

QEC

NEWSLETTER



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QEC's Endeavours at CUST

CUST is determined to manage quality assurance through its immaculate processes aimed at bringing continuous improvement in its teaching – learning processes and research. CUST has designed and implemented an adequate quality assurance mechanism to ensure that its graduates are equipped satisfactorily with the requisite skills and competencies to meet present day workplace requirements. Quality assurance is considered as a systematic and continuous process and constantly monitored by the Quality Enhancement Cell. The QEC safeguards the smooth functioning of the institution and assure the stakeholders that the mission of the institution is being accomplished for which it was established.

Considering the critical role of quality assurance processes and the regulators' requirement and expectations, CUST is striving hard to ensure the quality of programs, teaching-learning environment, research and internship. A structured approach to quality assurance has been adopted by CUST in line with institution's mission related outcomes/programs which reflected significant value addition through valuable contribution of its graduates to the society.

Consequently, CUST QEC introduced progressive interventions into existing internal quality assurance processes to ensure provision of effective, holistic learning environment through its academic programs at undergraduate and graduate level. Continuous capacity development of faculty, being considered as pivotal for quality instruction, CUST has established a Faculty Development Centre under QEC auspices to assess faculty's professional needs and then organized different training workshop sessions accordingly. During Covid-19 Pandemic, Online Classroom teaching was introduced as per HEC COVID-19 readiness guidelines. LMS was restructured and upgraded keeping in view the online instruction requirements.

Remote access to the faculty and students was arranged through VPN in a an efficient and professional manner. HEC declared CUST as one of the leading universities for the provision of online instruction readiness. Faculty was exposed to and trained in the area of online teaching and assessment through Microsoft Teams sessions. Peer Review Observation, a formative practice model was introduced by QEC through structured instruments wherein the quality of online classroom teaching-learning was assessed and opportunities were provided to the faculty to learn from sharing experiences. This activity also helped in identifying the strength and areas where improvement or professional training is required.

CUST QEC is planning to initiate the idea of awards and rewards to appreciate academic contributions and services by the faculty towards teaching, research and society under the title "Best

Faculty Award" at all levels.

QEC being an integral part of the institution is putting all its effort under the guidance of the Vice Chancellor and as per institution's vision to develop CUST as a reputable institution of the country imparting quality education, producing graduates with high level leadership and professional skills compatible with any national and international institutions.

Establishment of Professional Development Centre

Continuous development and capacity building of the faculty and staff is essential for efficient and effective delivery of academic as well as administrative services to our students. Considering this fact, the competent authority established a Professional Development Centre (PDC) at Capital University of Science and Technology on November 11, 2020. The main objective of the PDC is to provide faculty and administrative members all the facilities which may help them to perform their services to distinguish CUST from other HEI's. In this backdrop, Director QEC has been entrusted with the responsibility to perform all activities of the Professional Development Centre. After the establishment, multiple capacity building sessions on different topics have been arranged by the PDC for the development of the faculty. These sessions include Course Management, Effective Teaching Online Teaching Methods, Introduction to Andragogy and Engagement in Online Learning, Online Student Engagement, Outcome Based Education, Effective Teaching Methods, Quality Benchmarking in HEIs and Curriculum Designing.



Training Need Assessment and Focused Group Discussion

Professional Development Centre at Capital University of Science and Technology (CUST) is regularly arranging capacity building sessions on different topics/ themes related to faculty professional development. A good number of faculty members from different departments have been already exposed to different sessions being conducted by trained by internal and external resource persons/ experts. Based on the past experience and feedback received from these training sessions, Professional Development Centre is planning to assess the actual need of both faculty and university administrative

