جامعة الملك خالد
KING KHALID UNIVERSITY

Program Improvement Plan (PIP)

MSc. Construction Project Management (CPM)

DEPARTMENT OF CIVIL ENGINEERING

COLLEGE OF ENGINEERING

2025-26

- Program Title: MSc. **Construction Project Management (CPM)**
- College / Department: **College of Engineering/ Department of Civil Engineering**
- Institution Name: **King Khalid University**
- Academic Level: **Master/7th Level (NQF)**
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- Prepared by (Program/Department):

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1. Introduction

The Program Improvement Plan (PIP) for the Master of Science in Construction Project Management (CPM) is developed as a structured and evidence-based document to support continuous enhancement of program quality and effectiveness. The plan draws systematically on the findings and analyses presented in the program's annual reports, learning outcomes assessment reports, stakeholder surveys, and key performance indicators (KPIs). The PIP serves as a central mechanism for translating evaluation results into targeted improvement actions that strengthen teaching and learning, student outcomes, research productivity, and stakeholder satisfaction.

1.1 Purpose of the Program Improvement Plan

The primary purpose of the Program Improvement Plan is to ensure sustained compliance with the National Commission for Academic Accreditation and Assessment (NCAAA) requirements and to support systematic, data-driven decision-making at the program level. In alignment with NCAAA standards particularly those related to Program Management and Quality Assurance the PIP provides a formal framework for identifying performance gaps, prioritizing improvement needs, and monitoring the effectiveness of corrective actions over time

In addition, the PIP plays a critical role in embedding a culture of continuous quality improvement within the MSc. CPM program. By linking program evaluation results to operational planning and follow-up mechanisms, the PIP ensures that evidence from learning outcomes assessment, stakeholder feedback, and KPI analysis is actively used to enhance curriculum relevance, teaching and assessment practices, student support services, and research activities. This cyclical process reinforces accountability, transparency, and alignment with the strategic objectives of the College of Engineering and the King Khalid University.

1.2 Scope of the Plan

The scope of this Program Improvement Plan covers the most recent evaluation cycle of the CPM program, corresponding to the academic years reviewed in the latest program annual reports. The plan focuses on priority improvement areas identified through longitudinal analysis of performance trends and benchmark comparisons, with particular attention to learning outcomes achievement, student and employer satisfaction, research outputs, and operational effectiveness

The development of the PIP is based on multiple sources of verified evidence, including:

- Program Annual Reports, which provide an overview of achievements, challenges, and implemented actions;
- Program Learning Outcomes Assessment Reports, documenting the attainment levels of program learning outcomes and areas requiring enhancement;

- Student, Alumni, Employer, and Faculty Surveys, offering stakeholder perspectives on program quality, relevance, and effectiveness; and
- Key Performance Indicators (KPIs) mandated by NCAAA and supplemented by internal and external benchmarks to assess program performance over time.

Collectively, these data sources ensure that the Program Improvement Plan is comprehensive, evidence-based, and aligned with national accreditation expectations and institutional quality assurance processes.

2. Program Context

2.1 Program Overview

The Master of Science in Construction Project Management (CPM) is a graduate program offered by the Department of Civil Engineering, College of Engineering, at King Khalid University. The program is designed to prepare qualified professionals capable of addressing the complex managerial, technical, and strategic challenges of contemporary construction projects. Since its launch in 2019, the program has demonstrated steady enrollment, timely graduation rates, and strong employability outcomes, reflecting its relevance to labor market needs and national development priorities

The mission of the CPM program is to *"provide Construction Project Management graduates with high level of competence in academic excellence, modern technology and scientific research, and service to the community."* This mission is operationalized through clearly defined program objectives that focus on equipping graduates with advanced technical and managerial knowledge, leadership and professional skills, research capabilities, and ethical and societal responsibility in the field of construction project management

The program's objectives are fully aligned with the institutional mission of King Khalid University, the College of Engineering, and the Civil Engineering Department. This alignment is formally documented through approved mission and goal mapping matrices, which demonstrate consistency with the university's strategic directions related to academic excellence, research and innovation, community engagement, and sustainable development. Regular reviews of the program mission and objectives are conducted through established quality assurance processes to ensure continued relevance, stakeholder alignment, and compliance with NCAAA requirements

2.2 Stakeholders

The MSc. CPM program recognizes the active involvement of internal and external stakeholders as a core component of effective program management and continuous improvement. Stakeholder engagement is systematically embedded in program planning, evaluation, and decision-making processes.

