
# PROGRAM QUALITY ASSURANCE SYSTEM

## MSc. Construction Project Management (CPM)

## 2024-2025

## CONTENTS

# 1. INTRODUCTION

## 1.1 OVERVIEW OF THE QUALITY ASSURANCE SYSTEM

The Quality Assurance (QA) system for the Master of Science in Construction Project Management (CPM) program, College of Engineering at King Khalid University (KKU) is a meticulously designed framework aimed at maintaining academic excellence at the graduate level, ensuring the program's alignment with both national and international standards of higher education. It adheres to the guidelines set by the National Commission for Academic Accreditation and Assessment (NCAAA) and other globally recognized bodies that oversee construction management and project management education. The QA system covers all aspects of the academic experience, including advanced curriculum design, rigorous faculty evaluations, graduate-level student outcomes, and the alignment of the program with the broader mission and strategic vision of KKU. A key feature of the system is its focus on continuous improvement, driven by systematic assessments, active involvement of stakeholders from academia and industry, and effective feedback mechanisms that address evolving needs. The program is subject to internal quality reviews, regular self-assessments, external peer reviews, and benchmarking against leading international construction management programs. Periodic accreditation cycles further ensure that the program not only meets but exceeds educational standards. The goal of the QA framework is to foster an environment that supports graduate students in achieving the highest levels of academic and cutting-edge research, while ensuring that the curriculum remains responsive to the dynamic demands of the construction industry, research institution and project management disciplines, both locally and globally.

## 1.2 OBJECTIVES AND SCOPE OF THE QUALITY ASSURANCE MANUAL

The primary objective of this manual is to serve as a comprehensive and systematic guide aimed at ensuring the continuous enhancement and maintenance of high-quality education within the Master of Science in Construction Project Management (CPM) program at King Khalid University. It provides a structured framework for establishing clear guidelines and procedures across advanced academic and administrative processes. The manual emphasizes the importance of ensuring that all courses and research components within the program meet prescribed learning outcomes, aligned with national and international standards, such as those set by the National Commission for Academic Accreditation and Assessment (NCAAA) and globally recognized accreditation bodies in construction project management education.

A key focus of the manual is on faculty development, providing ongoing professional support and training to ensure that educators and thesis supervisors are well-equipped to deliver high-quality instruction and guide cutting-edge research. The manual outlines structured processes for evaluating faculty performance, identifying areas for improvement, and implementing targeted development programs to enhance research supervision and teaching effectiveness, ensuring the faculty remains at the forefront of advancements in construction project management education and research. Additionally, the manual emphasizes the role of continuous improvement through systematic evaluation and feedback mechanisms. These processes are designed to identify gaps or areas of weakness in the program's academic, research, and operational aspects, enabling timely interventions and strategic improvements. The manual also outlines procedures for engaging diverse stakeholders, including graduate students, faculty, industry experts, and external reviewers, in providing feedback that informs improvements to curriculum design, research methodologies, and overall program effectiveness. For external reviewers, this manual provides a comprehensive reference to ensure that all assessments and evaluations are conducted with a clear understanding of the program's academic standards, research expectations, and quality assurance mechanisms. Administrators and faculty can utilize the manual to monitor institutional performance and ensure alignment with both internal goals and external accreditation requirements.

By integrating these guidelines into the daily operations of the MSc. in Construction Project Management program, the manual acts as a vital tool for fostering a culture of academic and research excellence, promoting transparency, and ensuring that the program remains at the forefront of construction project management education on both national and international stages. This ongoing commitment to high standards ensures that graduate students receive the best possible education, are guided in conducting impactful research, and are prepared for leadership roles in the construction industry, contributing to broader institutional and societal progress.

## 1.3 INSTITUTIONAL AND PROGRAM ACCREDITATION

Institutional and program accreditation are central to maintaining and enhancing quality in higher education, ensuring that academic programs like the Master of Science in Construction Project Management (CPM) College of Engineering at King Khalid University (KKU) are aligned with both national and international standards. The CPM program adheres to the rigorous standards set by the NCAAA and recognized international bodies. The comprehensive accreditation process involves a combination of internal self-assessments, external reviews, and compliance with national qualification frameworks to ensure continuous alignment with both academic and industry expectations.

Accreditation reviews occur regularly, with the CPM program undergoing a thorough evaluation at regular interval as per their term and conditions. These evaluations ensure that the program remains responsive to advances in construction management, project delivery methodologies, and technological innovations. The process serves not only as a validation of quality but also as a critical driver for continuous improvement, fostering the integration of best practices in education, research, and industry engagement. Internal quality assurance mechanisms, along with external benchmarking against top programs worldwide, ensure that the CPM program evolves in line with global trends in construction project management practices. Accreditation ensures that the CPM program remains competitive on both national and international levels, offering a curriculum that meets the demands of the global construction industry. Graduates of the program are well-prepared to address the complexities of large-scale construction projects, adhere to sustainability standards, and navigate the evolving regulatory and economic environments of the construction industry. By maintaining accreditation, KKU demonstrates its commitment to providing a world-class educational experience, positioning the CPM program as a leader in construction project management education while ensuring that its graduates are equipped with the knowledge, skills, and values domains standards required to thrive in a competitive and fast-changing marketplace.