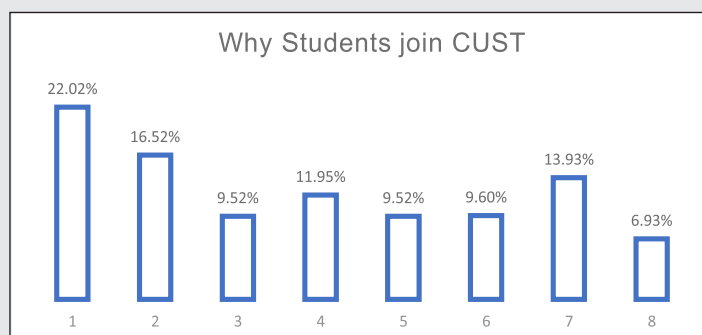
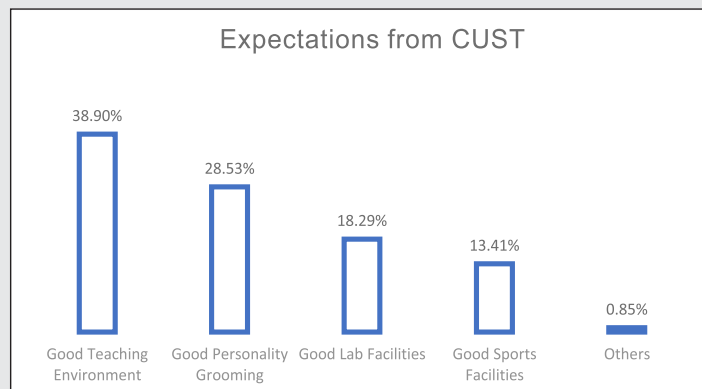


staff for future planning of its training programs based on these identified areas/themes. This exercise would enable us to assess faculty and administrative staff actual professional needs and their understanding of different areas/ tasks related to their job description. It would further help us to identify specific areas, where they require training and give us an idea to plan our future training accordingly. Therefore, focused group discussion has been conducted with faculty members for the assessment of the training needs in which Dr. Ahsan M. Ahmed, Assistant Professor, Faculty of Management and Social Sciences was a moderator. Moreover, for the training need assessment of the administrative staff Dr. Ansir A. Rajput, Associate Professor, Faculty of Management and Social Sciences, collected the data on the structured instrument and based on the findings of collected data identify further areas for future trainings.

Internal Quality Assurance Freshman Survey for Spring 2021

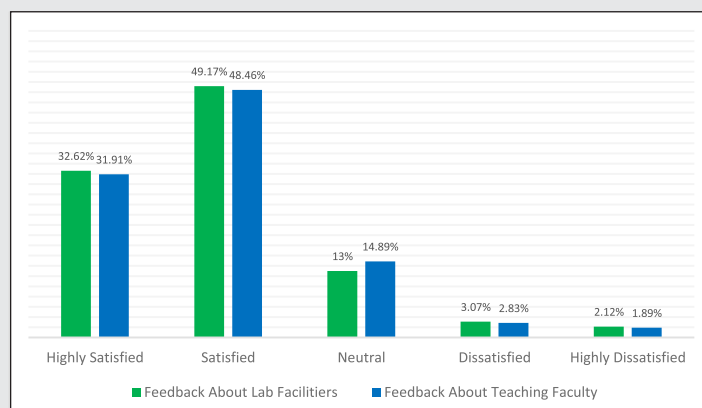
A Freshman Survey was conducted for the new intake in the Faculty of Health and Life Sciences, Faculty of Management and Social Sciences and Faculty of Computing. The survey covered their present situation analysis and expectations from

CUST. A total of 405 students from all the faculties participated in the survey. Analysis of the survey reflected that the majority of the students' expectation is good teaching environment and personality grooming. Other reasons to join CUST were related to good quality of education and environment.



Exit Survey for Spring 2021

An Exit Survey was conducted for the graduating batch of Department of Computer Science, Department of Bioinformatics and Bioscience, Department of Management Science, Department of Software Engineering, Department of Electrical Engineering, Department of Civil Engineering, and Department of Mechanical Engineering. A total of 423 students participated in the survey, and majority of the students showed satisfaction with the teaching faculty, lab facilities and personal grooming.



Mr. Fida Hussain Joins CUST as Director QEC

Mr. Fida Hussain joined Capital University of Science and Technology (CUST) as Director QEC on March 01, 2021. Mr. Hussain brings along a vast experience of education sector spanning over a period of around three decades. He is an educationist, with more than 15 years of experience working at Higher Education Commission in various capacities. He recently



retired from HEC as Adviser. Earlier, he served as Director General of various divisions at HEC, including Quality Assurance Agency, Quality Assurance Division, Learning and Innovation Division, Accreditation and Sports. His depth of experience and knowledge will help CUST further improve its quality.

