

National Technology Council



Program Evaluation Report

Accreditation Visit

Bachelor of Mechanical Engineering Technology Program

Government College of Technology Peshawar (GCTP)

Date of Visit: 6-7 November 2025

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1. Overview

An Accreditation Inspection Committee (AIC) was constituted by the National Technology Council (NTC) to conduct the Accreditation Visit on 6 and 7 November 2025 of Government College of Technology Peshawar (GCTP) to evaluate Bachelor of Mechanical Engineering Technology Program. Following AIC members visited the institute:

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|------|----------------------------|-------------------------------|
| i. | Prof. Dr. Muhammad Khurram | Team Lead |
| ii. | Prof. Dr. Muhammad Khurram | Mechanical Engineering Expert |
| iii. | Mr. Hafiz GM Musa | NTC Representative |

During the visit, the AIC met with the Principal, Head of Department, Program Coordinator, and other concerned faculty members. During the meeting, the Principal briefed about the college. NTC's AIC discussed the aims, objectives, and working plan of the visit and explained the NTC policy, rules, and regulations to be followed in the AIC visit.

The AIC visited several program facilities, i.e., classrooms, conference room, laboratories, library, and faculty offices. Besides a comprehensive review of documents and evidence about various accreditation criteria, AIC also had meetings and interviews with faculty, staff, and students.

The AIC used the Outcome Based Education and Assessment (OBE/A) System of Education as a yardstick, had some concerns, and found areas for improvement in implementing the OBE/A system, particularly regarding compliance with the 9 Accreditation Criteria. These are elaborated in the following sections of the Report.

2. General Information

2.1 Evaluation Criteria Related

Evaluation Criteria is highlighted in NTC’s “Program Accreditation Policy and Procedure Manual for Engineering & Other Technologies”, and benchmarked with Educational Accords of the International Engineering Alliance that include multilateral agreements between:

- | | | |
|----------------------|------|-------------------------------|
| 1. Washington Accord | 1989 | for Engineers |
| 2. Sydney Accord | 2001 | for Engineering Technologists |
| 3. Dublin Accord | 2002 | for Engineering Technicians |

Evaluation is done on nine criteria (Criterion 1 to Criterion 9), and each is further split into multiple sub-parts to cover the criteria comprehensively.

3. Specific Observations

3.1 Criterion-1: Program Education Objectives (PEO's)

- 3.1.1. Are the HEI's Vision and Mission Statements, and Program Mission Statement, well-defined, published and widely publicized?

HEI's vision and mission statements are defined and published. However, the respective program mission must be clearly defined.

The Program is in partial compliance.

- 3.1.2. Are the PEO's defined, and consistent with the HEI's Vision and Mission Statements, and Program Mission Statement, and widely publicized?

PEO's are defined and consistent with the institutional vision. However, PEOs need further refinement and subsequent formal approval from the relevant statutory bodies.

The program is in partial compliance.

- 3.1.3. Are stakeholders involved in formulation and review of PEO's?

No particular evidence of involvement of the stake holders in formulation and review of PEOs has been observed.

This is a weak area which needs improvement.

- 3.1.4. Is a process in place to evaluate attainment of PEO's?

A proper mechanism to evaluate and review of attainment of PEOs must be devised and KPIs should be also defined, clearly.

This is a weak area which needs improvement.

- 3.1.5. Are evaluation results used for continual improvement of the program?

-NA-

3.2 Criterion-2: Program Learning Outcomes (PLO's)

- 3.2.1. Are the PLO's well defined and widely publicized?

PLOs are well defined but need to be displayed more in number at the prominent places of the department.

The Program is in partial compliance.

3.2.2. Are the PLOs appropriately linked to the PEO's?

PLOs are mapped with PEOs to some extent but needs revision.

The program is in partial compliance.

3.2.3. Do the PLOs encompass all the required Graduate Attributes as defined in NTC's "Program Accreditation Policy and Procedure Manual for Engineering & Other Technologies"?

The PLOs encompass the required graduate attributes. The Mechanical Engineering Technology program has adopted all the 12 graduate attributes as per NTC guidelines.

The Program is in substantial compliance.

3.2.4. Are courses mapped to the PLO's?

Mapping of courses to PLOs is there but needs comprehensive improvement. The mapping must be discussed in the BoS/DQEC meetings, in detail.

This is a weak area which needs improvement.

