Executive Summary
Self-Assessment Report (SAR) of Program MS 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 MS 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 MS **Bioinformatics** program

2. The conduct of critical review and submission of *Assessment Report (AR)* by an Assessment Team for MS 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. Naeem Aslam	Assistant Professor, Head Computer Science, NFC Institute of Engineering and Technology, Multan
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. Traditionally, a short but comprehensive mission statement is recommended but for current program, a lengthy and bulleted statement is provided by PT. It is suggested that department must revisit existing mission statement.

2. To ensure the extent learning objectives and outcomes of the programs are achieved, it is essential that both must be aligned but for this program, mismatching is observed and there is need to redefine them.

3. The department is lacking to have specialized faculty related to the domain in sufficient number. Currently, there are only two faculty members having a Bioinformatic specialization (one Ph.D. and one MS) which has a negative impact on department's creditability because the department will remain ineligible to run MS/Ph.D. programs in this domain. In future, more faculty members must be hired.

4. Faculty offices should be provided to make student-teacher interaction more conducive for learning.

5. The faculty is not giving proper time to research.

6. The confidence of faculty on 'faculty development incentives' is not encouraging as they have shown less satisfaction in faculty satisfaction survey; for instance, faculty should be encouraged with flexible timings or with half paid salaries to peruse Ph.D. programs.

Conclusion and Recommendations:

AT has rated this program against a five-point scale provided by HEC for Self-Assessment. AT awarded a moderate overall assessment score (77/100). The score predicted that the performance of the department is good but still, there are many gray areas that required a rectification plan which should be implemented immediately to enhance the performance of the department.

The AT rated the Criterion # 8 (Institutional Support) very low. The criterion is related to 'retention of quality faculty members'. According to AT, the current incentive plan to retain the faculty members is either inappropriate or not operational. The lack of specialized Ph.D. faculty members will create a problem for the department as the current number of faculty members is not matching the HEC requirements to run an MS program. Department must encourage its faculty to contribute in scholarly activities and increase publication output.

For this purpose, the limited access to digital resources and the physical library is an area of great concern.

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.

Prepared by:

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Mubashar Majeed Qadri

Manager, QA

Reviewed by:

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Rizwan Saleem Sandhu

Deputy Director, DQE

Director DQE: _____

The Rector: _____