# 2. QUALITY ASSURANCE FRAMEWORK

## 2.1 ORGANIZATIONAL STRUCTURE FOR QUALITY ASSURANCE

The organizational structure for Quality Assurance (QA) within the Master of Science in Construction Project Management (CPM) College of Engineering at King Khalid University (KKU) is meticulously designed to ensure active participation from all relevant stakeholders, including faculty members, administrators, and external reviewers. Centralized under the Deanship of Academic Development and Quality (DAD&Q), this structure oversees the implementation and monitoring of QA activities across the university. The QA framework operates through a tiered system, beginning with the College of Engineering Academic Development and Quality Committee (CoE-AD&QC), responsible for applying QA practices specific to the CPM program. The committee, chaired by the Dean of the College of Engineering, is supported by the Vice Dean for Development and Quality, quality coordinators, and department heads, ensuring the smooth operation of QA processes within the program.

At the departmental level, Quality Coordinators take charge of executing QA protocols, gathering feedback from stakeholders—including students, faculty, and industry professionals—and ensuring that teaching and research outcomes meet the rigorous standards expected at the master's level. These coordinators are also responsible for conducting regular assessments, including thesis

evaluations, and spearheading continuous improvement efforts based on the data collected. Their role is critical in ensuring that curriculum updates, research quality, and overall program performance align with both the university's mission and international best practices in construction management education.

The DAD&Q plays a central role in maintaining quality control by establishing clear standards, facilitating professional development for faculty, and supporting the program in achieving national and international accreditation. The QA system adheres to national standards set by the NCAAA while also aligning with international frameworks, ensuring that the CPM program meets global academic benchmarks. Regular internal and external reviews are conducted as part of this system to assess the effectiveness of the program, identify areas for improvement, and implement necessary changes.

The QA system is integrated into KKU's operational structure, promoting continuous enhancement of the program through the development of strategic plans, the setting of clear objectives, and the monitoring of Key Performance Indicators (KPIs). This cyclical process of planning, execution, and assessment ensures that the QA framework remains dynamic, responsive to both internal needs and external benchmarks, and capable of adapting to the evolving demands of the construction project management field. Ultimately, this organizational structure fosters a culture of accountability, transparency, and continuous improvement, positioning the MSc in CPM program—and KKU as a whole—as a leading institution in academic excellence and quality assurance, both nationally and internationally.

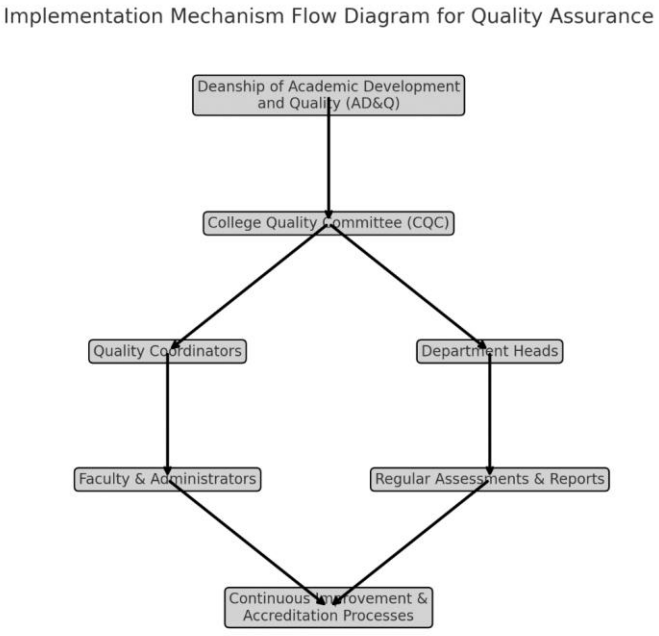


Figure 1: Implementation Mechanism Flow Diagram For Quality Assurance

## 2.2 ROLES OF COMMITTEES AND UNITS

The roles of the various committees and units within the Master of Science in Construction Project Management (CPM) program's Quality Assurance (QA) structure at King Khalid University are critical to ensuring continuous improvement and adherence to accreditation standards. At the core of this system is the College of Engineering Academic Development and Quality Committee (CoE-AD&QC), responsible for overseeing quality assurance at the college level. Chaired by the Vice Dean for Academic Development and Quality, the CoE-AD&QC collaborates with department heads and quality coordinators to ensure that all courses, research components, and faculty meet both internal and external quality benchmarks, including national standards set by the National Commission for Academic Accreditation and Assessment (NCAAA) and international standards in construction and project management education.