3.2.5. Are teaching, learning and assessment methods appropriate, and support attainment of PLO's?

Teaching methodologies cover necessary areas. Direct assessment methods are adequate but indirect assessments are not satisfactory. There are very few evidences of OELs and PBLs in connection to PLOs attainment.

The program is in partial compliance.

3.2.6. Are well-defined Key Performance Indicators (KPIs) in place to assess, and evaluate, attainment of PLO's at student, and cohort levels?

The department has defined the KPIs for the PLO attainment. However, the faculty should more be exposed to the CQI cycle on OBE.

The Program is in partial compliance.

3.2.7. Is a process in place that applies assessment results to further refine the assessment mechanism, and/or redefine PLO's, leading to Continuous Quality Improvement (CQI) of the program?

No well-defined process at student and at cohort level exists. Possible corrective actions also need to be defined in detail.

This is a weak area which needs improvement.

3.3 Criterion-3: Curriculum and Learning Process

- 3.3.1. Does the curriculum cover the breadth and depth requirements, and is the scheme of studies according to HEC/NTC guidelines that aims to develop a range of intellectual and practical skills to attain the PLO's?

The curriculum covers the breadth and depth requirements as per NTC guidelines. However, BoS meetings should be conducted regularly to improve the study schemes.

The Program is in compliance.

- 3.3.2. Does the curriculum provide a balanced coverage of technical and non-technical course content?

The curriculum provides a balanced coverage of technical and non-technical courses contents and is also well aligned with the NTC/HEC guidelines.

The Program is in substantial compliance.

- 3.3.3. Are students getting adequate exposure to Broadly Defined Engineering Technology Problems and Broadly Defined Engineering Technology Activities?

Broadly Defined Engineering Technology activities are extremely limited which will limit the students' exposure to other fields of Mechanical engineering technology. Moreover, PBLs and OELs are also limited.

The area is weak and needs improvement.

- 3.3.4. Are program specific, and well-equipped, laboratories available to supplement theoretical knowledge and classroom learning?

In particular:

- a. List of Labs available for the program?
- b. Is lab space adequate?
- c. Does the lab size have provision of at least 35 sq ft space per student?
- d. Are there enough workstations to accommodate maximum 5 students per workstation?
- e. Is the lab equipment in each lab adequate and appropriate?

The Program currently has following laboratories:

1. Computer Lab
2. Thermodynamics Lab
3. Mechanics of Materials Lab
4. Fluid Mechanics Lab
5. IC-Engines lab

6. Manufacturing Process Lab
7. HVAC Lab

The space for laboratories is adequate has workstations that can accommodate easily 5 students.

The Program is in compliance.

- 3.3.5. Does the laboratory work support attainment of required skills, and is assessment mechanism in place to ascertain this?

Laboratory work must be documented by:

- a) Maintenance of Lab Notebook
- b) Maintenance of Training Logbook
- c) Record of Viva Voce
- d) List of Practical's

The lab work supports the attainment of required skills. The list of experiments was displayed in all the laboratories. Notebooks exist but rubrics are not defined properly. OELs are not properly mentioned in the list of labs.

The Program is in partial compliance.

- 3.3.6. Are the CLO's defined for all courses, with appropriate learning levels {e.g., 1) to levels defined in Blooms Taxonomy, and 2) mapped to relevant PLO's?}

Courses are mapped with PLOs and CLOs. However, Blooms Taxonomy levels and relevance of some courses needs to be reviewed.

The Program is in partial compliance.

- 3.3.7. Is the curriculum benchmarked with 1) National Curriculum, and 2) best practices of the Sydney Accord (SA)?

Curriculum is benchmarked with national curriculum and best practices of SA.

The Program is in compliance.

- 3.3.8. Is there formal involvement of industry, and other stakeholders, in curriculum development and revision?

There is very less involvement of stakeholders in the curriculum development and moreover, the curriculum review committee should be formulated for curriculum monitoring and implementation.

The area is weak and needs improvement.

3.3.9. Are other aspects of students learning, such as tutorials, seminars, workshops etc., in place?

There are relatively less students' tutorial/ seminar/workshops which need to be addressed.

The Program is in partial compliance.

3.3.10. Do students have exposure to verifiable practical learning through Supervised Industrial Training (SIT) programs, with formal feedback mechanism from the employer? A good SIT program must ensure that:

- a. The SIT is in consonance with the curriculum.
- b. The SIT is robust and well-designed.
- c. There is an HEI monitoring system in place.
- d. Training logbooks are maintained.

