



Capital University of Science and Technology

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Virtual Learning Environment (VLE) Monitoring Committee

Overview of Activities – Spring 2020

1. Commencement of Classes

- a. Online classes at Capital University of Science and Technology commenced on 18/03/2020, using the MS Teams software, and meeting the criteria set by HEC in Policy Guidance Note 5.
- b. CUST Online Teaching Policy was also designed in the light of HEC's Policy Guidance Note 5. This policy covered all the necessary guidelines for instructors and students, required for the execution of online classes and included guidelines regarding course registration and withdrawal, fee submission, as well as assessment guidelines, etc.
- c. Microsoft Teams accounts were created for all students and faculty members of university, before the commencement of online classes.
- d. Basic trainings were provided to faculty and students for smooth transition to new VLE environment.

2. Formation of Committees

Following committees were constituted to support online classes:

i. VLE Academic Council

- a. In pursuance of the guidelines received from the Quality Assurance Agency, HEC, VLE Academic Council was constituted to act as a formal decision making body to authorize online delivery of courses and resolve the problems related to these course. The council ensured that all the guidelines provided by the regulatory bodies for online classes are being followed. All required policies were drafted in the light of these guidelines, and approval was given by VLE Academic Council.
- b. VLE Academic Council gave approval of 404 courses, offered in Spring 2020, to go online.

ii. VLE Monitoring Committee

- a. VLE Monitoring Committee was constituted, under the Dean QEC, to monitor all the online classes through a proper formal mechanism. The composition of committee is given below:

Dr. Amir Qayyum, Dean QEC	Convener
Dr. Muhammad Sagheer, Director Student Affairs	Member
Dr. Nadeem Anjum, Assistant Professor SE	Member
Dr. Muhammad Tahir, Asstt. Prof, EE	Member
Dr. Salman Sagheer Warsi, Asstt. Prof, ME	Member
Dr. Shujaa Safdar Gardezi, Asstt. Prof, CE	Member
Dr. Abdul Basit Siddiqui, Asstt. Prof, CS	Member
Dr. Dur-e-Shahwar Sagheer Asstt. Prof, Math	Member
Dr. Mahboob Alam, Asstt. Prof, Pharmacy	Member
Dr. Arshia Amin Butt, Asstt. Prof, Biosciences	Member
Dr. Lakhi Muhammad, Asstt. Prof, MS	Member
Mr. Amir Waqas Azhar, Sr. Manager IT	Member
Mr. Alamgir Khan, Librarian	Member
Mr. Umair Manzoor, Asstt. Director QEC	Secretary

- b. All the matters related to VLE were discussed in nine meetings of the committee during Spring 2020, and minutes of the meetings were prepared and communicated to all departments and concerned offices.

iii. Technical Support Committee

- a. In pursuance of the HEC Policy Guidelines No. 5, a Technical Support Committee was constituted. The committee was responsible for providing technical support related to MS Teams, as well as the university LMS and other relevant technological software and hardware, ensuring smooth access for faculty and students (including ID creation, login issues, etc.).

iv. Grievance Committee

- a. A four-member grievance committee was constituted by the Academic Council in pursuance to the guidelines given by HEC, in order to address the problems and difficulties faced by students. The committee is headed by Prof. Dr. Mueen Aizaz Zafar, with Concerned HoD, Director Students Affairs and CoE as its members.

3. University Support

CUST provided extensive support to students during online classes.

- a. Some students living in far flung areas faced connectivity problem. These students were given drop option and courses withdrawal option.
- b. Twenty-nine students requested for semester break, which was approved by the competent authority.
- c. COVID-19 scholarships were introduced and given to the students who had to face financial problems during pandemic. In these scholarships, students were given up to 50% of fee waiver.
- d. Relaxation was also given to students in fee submission deadline.

4. Learning Management System (LMS)

The university adopted Microsoft Teams for online classes. Groups were created on Microsoft Teams for all the online courses. Students were communicated about the creation of groups, and were furnished with their login details well before the start of online classes. Basic trainings were provided to faculty and students for the smooth execution of online classes.

5. CUST VPN

VPN service for faculty and students was deployed by the IT Department of CUST. By using this service students and faculty can access the following university resources from home:

- a. Softwares
- b. Z Drives (home folder)
- c. Lectures
- d. Assignments

6. CUST Portal

CUST portal has a prime importance in facilitating students in their online classes. With the help of departments, all the required information related to courses was uploaded on portal.

7. VLE Monitoring Committee Members Weekly Reporting

VLE Monitoring Committee members present the reports of their respective departments weekly in VLE Monitoring Committee Meeting. All the issues and problems reported by the members are recorded in the Minutes of the Meeting, and are presented to Vice Chancellor regularly.