The CoE-AD&QC meets regularly to review the performance of the MSc. CPM program, focusing on curriculum development, student learning outcomes, thesis supervision, and faculty research performance. The committee prepares and submits annual reports, analyzes Key Performance Indicators (KPIs), and benchmarks the program against best practices in higher education. The Vice Dean for Development and Quality plays a pivotal role in guiding the committee's activities, ensuring a continuous focus on quality improvement across all facets of the CPM program. At the departmental level, Quality Coordinators are instrumental in implementing the QA processes. They work closely with faculty to gather data on course and research delivery, ensuring that all educational and research materials meet the program's standards. They are also responsible for preparing self-study reports, organizing external reviews, and addressing any deficiencies identified during accreditation evaluations. This ensures that any issues are resolved promptly to maintain the program's quality and accreditation status.

Another essential body within the QA framework is the External Advisory Board Member (EABM), composed of industry professionals, alumni, and other stakeholders. The EABM provides external feedback on the program's quality, offering recommendations for improvements and identifying gaps in the curriculum to ensure that the CPM program aligns with the latest industry trends and demands. Their insights ensure that the program remains relevant to the job market and continues to meet the expectations of employers.

The Department Academic Development & Quality Committee (AD&QC), supervised by the Quality coordinator, works in close collaboration with the Head of Department and CoE-AD&QC to ensure that all courses, research activities, and faculty performance are regularly assessed. The Quality coordinator plays a key role in driving quality efforts within the department, overseeing faculty

evaluations and ensuring that the department's activities align with the university's strategic quality objectives. The department quality coordinator supports the HOD by managing administrative duties related to quality management, such as overseeing course and thesis evaluations and ensuring that reports are completed and submitted on time. Each committee and unit within the QA structure Department of Civil Engineering at KKU has clearly defined responsibilities to ensure that the MSc. CPM program adheres to both internal and external quality standards. These committees not only monitor the program's current performance but also actively contribute to its continuous improvement. This multi-layered structure of quality assurance ensures that every aspect of the MSc. CPM program—from course and thesis supervision to faculty development—is rigorously monitored, evaluated, and enhanced to maintain the highest academic and research standards, positioning the program as a leader in construction project management education.

# 3. ACADEMIC AND PROGRAM QUALITY

## 3.1 PROGRAM LEARNING OUTCOMES (PLOS)

Program Learning Outcomes (PLOs) form the core of the educational framework for the Master of Science in Construction Project Management (CPM) program at King Khalid University, ensuring that graduates acquire the advanced knowledge, skills, and values necessary to excel in the construction management field. These PLOs are aligned with the rigorous standards set by the National Commission for Academic Accreditation and Assessment (NCAAA) and reflect best practices in construction project management education globally. This alignment guarantees that graduates of the CPM program are not only competitive in the local market, research endeavour but also meet the demands of the global construction industry. The PLOs are reviewed annually by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC) to ensure they incorporate the latest advancements in construction management, industry trends, and stakeholder feedback. This review process ensures that the program remains relevant to the evolving landscape of construction project management, including the integration of cutting-edge research, shifts towards sustainable practices, and new regulatory and societal expectations. Regular updates to the PLOs reflect these changes, preparing graduates to meet contemporary challenges in the construction industry.

A critical feature of the PLOs is their direct connection to Course Learning Outcomes (CLOs), which guide the content and structure of each course within the CPM program. Faculty members play a key role in aligning the CLOs with the broader PLOs, ensuring that students receive a comprehensive and cohesive learning experience. This alignment helps students develop both theoretical expertise and practical skills, including advanced problem-solving abilities, project management competencies,

and ethical decision-making. By ensuring that PLOs and CLOs work in tandem, the CPM program provides students with a strong foundation in construction project management, enabling them to thrive in a dynamic, global industry and address complex construction challenges with confidence and professionalism.

Each PLO is crafted to address a critical aspect of civil engineering education. For instance,

**Knowledge**

- K1: Acquire a deep understanding of the principles and practices of construction project management, including project planning, scheduling, cost estimation, risk management, and sustainable construction, eco-friendly practices.
- K2: Understanding QA/QC processes and construction laws ensures ethical, legal, and high-quality project delivery.

**Skills:**

- S1: The ability to conduct research, analyze data, and apply critical thinking skills to solve complex construction project management problems.
- S2: Synthesize cutting-edge project management methodologies, economic analysis, and multidisciplinary team leadership to drive technological innovation and sustainability in construction practices.
- S3: Create accurate cost estimates and budgets for construction projects, considering materials, labour, equipment, and overhead costs.
- S4: Identify, assess, and mitigate risks associated with construction projects to minimize disruptions and cost overruns.
- S5: Effective oral and written communication skills for interacting with stakeholders, clients, contractors, and project teams.
- S6: Demonstrate their ability to apply their knowledge by creating comprehensive project plans, monitoring progress, and implementing necessary adjustments to ensure projects are completed on time and within budget.