The mechanism of Supervised Industrial Training (SIT) is in place. Practical learning through SIT is being practiced. However, the SIT assessments requires to be more robust.

The Program is in compliance.

3.3.11. Are students getting opportunities that invoke intuitiveness and originality of thought through 1) Problem Based Learning (PBL), 2) Design Projects (DP's), and 3) Open-Ended Laboratories (OEL's)?

There are limited opportunities for Problem Based Learning (PBLs) and Open-Ended Labs(OELs). Therefore, it requires more improvement.

The area is weak and needs improvement.

3.3.12. Is assessment of various learning outcomes (PLO's/CLO's etc.) employing appropriate direct and/or indirect methods?

The assessment of various learning outcomes (PLO's/CLO's) for direct method is appropriate whereas indirect method assessment must be improved.

The Program is in partial compliance.

3.4 Criterion-4: Students

- 3.4.1. Is the annual intake reasonable, considering the capacity of the program and allied facilities, and is it in line with the maximum intake allowed by NTC?

Annual student intake is satisfactory and is as per the allowed intake.

The Program is in substantial compliance.

- 3.4.2. Is there a documented policy on transfer-students (only from other accredited programs), limiting transfer of their relevant credit hours to a maximum 50% required for the Program?

A documented policy on the transfer of students is available. However, some guidelines also need to be defined and its subsequent formal approval from the statutory bodies.

The program is in compliance.

- 3.4.3. Is there a policy framework to provide off-class academic counseling through Faculty, Research Assistants (RA's), Teacher Assistants (TA's), or Graduate Assistants (GA's), by holding scheduled tutorials, and problem-solving sessions etc.?

The mechanism of academic counselling is available but relatively less functional.

The Program is in partial compliance.

- 3.4.4. Are student counselors designated, and available, to advise or counsel students regarding academic or career matters, and provide assistance in dealing with their health, financial, emotional and spiritual problems?

Student counsellors are available but require guidance on academic matters. Proper counselling relating to students' guidance beyond academic and technology related matters also need improvement.

The Program is in partial compliance.

- 3.4.5. Is the semester academic load on students within allowable limits (i.e., 15-18 Cr. Hrs)?

The semester academic load is reasonable and within the limits as directed by the NTC.

The Program is in substantial compliance.

- 3.4.6. Is the class size manageable, with a maximum of 45 students for theory classes? And are the laboratory workstations adequate, with a maximum of 5 students per workstation for hands-on experiments?

The class size is manageable. Moreover, the number of lab workstations are fairly adequate for the students.

The Program is in compliance.

- 3.4.7. Is completion of courses evident from course files, and from student feedback?

Course file must include:

- a. Lecture breakdown for entire semester.
- b. Schedule of monthly/mid-term tests and final examination.
- c. Breakdown of laboratory experiments pertaining to the course and record of successful conduct.
- d. Samples of best, worst, and average answer sheets, along with the question paper of each exam, quiz, and homework.
- e. Record of make-up classes for any unscheduled holiday/s.
- f. Details of office hours for tutoring etc.
- g. Recommendation and suggestions related to the course for the next session.

The course folders are maintained. However, some information has been found missing in many folders. The number of assignments and quizzes are less for CLOs coverage. Course Review Reports are not maintained, properly. There is also need to record the recommendations for the course in the next session.

The program is in partial compliance.

- 3.4.8. Is there verifiable evidence of students' participation in national and international technology exhibitions, competitions, and similar events, and does the Program facilitate student participation?

There are relatively less students' participation in the national and international technology exhibitions. Hence, limited participation leads to a lesser exposure to learning opportunities for the students which require proper attention.

The Program is in partial compliance.

- 3.4.9. Is a CQI process in place to evaluate student performance and take corrective measures?

The CQI process is in place for student evaluation, but corrective action needs to be improved. Moreover, the faculty also needs more training on the OBE and particularly on CQI processes and corrective measures.

The Program is in partial compliance.

3.5 Criterion-5: Faculty and Support Staff

- 3.5.1. Is faculty strength sufficient to provide effective student-teacher interaction? (Student-teacher ratio must be as per HEC/NTC Guidelines)

The faculty strength is sufficient to provide an effective student-teacher interaction.

The Program is in compliance.

- 3.5.2. Is the faculty balanced having appropriate qualifications (minimum postgraduate with reasonable percentage holding PhD degrees) to cover the entire spectrum of Program as per HEC/NTC guidelines?