Meetings

32nd Meeting of Quality Assurance Committee (QAC)

32nd meeting of (QAC) was held on April 12, 2021. Director QEC chaired the meeting and briefed the committee about the



successful completion of Freshman Survey, Faculty Satisfaction Survey and Course Feedback Report and submission of the report to the Vice Chancellor. Director QEC also informed about the Assessment Team Meetings that were conducted by the QEC for Ph.D. Civil Engineering and Ph.D. Mathematics programs in which Dr. Naeem Ejaz from University of Engineering and Technology, Taxila and Dr. Tanvir Akbar Kayani from COMSATS University Islamabad participated as external members. He shared that it was the first time that external members were engaged in this process which will certainly help to improve the quality of these programs in future. Both the assessment team members showed their satisfaction on the programs and made some useful suggestions.

33rd Meeting of Quality Assurance Committee (QAC)

33rd meeting of QAC was held on July 08, 2021. Director QEC chaired the meeting and briefed about the new initiatives of the QEC which are Online Classroom Peer Review Observation, Capacity Building sessions for faculty members under the umbrella of Capacity Building Centre and Best Faculty Award. He also apprised the members about the QEC activities for HEC compliance. These activities include Self-Institutional Performance Evaluation, Self-Post Graduate Program Review and implementation of CQI model of evaluation to other departments of the university. Director QEC also informed the Committee members that training sessions for the CUST faculty members have been conducted/ organized, taking into consideration the recommendations of online peer review observation. These training were conducted on areas including Course Management, Effective Online Teaching Methods, Introduction to Andragogy and Engagement in Online Learning, Online Student Engagement, Innovative Teaching Techniques, Outcome Based Education, Effective Teaching Strategies, Quality Benchmarking in HEIs for Academic Excellence and Approaches to Curriculum Design.



Virtual Learning Environment (VLE)

18th meeting of the VLE Monitoring Committee was held online on April 27, 2021. Director QEC briefed the committee about the Class Held Report for last one week. Director QEC appreciated the Class Held Status for regular online classes in all the departments. Director QEC informed about the initiation of Remote Classroom Observation of Online Classes in order to improve the quality and effectiveness of online teaching and learning. All VLE Monitoring Committee members from different academic departments presented reports regarding the effectiveness/ conduct of online classes to Director QEC. VLE Monitoring Committee members showed their satisfaction on the overall operation of the VLE. It was apprised that the online classes are being conducted following all the guidelines and regulations issued from time to time by HEC and the university.

QEC Capacity Building Sessions Outcome Based Education

Quality Enhancement Cell (QEC) organized a capacity building session on June 04, 2021 for the CUST faculty. The session titled 'Outcome Based Education (OBE)' was conducted by Dr. Imtiaz A. Taj, Director Faculty of Engineering. Fifteen faculty members from different departments of the university participated in the training session. In this interactive session, the focal person highlighted the concept of OBE, its importance in teaching and learning and how it could be incorporated into our daily teaching. The processes involved in OBE system i.e., program design, assessment and the CQI cycle involving the

corrective measures were explained to the participants as well. The participants actively participated in the session and showed their interest in the assessment methodology of CLOs, PLOs and PEOs that are the basic units of OBE system. During the session, it was emphasized that the OBE is a successful approach to effective teaching and learning, through which classroom problems are identified and corrective actions are taken resulting in overall improvement of the quality of education. The training session was followed by a Question and Answer session in which all the queries by the participants were addressed. Director QEC, Mr. Fida Hussain appreciated the effort of the Resource Person and participants for their interest in the session.

Quality Benchmarking in Higher Education Institutions for Academic Excellence

QEC organized a capacity building session on "Quality Benchmarking in Higher Education Institutions for Academic Excellence" on June 25, 2021. The session was conducted by Dr. Farrukh Idrees, Director Quality Enhancement Cell, Rawalpindi Medical University. Dr. Idrees is a Chartered Quality Professional, Quality Management Consultant and Certified Six Sigma Black Belt.

All Directors, Head of Departments, Quality Assurance Committee members and members of administrative staff attended the session. At the end of the training session, Director QEC, Mr. Fida Hussain briefed the audience about the initiatives taken by Quality Enhancement Cell and CUST Training Centre regarding capacity building of CUST teaching and administrative staff. He expressed his gratitude to the resource person and appreciated all the respected participants for their interest in the session.