**Values:**

- V1: Recognize ethical and professional obligations in construction project management scenarios and adhere to the ethical standards and professional norms of the field to make informed decisions.
- V2: Engage in lifelong learning and professional development in the field of construction project management.

## 3.2 CURRICULUM DESIGN AND CONTINUOUS IMPROVEMENT

The curriculum design and continuous improvement process for the Master of Science in Construction Project Management (CPM) program at King Khalid University (KKU) is meticulously structured to meet both the evolving demands of the construction industry and the stringent accreditation requirements set by national and international bodies, such as the National Commission for Academic Accreditation and Assessment (NCAAA) and other relevant international standards. The curriculum undergoes regular reviews, incorporating feedback from a range of stakeholders, including faculty, students, industry professionals, and alumni. This collaborative process ensures that each course remains aligned with industry trends, technological advancements, and the program's overall objectives, equipping graduates with the knowledge and skills necessary to thrive in the field of construction project management.

The curriculum design process begins with faculty members, who play an instrumental role in developing and updating the curriculum. They integrate the latest tools, methods, and research from the construction management industry, ensuring that students receive a comprehensive, industry-relevant education. This input from faculty is complemented by student feedback, collected through surveys and evaluations at the end of each course (course evaluation survey). Students provide valuable insights into both the practical and theoretical components of their learning experience, helping to pinpoint areas for improvement. Furthermore, industry consultation is a key element of the curriculum review process. KKU engages with construction professionals and alumni to ensure that the program aligns with current industry needs and prepares graduates with the competencies required in the workforce. Once proposed changes to the curriculum are formulated, they are reviewed by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC), the body responsible for overseeing quality assurance within the college. The CoE-AD&QC ensures that any curriculum changes align with the program's goals and meet accreditation standards. The final step in the approval process involves the Deanship of Academic Development and Quality (DAD&Q), which provides oversight and ensures that all changes comply with the university’s quality assurance policies.

A system of continuous improvement is central to the curriculum design process in the CPM program. Feedback loops are established to ensure that any necessary changes are implemented promptly and effectively. These loops include data collection from course evaluations, performance indicators, and feedback from external reviewers, providing ongoing insights into the program’s effectiveness. Regular evaluations of the program ensure that necessary adjustments are made to enhance the quality of education, maintain high academic standards, and keep the program responsive to the needs of students, industry, and society. This structured process of continuous feedback and review

helps ensure that the MSc in CPM program remains competitive, relevant, and aligned with the dynamic demands of the global construction management profession.

## 3.3 COURSE LEARNING OUTCOMES (CLOS)

Course Learning Outcomes (CLOs) are a critical component of the Master of Science in Construction Project Management (CPM) program at King Khalid University, serving as measurable indicators of student progress and mastery of advanced knowledge, skills, and values. CLOs are systematically assessed through a variety of methods, including traditional exams, hands-on projects, research-based assignments, and performance evaluations during thesis work. These diverse assessment strategies provide a comprehensive understanding of student achievement, ensuring that all aspects of learning—from theoretical knowledge to practical application and research competence—are effectively evaluated. The data gathered from these assessments are compiled into program annual reports, which play a crucial role in the continuous improvement process of the MSc. CPM program. These reports are reviewed by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC), which is responsible for identifying trends in student performance, pinpointing areas where additional support or curriculum adjustments may be necessary. For instance, if students consistently underperform in a specific area or course, the committee may recommend changes to the curriculum, enhanced teaching strategies, or additional learning resources. This review process ensures that the curriculum remains responsive to the needs of both students and the evolving field of construction project management.

A key feature of CLOs is their alignment with the broader Program Learning Outcomes (PLOs) of the CPM program. Each CLO is carefully mapped to one or more PLOs, ensuring that every course contributes to the program's overarching goals. This alignment creates a cohesive and integrated learning experience, where each course serves as a foundational building block towards achieving the program's educational objectives. For example, if one of the PLOs focuses on project management solutions that consider sustainability and risk management, the CLOs for relevant courses will include specific assessments that measure students' competencies in these critical areas. This structured approach to assessing learning outcomes ensures that students are well-prepared to meet the academic challenges of the program and the complex professional demands they will face after graduation. The continuous review and alignment of CLOs and PLOs also guarantee that the curriculum remains relevant and up to date, reflecting current industry standards and best practices in construction project management. By maintaining a rigorous focus on CLOs and their connection to PLOs, the CPM program at King Khalid University fosters a culture of continuous improvement, preparing graduates to excel in a highly competitive and dynamic industry.