The required dedicated faculty, shared faculty and lab engineers are available in the department to conduct the program. However, PhD faculty is also required.

The Program is in compliance.

- 3.5.3. Is a formal mechanism in place for faculty training, mentoring, development of pedagogical skills (including OBE concepts), and implementation methodologies to ensure their professional growth?

Some training aspects of such a development program are:

- a. General aspects of lecture delivery include thorough preparation.
- b. Use of support systems during lecture delivery.
- c. Mode and means of efficient student-- teacher interactions.
- d. Developing course files.
- e. Dedicated office hours and their effectiveness.
- f. Conducting effective quizzes/mid-term tests/final exams and making semester system more transparent and effective.
- g. Lecture breakdown to ensure complete course coverage.
- h. Code of conduct and integrity issues. (Sexual harassment policy)
- i. Communication skills and ability to disseminate knowledge especially at the Conceptual level.

Limited training opportunities related to OBE are being provided to the faculty members. Moreover, the training on Broadly Defined Engineering Technology

Problems, Open-Ended Labs and Problem Based Learning should also be conducted on a regular basis.

The area is weak and needs improvement.

- 3.5.4. Is the faculty workload reasonable, generally, and adjusted favorably for those pursuing higher studies, as per HEC/NTC guidelines?

Faculty workload is satisfactory. Opportunities are also there for faculty for higher studies.

The Program in compliance.

- 3.5.5. Is the faculty engaged in publications, research, and seeking sponsored projects from industry or donor agencies etc.?

Faculty's engagement in publications and research is very limited.

The area is weak and needs improvement.

3.6 Criterion-6: Facilities and Infrastructure

- 3.6.1. Are teaching facilities and learning tools available and adequate, e.g., classroom environment, comfortable seating and teaching aids such as smart-boards, multimedia projectors etc.?

Teaching and learning tools are available and adequate. Multimedia and white boards are available in the class rooms with good learning environment.

The Program is in substantial compliance.

- 3.6.2. Are program, and curriculum specific laboratories and workshops available? Do these laboratories and workshops have adequate, and appropriate, equipment that complements classroom learning?

The following is a tentative checklist:

- a. List of Labs available for the program
- b. Number of workstations
- c. Lab equipment
- d. Utilization of labs and equipment

The program labs are available in the Mechanical department. The labs are quite spacious. However, the workstations need to be properly maintained.

The Program in compliance.

- 3.6.3. Are library resources and facilities adequate as per HEC/NTC requirements?

Library resources are there with a large number of older version books. It is recommended to purchase updated versions of books. Moreover, number of subscribed journals be increased.

The Program is in partial compliance.

- 3.6.4. Are there sufficient computing facilities, broadband internet access, and adequate resources allocated for the Program?

The computing facilities, internet etc are available. However, the computers need upgradation.

The Program is in partial compliance.

- 3.6.5. Are effective counseling and career placement services provided to students?

Counselling services and career placement services are considered not sufficient.

The area is weak and needs improvement.

- 3.6.6. Are adequate supporting facilities such as hostels, sports centers, recreational centers, health care centers, student centers, and student-transport available?

Allied facilities such as cafeteria, Masjid, hostel, transport and sports grounds etc. are available.

The Program is in substantial compliance.

- 3.6.7. Are adequate arrangements made to ensure workplace safety and security in general, and while performing experiments in the laboratories?
In particular, the following must be addressed:

- a. Personnel and building safety and security measures.
- b. Disaster and emergency protocols
- c. Rescue plan

Safety measures inside / around laboratories are reasonable. However, safety markings in the labs need improvement. Fire extinguishers and first-aid boxes are available.

This Program is in partial compliance.

3.7 Criterion-7: Institutional Support and Financial Resources

- 3.7.1. Are the organizational appointments defined and well-structured? (The governance structure of the program must clearly assign authority and responsibility for formulation and implementation of policies that enable the Program(s) to fulfill the Mission)

The organizational appointments are defined and structured. In addition, responsibility for formulation and implementation of policies also reasonably well-defined.

The Program is in substantial compliance.

- 3.7.2. Are institutional financial resources adequate to ensure Program sustainability, and meet recurring as well as development budgetary requirements?

The financial resources are adequate to meet the recurring as well as development budgetary requirements.

The Program is in substantial compliance.