New Initiatives

Best Teacher Award

On the directives of the CUST competent authority, QEC has introduced the Best Teacher Award to recognize the outstanding contribution of faculty, motivate for best practices, and incentivize the teaching efforts made by the faculty. The award will contribute towards improving the andragogical practices of the faculty. The Committee has been proposed by QEC for the implementation of Best Teacher Award and the



award will be given at the Department level, Faculty level and University level.

Online Peer Review

Online classroom peer observation conducted during Covid-19 was one of such initiative introduced with the objective to support the faculty in their classroom teaching and proposed certain pedagogical areas which need to be improved in their future teaching. A total of 289 faculty members representing different departments were observed on a set instrument covering key aspects related to teaching and learning which is based on the following parameters.

1. – Session Organization and Facilitation
2. – Building Community in the Online Classroom
3. – Discussion Facilitation and Instruction
4. – Assessment, Grading, and Feedback
5. – Online Classroom Engagement

A report was prepared based on these parameters which identified four main areas for improvement. To deal with identified areas, a series of capacity building sessions was planned and conducted by the Faculty Training Centre for different levels of faculty to equip them with the requisite teaching skills. A detailed report has been submitted to the Vice Chancellor on this activity.

Face-to-Face Classroom Observation

QEC has introduced the concept of Face-to-Face Classroom Observation in coordination with all departments. The objective



Peer Observation

of this academic activity is to facilitate faculty to improve their andragogical skills and extend support to conduct their classes more effectively. The classroom observation provides an opportunity to the faculty members to learn from the experience of each other and help them improve their professional skills. The classroom observation activity would be more focused on teaching context, communication skills, learning outcomes, teaching methodology, students' engagement & interaction level. This activity will also identify the key strength areas and proposed areas for improvement.

LaTeX Training for Administrative Staff Development

LaTeX training sessions have been initiated by the QEC for administrative staff of CUST with the objective to equip them with the advanced skills for preparing professional documents. The LaTeX is a document preparation system for high-quality typesetting and the training sessions are aimed at enhancing skills and competencies of the administrative staff to prepare professional documents. Therefore, in order to achieve the objective of the training, the content of training consists of preparing professional and scientific document such as minutes of the meetings, reports and internal memo which are covered in LaTeX training sessions.



Mah Noor (BBA193021 – 3rd-Year)

I am a student of Management Science Department. As, I was aware of a disciplined environment, quality of education, experienced and cooperative faculty because my brother is already studying here that's why I joined CUST for higher education. I have experienced a very good environment, quality of education, competent faculty and ample resources that provide the means and opportunity to achieve professional and personality development. One thing that I have observed and experienced is that the faculty of CUST is very supportive and always guides properly in every aspect of life. I have got ample opportunities for personal and professional development such as I had worked with Shaukat Khanum as a resource person and currently I am working in the Marketing department of IDP Education, Pakistan. After the completion of my education, I want to become an entrepreneur and provide business opportunities to others.

**M. Abdullah Tariq (BCS173083 – Passed Out)**

I am an old student of Computer Science Department. I joined CUST due to its quality of education and disciplined environment as recommended by a friend and the same I observed during the admission test. During my studies, besides quality education and disciplined environment, I observed many positive areas like the availability of ample resources, faculty guidance, program, batch counselor and extracurricular activities. Throughout my studies, all faculty members were cooperative and they put effort into their teaching dedicatedly which enabled me to explore my interest in the field of programming. A very positive point about the CUST is the availability of platforms where students can enhance their interpersonal skills and personality development because I had a keen interest in videography that's why I joined the Media Club. One of the wonderful experiences which I want to share is that being a member of the Media Club I got opportunities to act as a videographer and photographer of the IEEE Cust Social Educational Carnival 2019. CUST also provides a platform for students to work with passion and achieve their goals. I am fully motivated to pursue my career in the field of Data Science.