# 4. ASSESSMENT, EVALUATION, AND CONTINUOUS IMPROVEMENT

## 4.1 ASSESSMENT METHODS

The assessment methods employed in the Master of Science in Construction Project Management (CPM) program at the College of Engineering, King Khalid University (KKU), are comprehensive and designed to ensure that students meet the desired learning outcomes. These methods encompass a combination of formative and summative assessments, providing a holistic evaluation of student progress and mastery of advanced construction project management concepts. Formative assessments, such as quizzes, in-class discussions, and mini research projects, offer continuous feedback to both students and instructors throughout the semester. This allows for real-time adjustments in teaching strategies and learning approaches, ensuring that any challenges students face are addressed promptly, preventing obstacles from impeding their progress toward achieving learning objectives.

Summative assessments, including final exams, mini projects, and thesis work, serve as culminating evaluations of the students' mastery of complex course material. Final exams typically assess theoretical knowledge and problem-solving abilities, while thesis work and major design assignments require students to apply their learning to real-world construction project management challenges. The thesis work is especially crucial, simulating professional research and project management scenarios, and requiring students to address critical issues in construction management, aligning with industry standards and vision 2030. In addition to direct assessments, indirect methods are employed to measure the program's overall effectiveness. These include student surveys that capture feedback on their learning experience, and alumni feedback that provides insights into how well graduates are performing in the workforce. Both current students and alumni offer valuable perspectives on the curriculum’s relevance and real-world application, ensuring that the program remains responsive to the construction industry's evolving needs.

The data gathered from both direct and indirect assessments are compiled into program annual reports, which are reviewed by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC). This body analyses the data to identify trends, potential areas of concern, and opportunities for improvement. If a pattern of underperformance is identified in a particular course or area, the committee may recommend adjustments to the curriculum, enhancements to instructional methods, or additional resources to support student learning. Likewise, the assessment data informs decisions regarding resource allocation, such as faculty development programs or investments in new technologies to enhance teaching and learning. A critical element of the assessment system in the CPM program is the alignment of Course Learning Outcomes (CLOs) with

the broader Program Learning Outcomes (PLOs) of the program. CLOs are tailored to individual courses but are mapped to ensure that each course contributes to the overarching objectives of the program. This mapping guarantees that every course, from foundational subjects to advanced research topics, helps build the knowledge, skills, and values that are essential for success in the construction project management profession. The use of diverse and rigorous assessment methods—ranging from real-time feedback mechanisms to comprehensive summative evaluations—ensures that the MSc. CPM program remains academically challenging, relevant to industry expectations, and responsive to the evolving needs of students. The continuous improvement model embedded in the assessment process, with timely feedback closing loops, ensures that the program is dynamic and adapts to maintain its high standards of education, ultimately preparing students to excel in the competitive construction project management field.

## 4.2 KEY PERFORMANCE INDICATORS (KPIS)

Key Performance Indicators (KPIs) are essential tools for evaluating and monitoring the success of the Master of Science in Construction Project Management (CPM) program, Department of Civil Engineering, at King Khalid University (KKU). These indicators provide valuable insights into various dimensions of the program's performance, ensuring that it remains competitive and aligned with both national and international accreditation standards, such as those set by the National Commission for Academic Accreditation and Assessment (NCAAA). KPIs encompass metrics such as student retention and graduation rates, research output, job placement rates of graduates, and student and employer satisfaction. The data collected through these KPIs helps identify strengths, such as high graduation rates or strong industry alignment, and pinpoint areas that require improvement, such as gaps in research engagement or specific skill sets.

This systematic collection and analysis of KPI data guide the development of action plans aimed at enhancing the overall quality of education and research within the CPM program. The information is used by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC) and other stakeholders to make informed decisions about curriculum adjustments, faculty development, resource allocation, and student support services. By continuously monitoring these indicators, the program ensures it remains responsive to both the evolving needs of the construction industry and the academic requirements of a thesis-track master's program, ultimately contributing to the preparation of highly skilled graduates who are ready to lead in the construction management field.

The primary KPIs (thirteen-13) used in the Civil Engineering program include:

- KPI-PG-1: Students' Evaluation of Quality of Learning Experience in the Program: This KPI measures the average overall rating from final-year students regarding the quality of their

learning experience in the program. It includes factors such as the relevance and effectiveness of the teaching, resources, and overall academic environment.