- 3.7.3. Is there evidence of continued financial commitment by the HEI in form of increased endowment fund, and/or increased recurring and development budgets since last accreditation visit?

Yes, the institute has financial resources to support the programs.

The Program is in compliance.

- 3.7.4. Is there adequate fund-provision for R&D pursuits, presentations, and publications of research papers?

There are relatively less opportunities for R&D funding being provided to faculty.

The Program is in partial compliance.

3.8 Criterion-8: Continuous Quality Improvement (CQI)

- 3.8.1. Is the CQI process well documented and institutionalized at all levels (e.g., PEO's, PLO's and CLO's)?

There are partially defined CQI processes at various levels including PEOs, PLOs and CLOs which needs to be improved and consistent. Proper training of faculty on OBE is needed.

The Program is in partial compliance.

- 3.8.2. What actions were taken, or implementation plans worked out, to address concerns and weaknesses identified in the last AIC visit Report?

Some progress has been observed with reference to compliance to last AIC visit report. However, there is need to give proper attention to broadly defined problems, Problem Based Learning, OELs and CQI processes.

The program is in partial compliance.

3.8.3. Is there improvement in faculty strength, and/or faculty qualifications since last AIC visit?

The faculty strength and qualification meet the NTC requirement. However, the department needs to hire a PhD faculty in Mechanical Engg discipline.

The Program is in compliance.

3.8.4. Is there an improvement in the student-teacher ratio since last AIC visit?

The student-teacher ratio is satisfactory and meets the program requirements.

The Program is in compliance.

3.8.5. Is there improvement in faculty publications, R&D, and consultancy activities since the last AIC visit?

There is some improvement in the research publications since the last visit. However, there is still great room for further enhancement in the research publications, R&D, collaborative research projects, and consultancy.

The Program is in partial compliance.

3.8.6. Is there addition of new facilities, i.e., building, and other infrastructure, laboratory equipment, teaching aids etc. to assist in attainment of program objectives and outcomes, since the last AIC visit?

The Mechanical Department is well equipped program with the facilities required to run the program.

The Program is in compliance.

3.9 Criterion-9: Industry Linkages

3.9.1. Is there an active Industrial Advisory Board (IAB), Industrial Advisory Committee (IAC), or Industry Liaison Office (ILO)?

In Bachelor of Mechanical Engineering Technology Program, the Industrial Advisory Board exists. Record of the meeting with the stakeholder must be maintained, properly.

The Program is in partial compliance.

- 3.9.2. Is there a formal mechanism in place for seeking feedback from industry, analyzing it, and using results to improve attainment of PEO's?

Employer and alumni survey forms are designed. However, formal mechanism to get the feedback from the industry and alumni needs to be formulated.

The Program is in partial compliance.

- 3.9.3. Are there opportunities for students to acquire industrial experience via Internships and Supervised Industrial Training (SIT)?

The internships and supervised industrial trainings mechanism exists but needs to be formalized at the department level and properly documented.

The Program is in partial compliance.

- 3.9.4. Are there any industry-sponsored projects supervised by faculty, by outside professionals (or on-job trainers), and by faculty and professionals jointly?

No particular evidence has been found with regards to industry sponsored projects supervised by the faculty.

This is a weak area that needs improvement.

- 3.9.5. Are there opportunities for faculty members to get involved in design, supervision and consultancy roles with the industry in execution of industrial projects?

The college has the capacity to facilitate the faculty in execution of industrial projects. However, no particular faculty member has been found in design, supervision and consultancy roles with the industry.

The Program is in partial compliance.

4. Acknowledgement

We would like to thank the entire team of BS Mechanical Engineering Technology Program of Government College of Technology, Peshawar especially the Principal, HoD of the Technology Program and his team, for extending hospitality and cooperation in smooth conduct of the interim visit.

5. Recommendations

- Based on the assessment and evaluation by the team, the program is recommended for the accreditation of two batches i.e. 2020 and 2021.
- The observations made by the visiting team need to be addressed as compliance before the submission of the SAR for the next visit.

6. Signed by AIC Members

Signature: 1-12-2025 Team Lead Prof. Dr. Muhammad Khurram, Dean of University, National University of Technology (NUTECH), Islamabad	Signature: 1-12-2025 Expert Prof. Dr. Muhammad Khurram, Dean of University/Professor, National University of Technology, Islamabad	Signature: 1-12-2025 NTC Representative: Mr. Hafiz GM Musa, National Technology Council
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