of specialization that offered at both Masters and Bachelors levels. The department feels satisfied upon completion of the following list of tasks:

1. The development of *Self-Assessment Report (SAR)* by a Program Team constituted for **BS Bioinformatics** program

2. The conduct of critical review and submission of *Assessment Report (AR)* by an Assessment Team for BS Bioinformatics 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 following methodology is adopted to complete the whole SAR cycle:

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

Table 1: Program Team

Sr.#	Name	Designation
1.	Dr. Rashid Saif (Coordinator)	Assistant Professor (Faculty of Science and Technology)
2.	Mr. Fahad Rafique	Instructor (Faculty of Science and Technology)

2. All the relevant material such as 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 said program.

4. After completion and submission of the final SAR by PT, an Assessment Team (AT) was formed by the Rector on the recommendation of the Department. Accordingly, a Subject Specialist from other institution was also included. The composition of AT is given below:

Table 2: Assessment Team

Sr.#	Name	Designation
1.	Dr. Safee Ullah Chaudhary	Assistant Professor, Department of Biology, Lahore University of Management Sciences (LUMS) Lahore
2.	Dr. Muhammad Tariq Pervez	Assistant Professor (Faculty of Science and Technology)

5. The SAR developed by PT was forwarded to AT for critical review.

6. After completion of 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 Department for developing a rectification plan.

9. DQE will now monitor implementation of Rectification Plan.

Parameters for the SAR:

The SAR is prepared on the following eight (8) criteria prescribed by the 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 program mission statement reported by the PT is too long and unlike traditional style, it is written in bulleted form. It is suggested that statement must be rewritten in a short but comprehensive manner.

2. The objectives and outcomes of the program are not aligned properly. There is a need that these should be rectified and redesigned.

3. Few of the outcomes of the program are irrelevant and incompatible with the scope of the degree program.

4. The strengths and weaknesses of the program are inappropriately stated and it is hard that these attributes can convince the target audience.

5. The students required more access to biological databases to experiment bioinformatics tools and technologies.

6. The department is facing a shortage of Ph.D. faculty which has a negative impact on the performance of the department. Presently, there is only two faculty members (one Ph.D. and one MS) in the Bioinformatic domain. In future, more related faculty members may be hired.

7. The offices or cabin infrastructure for faculty members are not available which are necessary for 1-1 interaction between student and teacher.

8. The faculty of bioinformatic is not giving proper time to research and their publication output is not encouraging.

9. The results of faculty feedback survey predicted that there are many areas affecting the motivation level of faculty. The faculty development incentives initiated by the University are lacking the confidence of the faculty.

Conclusion and Recommendations:

The AT also rated this program with the help of Rubric Criteria provided by HEC for Self-Assessment. It has been found that AT has rated this program against a five-point scale and awarded a moderate overall assessment score (79/100). The score predicts that the performance of the department is good but still, there are many gray areas which are rated low and required a rectification plan and it should be implemented immediately to keep the department performing well.

The criterion rated very low in the rubric evaluation is Criterion # 8 which is about 'Institutional Support'. The criterion is related to 'retention of quality faculty members'. As highlighted in the faculty survey, AT has shown dissatisfaction about existing incentive plan to retain quality faculty. The shortage of relevant Ph.D. faculty members, the low publication

out and limited access to digital resources and physical library are the other areas where AT has great concerns.

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

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