- KPI-PG-2: Students' Evaluation of the Quality of the Courses: This indicator evaluates students' satisfaction with the quality of the courses they have taken, using an annual survey. It reflects the effectiveness of the curriculum and the learning materials provided in the program.
- KPI-PG-3: Students' Evaluation of the Quality of Academic Supervision: This KPI measures the students' overall rating of the quality of academic and thesis supervision they received. It assesses how well supervisors guide students through their research and academic work.
- KPI-PG-4: Average Time for Students' Graduation: This indicator measures the average number of semesters students take to complete the program. It reflects the efficiency of the academic journey and the program's ability to support students in graduating within the expected timeframe.
- KPI-PG-5: Rate of Students Dropping Out of the Program: This KPI measures the percentage of students who do not complete the program. It provides insights into student retention and can help identify areas where additional support or program adjustments are needed.
- KPI-PG-6: Employers' Evaluation of the Program Graduates' Competency: This KPI gauges the average rating provided by employers regarding the competency of program graduates. It assesses whether graduates are meeting industry expectations and are well-prepared for the workforce.
- KPI-PG-7: Students' Satisfaction with Services Provided: This indicator measures the level of satisfaction among students with the services offered by the program, such as academic advising, transportation, facilities, and other student support services.
- KPI-PG-8: Ratio of Students to Faculty Members: This KPI reflects the ratio of the total number of students to the total number of full-time and full-time equivalent faculty members in the program. It provides insights into class sizes and the availability of faculty support for students.
- KPI-PG-9: Percentage of Publications by Faculty Members: This indicator measures the percentage of full-time faculty members who have published at least one research paper during the year. It reflects the research activity and scholarly output of the faculty.
- KPI-PG-10: Rate of Published Research per Faculty Member: This KPI calculates the average number of refereed and/or published research papers per faculty member. It highlights the faculty's contribution to academic research and knowledge dissemination.

- KPI-PG-11: Citation Rate in Refereed Journals per Faculty Member: This indicator measures the average number of citations in refereed journals from published research per faculty member. It assesses the impact of the faculty's research in the academic community.
- KPI-PG-12: Percentage of Students' Publications: This KPI tracks the percentage of students who published their research in refereed journals or presented papers at conferences during the year. It reflects student engagement in research and their contribution to academic knowledge.
- KPI-PG-13: Number of Patents, Innovative Products, and Awards of Excellence: This indicator counts the number of patents, innovative products, and national or international awards of excellence obtained annually by the students and faculty members of the program. It demonstrates the innovation and achievement of the program's participants.

The data collection process for KPIs is conducted annually, ensuring that the program's performance is continuously monitored. The results are benchmarked against national and international standards, allowing KKU to compare its MSc. CPM program with other leading institutions. This benchmarking is crucial for maintaining the program's competitiveness and ensuring that it meets the expectations of accreditation bodies such as the National Commission for Academic Accreditation and Assessment (NCAAA).

The results of these KPI assessments are analyzed by the CE-AD&QC and reviewed by CoE-AD&QC, which identifies strengths and areas where the program may be falling short. The KPIs are not static; they evolve as the program grows and as new challenges or opportunities arise. The MSc. CPM program at KKU uses these KPIs not just as a measurement tool but as part of a broader continuous improvement process. Action plans are developed based on the data collected, ensuring that any identified weaknesses are addressed promptly and effectively. This iterative process helps ensure that the program remains aligned with industry standards, accreditation requirements, and student expectations, ultimately leading to the production of highly qualified graduates.

## 4.3 ANNUAL PROGRAM REPORT AND COURSE REPORT

At the end of each semester, faculty members in the Master of Science in Construction Project Management (CPM) program at King Khalid University are required to submit course reports that detail various aspects of course delivery. These reports include critical data on student performance, feedback from students, and any challenges encountered during the academic term. The purpose of these reports is to assess the effectiveness of each course and identify areas that may require improvement or adjustment. Course reports for both semesters (Fall-Spring) are consolidated into an Annual Program Report by the Program Quality Coordinator, offering a comprehensive overview of the

program's performance throughout the academic year. This report highlights trends, strengths, weaknesses, and areas for potential enhancement.

The Annual Program Report is then reviewed by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC). The CoE-AD&QC plays a crucial role in ensuring that the MSc. CPM program maintains high academic standards and remains responsive to the evolving needs of both students and the construction industry. The committee reviews the report to identify emerging issues, program strengths, and areas needing improvement. Based on these findings, they may recommend curriculum adjustments, initiate faculty development initiatives, or allocate additional resources to address specific areas of concern. A key function of this process is the feedback loop it establishes. The continuous improvement cycle begins with the collection of data, which is then analyzed, and actionable steps are taken based on this analysis. For instance, if students consistently underperform in a particular course or topic, the CoE-AD&QC may recommend changes in teaching strategies or introduce supplementary learning materials. Likewise, if student feedback reveals dissatisfaction with certain aspects of course content or structure, modifications are made to improve the overall learning experience. The Annual Program Report not only facilitates the day-to-day improvement of course offerings but also ensures that the program remains aligned with national and international accreditation standards, such as those set by the National Commission for Academic Accreditation and Assessment (NCAAA) and other relevant bodies. The Deanship of Academic Development and Quality (DAD&Q) oversees this process at the university level, ensuring that all program reviews contribute to the university's broader goals of academic excellence and continuous improvement. This rigorous and structured approach ensures that the MSc. CPM program remains responsive to changes in the construction industry, technological advancements, and evolving academic standards. Through this process, the program continuously updates its offerings, maintains accreditation, and ensures that graduates possess the knowledge, skills, and values necessary to succeed in leadership roles within the construction management field.

