

# Virtual University of Pakistan

## Assessment Team Report

Department: Computer Science & Information Technology

Program Title: MS in Computer Science

Assessment Cycle: Cycle-III

Assessment Year: 2023-24

### Criteria Referenced Evaluation

	Excellent Performance in all areas.	Good to Excellent Performance in all areas.	Good Performance for most areas *	Fair Performance in most of the areas.	Poor Performance in most of the areas.	Score
Criterion 1 - Program Mission, Objectives and Outcomes			✓			3.33
Criterion 2 - Curriculum Design and Organization	✓					17.00
Criterion 3 - Laboratories and Computing Facilities		✓				8.00
Criterion 4 - Student Support and Advising			✓			6.67
Criterion 5 - Process Control		✓				10.64
Criterion 6 - Faculty			✓			13.14
Criterion 7 - Institutional Facilities			✓			6.00
Criterion 8 - Institutional Support		✓				7.00

\* No poor performance in any areas.

Signagure of AT:

Name & Designation: Hasnain Ahmed, Assistant Professor (CS & IT)

*Hasnain*

Signagure of DQE Cordinator:

Name & Designation: Dr. Mubashar Majeed Qadri

Reviewed By:

*Mubashar Majeed*

Dr. Mubashar Majeed Qadri  
Manager Quality, DQE

<b>Criterion 1 – Program Mission, Objectives and Outcomes</b>					<b>Weight = 0.05</b>	
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Does the Program have documented measurable objectives that support faculty / college and institution mission statements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the Program have documented outcomes for graduating students?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Do these outcomes support the Program objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Are the graduating students capable of performing these outcomes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the department assess its overall performance periodically using quantifiable measures?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Is the result of the Program Assessment documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>0</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>0</b>
<b>Score 1 (S1) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>3.33</b>				

<b>Comments/Observations/Key Findings:</b>			
<b>1</b>	Need to revisit/review program objectives to make it measurable.	<b>1</b>	
<b>2</b>	Similarly, need to revisit program learning outcomes to make it measurable and align with the program objectives.	<b>2</b>	
<b>3</b>		<b>3</b>	
<b>4</b>		<b>4</b>	
<b>5</b>		<b>5</b>	
<b>6</b>		<b>6</b>	
<b>7</b>		<b>7</b>	
<b>8</b>		<b>8</b>	
<b>9</b>		<b>9</b>	

<b>Criterion 2 – Curriculum Design and Organization</b>					<b>Weight = 0.20</b>	
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Is the curriculum consistent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the curriculum support the program's documented objectives?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Are theoretical background, problem analysis and solution design stressed within the program's core material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Does the curriculum satisfy the core requirements laid down by respective accreditation bodies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the curriculum satisfy the major requirements laid down by HEC and the respective councils / accreditation bodies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Does the curriculum satisfy the general education, arts and professional and other discipline requirements as laid down by the respective / accreditation bodies / councils?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Is the information technology component integrated throughout the program?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Are oral and written skills of the students developed and applied in the program?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>20</b>	<b>8</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>Score 2 (S2) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>17.00</b>				

<b>Comments/Observations/Key Findings:</b>		
<b>1</b>	As this is a graduate program, therefore, it does not satisfy the general education, arts and professional and other discipline requirements including oral and written skills.	<b>1</b>
<b>2</b>	The curriculum very much follows the major requirements laid down by HEC.	<b>2</b>
<b>3</b>		<b>3</b>
<b>4</b>		<b>4</b>
<b>5</b>		<b>5</b>
<b>6</b>		<b>6</b>
<b>7</b>		<b>7</b>
<b>8</b>		<b>8</b>
<b>9</b>		<b>9</b>

<b>Criterion 3 – Laboratories and Computing Facilities</b>		<b>Weight = 0.10</b>				
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Are laboratory manuals / documentation / instructions etc. for experiments available and readily accessible to faculty and students?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Are there adequate number of support personnel for instruction and maintaining the laboratories?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Are the university's infrastructure and facilities adequate to support the program objectives?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>Score 3 (S3) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>8.00</b>				

<b>Comments/Observations/Key Findings:</b>		
1	Usually, labs with hardware are not necessary for research in computer science.	1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

<b>Criterion 4 – Student Support and Advising</b>		<b>Weight = 0.10</b>				
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Are the courses being offered in sufficient frequency and number for the students to complete the program in a timely manner?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Are the courses in the major area structured to optimize interaction between the students, faculty and teaching assistants?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Does the university provide academic advising on course decisions and career choices to all students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>5</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>0</b>
<b>Score 4 (S4) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>6.67</b>				