Students are the primary beneficiaries of the program and play a central role in quality assurance through structured feedback mechanisms, including course evaluations, program satisfaction surveys, learning outcomes assessments, and participation in academic advising and research supervision processes. Student feedback is regularly analyzed and used to inform improvement actions related to teaching, assessment, learning resources, and support services

Faculty members contribute to program delivery, curriculum development, assessment, research supervision, and quality assurance activities. They actively participate in departmental and program committees, program learning outcomes assessment, KPI analysis, and the preparation of annual reports and improvement plans. Faculty input ensures academic rigor, alignment with professional standards, and continuous enhancement of teaching and learning practices

Alumni provide valuable feedback on the relevance and effectiveness of the program in preparing graduates for professional practice and further studies. Alumni surveys and engagement activities are used to assess graduate preparedness, career progression, and alignment of program outcomes with industry expectations, thereby informing curriculum review and improvement initiatives

Employers represent a key external stakeholder group and contribute to evaluating graduate competencies, employability, and professional skills through employer satisfaction surveys and informal consultations. Employer feedback supports alignment of program learning outcomes with labor market needs and informs improvement actions related to curriculum content, practical orientation, and professional skills development

The Program Advisory Committee, comprising academic experts and industry representatives, provides strategic guidance on program development, benchmarking, curriculum relevance, and industry engagement. The committee's recommendations support evidence-based decision-making and strengthen the program's responsiveness to emerging trends, national priorities, and professional standards in construction project management

3. Summary of Evidence and Analysis

3.1 Analysis of Program Annual Reports

The analysis presented in this section is based primarily on the **Annual Program Report for the academic year 2024-2025** (Evidence: 1-1-4-7 TPG-152 AP Report MSC_CPM_2024-25) for the Master of Science in Construction Project Management (CPM). The report provides comprehensive quantitative and qualitative evidence on program performance, including student statistics, learning outcomes assessment, stakeholder feedback, research activities, and key performance indicators (KPIs). The findings offer a clear basis for identifying strengths, challenges, and performance trends that inform targeted improvement actions

Key Strengths Identified

The annual report indicates several areas of strong performance across academic, operational, and research dimensions. Program Learning Outcomes (PLOs) assessment results demonstrate that most outcomes exceeded their targeted performance levels, particularly in core knowledge areas, research and analytical skills, risk management, communication skills, and lifelong learning awareness. High achievement in outcomes related to construction planning, quality management, research methodology, and risk mitigation reflects effective curriculum design and delivery

Student satisfaction indicators also represent a major strength. Students' evaluation of the quality of learning experience, academic supervision, and support services exceeded internal and external benchmarks. Academic supervision received consistently high ratings for clarity of expectations, research proposal guidance, supervision quality, and fairness of thesis defense processes. These results confirm the effectiveness of faculty engagement and structured research supervision practices

From a research perspective, the program demonstrated strong productivity and relevance. Faculty members achieved a high volume of publications with a 100% publication rate and an exceptionally high citation rate, while student theses addressed regionally and nationally relevant topics such as construction risk management, safety, sustainability, artificial intelligence applications, and compliance with the Saudi Building Code. Employer and alumni feedback further confirmed graduate preparedness, strong technical knowledge, communication skills, and alignment with labor market needs

Key Challenges and Gaps

Despite the overall positive performance, the annual report highlights several challenges and gaps requiring targeted improvement. Program learning outcomes related to applied cost estimation, project execution, innovation, leadership, and ethical decision-making showed lower achievement in thesis-based and indirect assessments. These gaps indicate a need to strengthen the translation of theoretical knowledge into applied practice, particularly within thesis work and complex project scenarios