# 5. PROFESSIONAL DEVELOPMENT AND FACULTY ENGAGEMENT

## 5.1 FACULTY ROLES IN QUALITY ASSURANCE

Faculty members play a central and multifaceted role in maintaining and enhancing the quality of the Master of Science in Construction Project Management (CPM) program at the College of Engineering, King Khalid University (KKU). Their responsibilities encompass a wide range of activities that ensure the program adheres to national and international accreditation standards while fostering a dynamic, student-centered learning environment. One of the primary responsibilities of faculty members is delivering high-quality instruction, ensuring that students are exposed to up-to-date and relevant

content. This involves teaching core construction project management principles, while also continuously improving pedagogical approaches to incorporate the latest advancements in construction management, research, and teaching methods.

Faculty are also directly involved in assessing student performance, a critical component of the university's quality assurance system. Through assessments such as exams, mini projects, performance-based evaluations, thesis work, faculty measure the extent to which students achieve the program's Course Learning Outcomes (CLOs) and Program Learning Outcomes (PLOs). This continuous assessment helps identify areas where students may need additional support or where the curriculum needs adjustments to meet educational goals more effectively. Faculty compile this data into course reports and annual program reports, which are reviewed annually by the College of Engineering Academic Development and Quality Committee (CoE-AD&QC).

In addition to teaching and assessment, faculty play a crucial role in curriculum development. As construction project management is a rapidly evolving field, faculty members contribute their expertise by regularly updating the curriculum to align with industry needs and accreditation requirements. Their involvement in curriculum design ensures that students are well-prepared for the challenges of the workforce, and that the program remains competitive in both national and international contexts. Moreover, faculty members are actively engaged in the accreditation process, participating in self-assessment activities to evaluate the program's strengths and weaknesses. They also take part in external review processes, often working with external bodies such as the National Commission for Academic Accreditation and Assessment (NCAAA) and other relevant accreditation organizations. These accreditation activities are critical for ensuring that the program meets rigorous standards and maintains its accredited status, which is vital for its reputation and effectiveness.

To support faculty in fulfilling these roles, KKU's College of Engineering provides numerous professional development opportunities. These programs are designed to ensure faculty stay current with the latest developments in construction management education and pedagogical strategies. Continuous professional development allows faculty to integrate cutting-edge knowledge and techniques into their teaching and curriculum development efforts, thereby enhancing the overall quality of the MSc. CPM program. This approach fosters a culture of lifelong learning, encouraging faculty members to remain actively engaged with both academic and industry advancements throughout their careers.

## 5.2 PROFESSIONAL DEVELOPMENT PROGRAMS

The professional development programs offered by King Khalid University (KKU) are crucial for enhancing the skills and competencies of faculty members in the Master of Science in Construction Project Management (MSc. CPM) program, ensuring they are well-prepared to deliver high-quality education and maintain their leadership within the field. These programs are designed to foster continuous improvement in teaching, research, and academic leadership, equipping faculty with the tools necessary to meet the evolving demands of both the construction management profession and higher education.

KKU provides a variety of workshops and seminars that focus on different aspects of teaching and learning, including modern teaching methodologies, assessment strategies, and the integration of technology into the classroom (smart classrooms). These workshops ensure that faculty stay updated on best practices in academic pedagogy and research, enabling them to adopt new techniques that enhance student engagement and learning outcomes. Faculty are trained in the effective use of Learning Management Systems (LMS-Blackboard) and digital tools (e-learning), which are becoming increasingly critical in today's technology-driven educational landscape. Additionally, these workshops help faculty refine their assessment strategies, improving their ability to measure student performance accurately and provide meaningful feedback to support students' learning processes.

KKU also encourages faculty to participate in national and international conferences and seminars related to construction project management and related disciplines. These events provide opportunities for faculty to engage with global academic and industry leaders, learn about the latest advancements in the field, and collaborate on innovative research projects. Such exposure broadens their knowledge base and introduces fresh perspectives that can be integrated into the curriculum, ensuring that students receive an education that reflects current industry trends and technological advancements.

In addition, KKU places a strong emphasis on supporting faculty in their research endeavors. The university offers access to funding and resources for research grant projects, enabling faculty to contribute to advancements in the construction management field through cutting-edge research. Faculty members are encouraged to publish their research findings in reputable impact-factor journals (WoS) and present their work at international conferences. To support this, the university provides state-of-the-art research infrastructure, including well-equipped laboratories and access to extensive academic databases. Furthermore, collaborative research initiatives with industry partners, research centers, and other academic institutions are promoted, allowing faculty to address practical, real-world challenges in construction project management. This integration of research into

the professional development framework enhances faculty expertise while enriching students' learning experiences by exposing them to the latest developments in the field.