<b>Comments/Observations/Key Findings:</b>		
1	Most MSCS students being job holders, rarely interact with their course teachers. Most interactopm tales place during the research thesis.	1
2	Currently, there is no forum for for advising students regarding academic decisions and career choices.	2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

<b>Criterion 5 – Process Control</b>		<b>Weight = 0.15</b>				
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Is the process to enroll students to a program based on quantitative and qualitative criteria?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Is the process above clearly documented and periodically evaluated to ensure that it is meeting its objectives?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Is the process to register students in the program and monitoring their progress documented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Is the process above periodically evaluated to ensure that it is meeting its objectives?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Is the process to recruit and retain faculty in place and documented?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Are the processes for faculty evaluation & promotion consistent with the institution mission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are the processes in 5 and 6 above periodically evaluated to ensure that they are meeting their objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Do the processes and procedures ensure that teaching and delivery of course material emphasize active learning and that course learning outcomes are met?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Is the process in 8 above periodically evaluated to ensure that it is meeting its objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Is the process to ensure that graduates have completed the requirements of the program base on standards and documented procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Is the process in 10 above periodically evaluated to ensure that it is meeting its objectives?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>5</b>	<b>24</b>	<b>6</b>	<b>4</b>	<b>0</b>
<b>Score 5 (S5) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>10.64</b>				

<b>Comments/Observations/Key Findings:</b>			
<b>1</b>		<b>1</b>	
<b>2</b>		<b>2</b>	
<b>3</b>		<b>3</b>	
<b>4</b>		<b>4</b>	
<b>5</b>		<b>5</b>	
<b>6</b>		<b>6</b>	
<b>7</b>		<b>7</b>	
<b>8</b>		<b>8</b>	
<b>9</b>		<b>9</b>	
<b>10</b>		<b>10</b>	
<b>11</b>		<b>11</b>	
<b>12</b>		<b>12</b>	

<b>Criterion 6 – Faculty</b>			<b>Weight = 0.20</b>				
<b>Factors Score</b>			<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Are there enough full-time faculty members to provide adequate coverage of the program areas / courses with continuity and stability?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Are the qualifications and interests of faculty members sufficient to teach all courses, plan, modify and update courses and curricula?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Do the faculty members possess a level of competence that would be obtained through graduate work in the discipline?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Do the majority of faculty members hold a Phd degree in their discipline?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Do faculty members dedicate sufficient time to research to remain current in their disciplines?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Are there mechanisms in place for faculty development?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are faculty members motivated and satisfied so as to excel in their profession?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>			<b>5</b>	<b>4</b>	<b>12</b>	<b>2</b>	<b>0</b>
<b>Score 6 (S6) = [TV/(No. of Questions *5)] *100 *Weight =</b>			<b>13.14</b>				

<b>T</b>			
1	There is a need to define standard benchmark for student-teacher ratio in ODL.	1	
2		2	
3		3	
4		4	
5		5	
6		6	
7		7	
8		8	
9		9	



<b>Criterion 7 – Institutional Facilities</b>		<b>Weight = 0.10</b>				
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Does the institution have the infrastructure to support new trends such as e-learning?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the library contain technical collection relevant to the program and is it adequately staffed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Are the class rooms and offices adequately equipped and capable of helping faculty carry out their responsibilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>
<b>Score 7 (S7) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>6.00</b>				

<b>Comments/Observations/Key Findings:</b>		
1	The computer systems allocated to the faculty members need to be upgraded as they do not fulfill the system requirements of many new applications (in particular software development IDEs/packages).	1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

<b>Criterion 8 – Institutional Support</b>		<b>Weight = 0.10</b>				
<b>Factors Score</b>		<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Is there sufficient support and finances to attract and retain high quality faculty?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Are there an adequate number of high quality graduate students, teaching assistants and Ph.D. students?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Encircled Value (TV)</b>		<b>0</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>Score 8 (S8) = [TV/(No. of Questions *5)] *100 *Weight =</b>		<b>7.00</b>				

<b>Comments/Observations/Key Findings:</b>		
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

$$\begin{aligned} \text{OVERALL ASSESSMENT SCORE} &= S1 + S2 + S3 + S4 + S5 + S6 + S7 + S8 \\ &= 3.33 + 17.0 + 8.00 + 6.67 + 10.6 + 13.1 + 6.00 + 7.00 \\ &= 71.78 / 100 \end{aligned}$$

**Overall Comments by Assessment Team:**

There is a need to review the program objectives and outcomes to make it measureable.

**Comments by DQE Coordinator:**