A notable operational challenge identified is the relatively high student dropout rate compared to the targeted benchmark, signalling the need for enhanced academic advising, early intervention mechanisms, and student engagement strategies. In addition, while student research publication rates are improving, they remain below desired targets, suggesting the need for stronger incentives, structured publication support, and closer integration of research dissemination into the thesis process

Stakeholder feedback also identified areas for enhancement related to access to learning resources, particularly library materials, as well as further development of soft skills, leadership, creativity, and adaptability to emerging technologies. These gaps highlight opportunities to enrich learning resources, expand professional skills training, and deepen industry engagement within the curriculum

Trends over the Reporting Period

Trend analysis across recent reporting periods indicates sustained improvement in key quality indicators. Student satisfaction with learning experiences, academic supervision, and support services shows a consistently upward trend, exceeding both internal and external benchmarks. Research productivity and impact remain strong, with steady growth in citations and continued alignment of thesis topics with national priorities and industry needs

At the same time, persistent challenges related to applied skill integration, innovation, and student retention have emerged as recurring themes, suggesting structural rather than isolated issues. These trends underscore the importance of a focused Program Improvement Plan that prioritizes applied learning, innovation-oriented practices, student support mechanisms, and stronger linkage between academic outcomes and professional competencies

3.2 Learning Outcomes Assessment Results

The assessment of Program Learning Outcomes (PLOs) for the Master of Science in Construction Project Management (CPM) during the academic year 2024-2025 was conducted in accordance with the program's approved assessment plan and the requirements of the National Commission for Academic Accreditation and Assessment (NCAAA). The process employed a combination of direct and indirect assessment methods, including grade-based assessments across core and

elective courses, rubric-based evaluation of the Master's Thesis, and structured surveys of graduating students, alumni, and employers. This multi-method approach ensures the validity, reliability, and comprehensiveness of the assessment results

Program Learning Outcomes (PLOs):

The CPM program defines ten Program Learning Outcomes grouped under three domains: Knowledge and Understanding (K1-K2), Skills (S1-S6), and Values, Autonomy, and Responsibility (V1-V2). These outcomes collectively address advanced disciplinary knowledge, applied professional and research skills, ethical practice, leadership, and lifelong learning. The PLOs are systematically mapped to compulsory and elective courses using an Introduced-Practiced-Mastered (I-P-M) framework, ensuring progressive development and comprehensive coverage throughout the study plan, with full mastery expected by the completion of the Master's Thesis.

Achievement Levels versus Benchmarks

Overall assessment results indicate that the majority of PLOs met or exceeded the targeted benchmark of 4.2 on a five-point scale when combining direct and indirect assessment evidence (Evidence: 2-1-4-4 Report on Program Learning outcomes Assessment 2024-25). Strong achievement was observed in core construction project management knowledge (K1), quality assurance and construction law (K2), research and critical thinking (S1), risk management (S4), communication skills (S5), and lifelong learning awareness (V2). These results reflect effective curriculum alignment, robust assessment practices, and consistent teaching quality across the program. However, comparative analysis of grade-based, rubric-based, and indirect assessments reveals variation in performance across assessment contexts. While classroom-based assessments generally exceeded benchmarks, some outcomes demonstrated lower achievement in thesis-based evaluations and stakeholder surveys. Outcomes related to innovation and leadership (S2), applied cost estimation and budgeting (S3), project execution and control (S6), and ethical and professional responsibility (V1) showed marginal or below-target performance in one or more assessment methods. These differences suggest challenges in transferring theoretical understanding into complex, applied, and integrative contexts, particularly within the Master's Thesis.

Courses Contributing to Underachievement

Analysis of course-level and thesis-based assessment results indicates that underachievement in certain PLOs is associated primarily with applied and integrative learning components. Courses such as CE786 (Project Financial Management) and CE782 (Quality Project Management) contribute to the development of budgeting, quality control, and project execution skills; however, evidence from thesis rubrics shows that students face difficulties in demonstrating these competencies comprehensively in independent research projects. Similarly, outcomes related to innovation, leadership, and interdisciplinary application (S2) are addressed across

multiple courses but require stronger reinforcement through project-based and technology-driven learning activities to ensure consistent attainment.