In line with KKU's commitment to continuous improvement, professional development also includes mentorship and peer collaboration opportunities. Faculty members are encouraged to share their experiences and insights with colleagues through regular meetings and collaborative projects, creating a peer-to-peer learning environment that fosters continuous professional growth. This approach keeps faculty motivated and engaged in their professional development journey, ensuring they remain at the forefront of both academic and industry advancements.

KKU's approach to professional development is comprehensive, addressing the multifaceted roles of faculty members as educators, researchers, and academic leaders. By investing in the development of its faculty, KKU ensures that the MSc. CPM program remains competitive and aligned with both national and international accreditation standards. This commitment also ensures the program continues to produce graduates who are well-prepared to meet the demands of the construction management profession. Ultimately, the professional development opportunities offered to KKU faculty not only benefit individual educators but also contribute to the overall quality and reputation of the academic programs, positioning KKU as a leader in higher education.

# 6. FACILITIES, RESOURCES, AND STUDENT SUPPORT

## 6.1 LEARNING RESOURCES AND FACILITIES

The Master of Science in Construction Project Management (CPM) program at the College of Engineering, King Khalid University is supported by a comprehensive array of learning resources and state-of-the-art facilities, essential for providing students with a high-quality educational experience. These resources include advanced computational laboratories equipped latest version of drawing, design drafting, statistical and geospatial analysis software. In addition, there are also various basic civil engineering advanced laboratories for various specializations relevant to construction project management, such as structural analysis, materials testing, geotechnical engineering, geomatics, water resources management, dynamic analysis, transportation engineering, and environmental engineering.

In addition to laboratory facilities, the university's library services are critical in supporting both student and faculty research and academic efforts. The library offers access to an extensive collection of textbooks, academic journals, and online databases, including the Saudi Digital Library, providing a wealth of resources for coursework and thesis research. These resources are crucial for ensuring

that students remain up to date with the latest developments in construction project management and have the necessary materials to succeed in their academic pursuits.

The program also integrates industry-standard software into the curriculum, allowing students to become proficient in tools widely used in construction management practice. Programs such as AutoCAD, MATLAB, Microsoft Project, as well as ArcGIS Pro, are embedded into course projects and thesis work activities. This software proficiency ensures that students gain hands-on experience with tools they will encounter in the professional world, making them highly competitive in the job market and capable of addressing complex construction challenges.

The program places a strong emphasis on practical, hands-on learning by incorporating real-world research projects and case studies within the curriculum. These research projects often require students to utilize the laboratories and software tools to analyze solutions to complex construction management problems. This approach enhances students' technical skills while fostering essential competencies such as critical thinking, problem-solving, and teamwork, which are vital for success in the construction management industry.

Furthermore, the university is committed to ensuring that its learning resources and facilities are continually updated and maintained to reflect the latest advancements in technology and engineering practices. Regular assessments and feedback from both students and faculty play a significant role in guiding necessary improvements, ensuring that the program's facilities and resources consistently meet the highest educational and professional standards. This comprehensive approach to resource management guarantees that the MSc. CPM program remains at the forefront of construction management education, preparing graduates to excel in the competitive global job market.

## 6.2 STUDENT SUPPORT SERVICES

The student support services offered by King Khalid University are designed to ensure that students in the Master of Science in Construction Project Management (MSc. CPM) program receive the comprehensive guidance and resources they need to succeed both academically and personally. A key component of these services is academic advising, which helps students make informed decisions about course selection, thesis development, academic progress, and career planning. Faculty advisors play an active role in guiding students through the complexities of the MSc. CPM curriculum, ensuring that they meet program requirements and are well-prepared for professional success in the construction management field after graduation. In addition to academic advising, the university provides comprehensive counselling services, which are integrated as part of academic

support. These services support students' mental health and well-being, which are particularly important in a demanding and fast-paced program like construction project management. Counselling services help students manage stress, anxiety, and other personal challenges that may arise during their studies, fostering an environment where students can thrive both emotionally and academically.

The university also offers workshops and seminars aimed at enhancing students' academic and personal development. These workshops cover essential topics such as time management, research skills, and job search strategies, equipping students with the tools they need to excel in their studies and prepare for life after graduation. For example, workshops on time management help students balance the demands of coursework, research, and thesis development, while seminars on job search strategies provide practical advice on how to secure internships, research positions, and employment opportunities in the competitive construction management industry.

Moreover, KKU provides career services specifically designed to help students transition from academia to the professional world as well as to pursue high education (PhD program). These services include resume reviews, interview preparation, job placement assistance, and PhD program guidance. By connecting students with potential employers and providing them with the necessary skills to excel in job interviews, the university ensures that graduates of the MSc. CPM program are well-positioned to enter leadership roles in the workforce.