8. Weekly Departmental Meetings

All the departments organize departmental meetings on weekly basis. Objective of the meeting is to monitor and review the ongoing academic activities, and ensure the smooth conduction of online classes and exams. All policies from regulatory bodies and CUST are discussed for implementation. Problems faced by the faculty and students are discussed, and their solution is decided in the meeting.

9. Regulatory Authorities Guidelines

All the policies and guidelines shared by the Regulatory Authorities (HEC and PEC) are discussed in detail in VLE Monitoring Committee Meetings. It is ensured that all the guidelines are being followed in all the departments. In light of these guidelines, various policies are drafted and approved by VLE Academic Council.

10. Assessment Mechanism

Assessment mechanisms for quizzes, assignments and exams have been adapted for the online teaching environment. VLE Monitoring Committee discussed and suggested some assessment strategies:

- a. Exams should follow the open book approach, and students can be asked the application of knowledge, and hence being assessed based upon their understanding.
- b. Exams can be divided into different sections, with students distributed into these sections. Each group of students should have different sections to solve at one time.
- c. To conduct handwritten exam and upload the solution in a stipulated time.
- d. In order to make the assessment more effective, parameters of numerical problems may be replaced with registration number of the student, so that every student solves a different problem.
- e. Handwritten exams can be followed by a viva in which students should be asked about how they have solved the problem. Division of handwritten and viva marks can be set according to the situation.
- f. Student may be allowed to send his/ her exam through email or WhatsApp, if he/ she is facing problem in uploading the document on Microsoft Teams within the due time.
- g. It may be taken care that the time for examination is enough for students to solve it completely.

Later on, HEC Policy Guideline No. 6 on **Assessment and Examinations** was shared by HEC on May 21, 2020 which was adopted by CUST, as approved by the VLE Academic Council.

11. Graduate Studies Office

Graduate Studies Office continued their activities online in order to support students save their time. Graduate Studies Office conducted PhD and MS Thesis Defense through video conference, using Microsoft Teams. So far, six PhD and a number of MS Defense have been conducted. Submission of theses are made electronically to the Graduate Studies Office. The submitted theses are circulated electronically to both internal and external evaluators for review and comments. Emails are sent to all the students, teaching and administrative staff of university to ensure the open public defense of theses.

12. Capacity Development for Online Classes

Capacity development of faculty and students was required to smoothly adopt to the new virtual learning environment. A number of online training sessions were arranged in this regard by Quality Enhancement Cell, as well as by all the departments. A total of 80 trainings were arranged.

No.	Department	Number of Trainings
1	Quality Enhancement Cell	7
2	Electrical Engineering	17
3	Mechanical Engineering	7
4	Civil Engineering	22
5	Management Sciences	15
6	Computer Science	4
7	Bioinformatics & Biosciences	4
8	Pharmacy	4

13. VLE Email

An email with address vle@cust.edu.pk was created to facilitate students. This email address was communicated to all the students of university by sharing it on the university website,

social media networks and student app. Various complaints including connectivity issues, assignment / quiz submission problems, etc. are received from students. Student is acknowledged when the email is received. Head of Department of the concerned department is taken in loop, where required, and all such complaints are resolved on priority basis. Record of all these emails is maintained for audit. So far, more than 200 emails have been received from students, and all of them have been replied accordingly.

14. Class Held Reports

Class held reports are being maintained on daily basis by the QEC. The status of class attendance is also discussed in the VLE Monitoring Committee meetings. Different strategies have been adopted at departmental level to increase the students class attendance. Class Held Summary for June 02, 2020 is given as an example in the table below:

No.	Department	Total Classes	Held Classes	Students Attendance (%)
1	Electrical Engineering	19	19	90.3
2	Mechanical Engineering	25	25	89.1
3	Civil Engineering	27	27	90.2
4	Computer Science	51	51	85.1
5	Software Engineering	35	34	84.5
6	Management Sciences	69	69	84.2
7	Mathematics	1	1	95.9
8	Bioinformatics & Biosciences	21	21	93.7
9	Pharmacy	2	2	100
	TOTAL	250	249	90.3

15. Midterm Examinations

Suitable arrangements were made at university level, and thorough discussions were held in VLE Monitoring Committee meetings to make the Midterm examination successful. Makeup exams were arranged for the students who couldn't take the midterm exam due to connectivity issues. Overall, Midterm examinations were conducted successfully, maintaining the integrity of examinations and facilitating the students, and all issues were handled and resolved by the departments in a timely manner.