**Nooran-Ul-Ain (BPH 203016 – 2nd-year)**

I am a student of the Pharmacy Department. Previously I studied in KIPS college Rawalpindi and I am always motivated, passionate and intend to pursue chemistry in my professional career that's why I secured admission in Pharmacy. My dream is to complete higher education in an institution where the environment is disciplined, supportive, cooperative faculty and staff, and availability of merit scholarships. Due to all these reasons and positive feedback from my college teachers I joined CUST. A very positive point that I observed in my teachers is that they are very cooperative and they put effort on students very dedicatedly and this is the strength of the CUST because their way of teaching enhances my problem-solving skills, knowledge and the implication of the knowledge in real-life problems. The teaching staff and healthy environment at CUST enabled me to explore my skills and abilities to increase my confidence and improve my communication skills. After the completion of my studies, I will surely go for higher education and serve as a community and industrial pharmacist.



Dr. Muhammad Tahir Awan

QAC Member from Department of Electrical Engineering

Q: Please tell us about your qualification and academic profile.

Dr. Tahir: I earned BS in Electrical Engineering degree from University of Engineering and Technology (UET), Lahore with honors in 2000. Then, I got admission in Lahore University of Management Sciences (LUMS) for MS in Computer Engineering. During masters, I got the opportunity to work on R&D projects in Multimedia Lab at LUMS under the supervision of Dr. Shahid Masud. My research in these projects was published in conferences of international repute. I completed the masters degree in 2005. I have worked in the IT industry for ten years. My industrial expertise includes embedded systems, firmware development, code optimization and multimedia codecs.

My academic career started at Capital University of Science and Technology (formerly known as MAJU) in 2010 when I joined Department of Electrical Engineering at MAJU as Assistant Professor. During my stay at CUST, I have taught courses in the domain of Computer Architecture, Embedded Systems, Computer Programming and FPGA-based design. Also, I have developed two labs for the courses 'Embedded Systems' and 'ASIC Design and FPGA'. I have completed a funded research project 'Implementation of H.264 for TI's Heterogeneous Multicore Davinci Platform' as Co-PI in VisPrs research Lab at CUST. The project got Rs.14.9 million funding from Ignite (formerly known as ICT R&D) Fund. I am final year project coordinator for the electrical engineering department. I was instrumental in initiation and successful execution of Industrial Openhouse at the university for many years on behalf of Electrical Engineering Department.

During my stay at CUST, I started PhD in Electrical Engineering under the supervision of Dr. Imtiaz A. Taj. During my PhD, I also got the opportunity to do collaborative research with Dr. Pedro A. Assuncao of Portugal in the field of Video Coding. I published two research papers in journals of international repute during my PhD. I completed my PhD in 2019.

Q: What is your opinion about quality standards in the academic institutions of Pakistan?

Dr. Tahir: Quality standards in higher educations institutions of Pakistan have continuously improved since the establishment of Higher Education Commission (HEC) of Pakistan. Many initiatives taken by HEC have improved the quality of education, faculty skillset, research outcome and publications of the higher institutions. Foreign and indigenous PhD scholarships under faculty development offered by multiple agencies have greatly enhanced the capabilities of university faculty. Implementation of outcome based education under Washington Accord by Pakistan Engineering Council (PEC) has resulted in improvement of engineering curricula of universities in Pakistan according to the international standards. This has also increased job prospects for our graduates in national and

international organizations. Funding agencies like Ignite have funded various research projects under industry academia collaboration in many universities including CUST. This has improved the quality of research in the universities. Similarly, establishment of incubation centers in many universities including CUST has also resulted in grooming our graduates after degree completion for the industry. In order to further improve the quality of education in our universities and enhance the skillset of graduating students, more emphasis is needed to be put on industry academia collaboration. This will



prepare our graduates for the future challenges.

Q: What are the current quality related activities in Department of Electrical Engineering?

Dr. Tahir : Department of Electrical Engineering at CUST is the first department established in the faculty of engineering where we believe in quality education through innovation. Our undergraduate and graduate programs are fully accredited both by the HEC and PEC. Our BS programme is one of the first few programs to be accredited by PEC under Washington Accord. I represent the department in Quality Assurance Committee (QAC) and Virtual Learning Environment (VLE) committee. I am also member of the Curriculum Review Committee (CRC) in the department. Department also has dedicated committees for industrial outreach, final year projects and Exam Audit. All the recommendations of these committees for quality improvement are implemented in true spirit to maintain and enhance the quality standards. Electrical Engineering Department is implementing continuous quality improvement (CQI) cycle under outcome-based education (OBE) for the last couple of years to improve the curriculum, enhance student performance and achieve KPIs in course and program level graduate attributes.