16. HEC Students Survey for Online Teaching

Students survey for online classes was conducted on the instructions of HEC. The methodology of survey conduction was finalized in VLE Monitoring Committee meeting. The survey was

conducted using a survey form to collect the data from students online. Around 80% of the students responded to the survey. Report of the survey was compiled by QEC and submitted to HEC on May 15, 2020.

17. Student Internships

VLE monitoring Committee discussed and reviewed the departmental plans for student internships and survey camp (for CE department) under the lockdown situation. Different strategies were adopted by the departments, taking into consideration the regulatory authorities' guidelines. All the departments gave special attention to the graduating students, in order to facilitate them in completing their degrees in time.

18. Final Year Projects/ Labs

Issues related to Final Year Projects (FYPs) and labs were discussed in VLE Monitoring Committee. The committee proposed that the psychomotor part of labs for graduating students should be covered during crash program to be conducted when university opens. It was also suggested that if regulatory bodies allow an alternate solution for completion of psychomotor skills during this semester, departments should follow accordingly. Similarly, different options for FYPs were also discussed for timely degree completion of graduating students.

19. Final Term Examinations

SOPs for final term examinations were issued by the Controller of Examinations. These SOPs covered all the guidelines for the smooth conduction of examinations. SOPs were discussed in detail during the 8th VLE Monitoring Committee meeting. Problems related to the exams were discussed, and their solutions were presented by the committee.

Exam Held Report is being maintained by QEC on daily basis. This report gives department-wise details of exams held, students' attendance, problems faced and actions taken. The overall attendance of final term examinations is above 95%, that shows successful execution of exams.

Exam Held Summary for July 02, 2020 is given as an example in the table below:

No.	Department	No. of Exams Scheduled	No. of Exams Held	Student Attendance (%)	Issues Faced	Actions Taken
1	Electrical Engineering	3	3	99.01	One student absent	NA
2	Mechanical Engineering	2	2	100	No Issue	NA

3	Civil Engineering	5	5	100	Connectivity issue of 1 student who submitted paper almost 8 minutes late	Issue was genuine and student was accommodated
4	Computer Science	10	10	99.91	2 students were absent	Tried to contact absent students
5	Mathematics	0	0	0	NA	NA
6	Bioinformatics & Biosciences	3	3	100	No Issue	NA
7	Management Sciences	11	11	98.68	Few students were absent	Students were contacted, they declined to join the exam. Some were fee defaulters

20. Feedback of VLE Monitoring Committee and Departments

At the conclusion of Spring 2020, following comments have been received from the VLE Monitoring Committee members on behalf of their departments, that also includes the suggestions for further improvement:

i. Positive Outcome of VLE:

VLE was one of the best available options to continue studies without any break. Majority of the faculty members showed adaptability and fully cooperated in effective implementation of online education. There was a sense of individual attention and even shy students were not afraid to ask questions. Lecture recordings are great resources for students that can be accessed from everywhere subject to availability of devices and internet access. Another positive outcome was the effective utilization of technology.

ii. Challenges Faced:

Major challenge faced by the departments was the fair assessment of exams, quizzes and assignments while accommodating internet connectivity issues faced by the students. If not handled appropriately, it can be easier for students to use many unfair means during an assessment process. To some extent, there was adaptability issues as students switched from traditional classroom system to online classes. The quality of practical courses (e.g., Labs,

FYPs etc.) was affected to some level. Another challenge was to train faculty and students, that was cope up with the efforts of university. More efforts in lectures delivery to bring good alternate to physical interaction, so that students can understand the required explanations in an effective way.

iii. Way Forward/ Suggestion:

Development of stakeholder committee comprising of students, faculty and administration can help develop sense of ownership amongst students, and can help them realize the severity of situation and the way university is dealing with it. Motivational sessions can be organized for students/parents to explain the importance of continuing the studies with the same attention in this uncertain situation. Training the students and faculty in advanced software tools related to VLE can also be useful. Installation of web cams for monitoring of students during assessments can be beneficial. Video recording of lab experiments and provision of Pen Tablets to faculty can help in better demonstration to students.

Having a detailed analysis of Spring 2020 semester will help to identify areas if improvement. Students' feedback be carried out and analyzed critically with a focus to improve VLE. Teacher's feedback can be obtained to explore strategies other than those adopted in Spring 2020 for students' assessment. If possible, we can try to adopt a kind of “hybrid teaching system”. Following the SOPs, a sufficient number of students should be invited to campus for problem solving sessions, quizzes and exams. Offline option should be available for those students who are unable to attend online classes.