The Master's Thesis (CE799), as the primary summative assessment, plays a critical role in revealing gaps between theoretical knowledge and applied practice. Lower rubric-based scores in outcomes related to applied budgeting, project monitoring, ethical reasoning, and lifelong learning integration indicate the need for enhanced supervision guidance, clearer performance criteria, and additional applied training prior to and during thesis development. These findings provide a clear evidence base for targeted improvement actions within the Program Improvement Plan.

3.3 Survey Results Analysis

3.3.1 Student Survey Results

Student survey results for the academic year 2024-2025 provide comprehensive evidence on students' perceptions of program quality, teaching and learning effectiveness, academic advising, learning resources, and overall learning experience. The analysis draws on multiple structured instruments, including course evaluation surveys, program evaluation surveys, academic services and advising surveys, learning experience surveys for final-year students, and learning resources and research facilities evaluations. Collectively, these surveys offer a robust and triangulated view of student satisfaction and areas requiring improvement.

Satisfaction Levels

Overall, student satisfaction with the MSc. CPM program is high and consistently exceeds targeted benchmarks across most survey dimensions. Students reported strong satisfaction with teaching quality, instructor expertise, and academic engagement, with high ratings for instructor effectiveness, preparedness, subject knowledge, and adherence to assessment methods. **Course evaluation results** indicate that teaching and learning strategies are generally appropriate to the graduate level and that feedback on assessments is timely and constructive (Evidence: 2-3-2-4 Course Evaluation Survey S451_S452_S461_S462).

Academic advising and support services were also rated positively. Students expressed high levels of satisfaction with advisor availability, clarity of guidance regarding program requirements, and support for academic and career planning. Comparative analysis with the previous academic year shows measurable improvement in advising clarity, understanding of program requirements, and advisor responsiveness, reflecting the effectiveness of recent enhancement initiatives (Evidence: 3-0-1-6 Academic services and Academic Advising_SurveyResult_23-24_24-25).

In addition, final-year students reported strong satisfaction with the overall learning experience and career preparation. High ratings were observed for the development of research skills,

communication and teamwork abilities, and readiness for professional practice. Students also acknowledged the program's contribution to increasing their interest in staying current with developments in construction project management and related technologies (Evidence: 2-1-5-9 Learning Experiences Final Year student_SurveyResult&Analysis_2023_24 & 2024-25)

Areas of Concern

Despite the overall positive results, student surveys identified several areas of concern that warrant targeted improvement actions. Access to learning resources and library materials, while generally satisfactory, received comparatively lower ratings than other domains. Students noted limitations in the availability and diversity of books, digital resources, and specialized research materials, indicating the need for continued enhancement of library collections and electronic resources. Some concerns were also raised regarding professional and life skills development, including leadership, innovation, and broader transferable skills. Although ratings in these areas remain above acceptable benchmarks, they are lower relative to core academic and technical domains, suggesting opportunities to strengthen structured soft skills development within the curriculum and co-curricular activities

Additionally, course-level feedback highlighted variability in early course orientation, clarity of learning outcomes, and access to technical support services. While not systemic, these issues point to the need for more consistent communication of course expectations at the beginning of semesters and improved visibility of technical and learning support services to ensure equitable student experiences across courses

3.3.2 Alumni Survey Results

The alumni survey for the academic year 2024-2025 provides valuable post-graduation evidence on the effectiveness of the Master of Science in Construction Project Management (CPM) program in preparing graduates for professional practice and lifelong learning. The survey evaluates alumni perceptions of graduate preparedness, skills relevance, program mission and goals alignment, and overall satisfaction. The findings offer an external, outcome-focused perspective that complements student and employer feedback and supports continuous program improvement (Evidence: 1.1.1.6. Evaluation of the Program by Alumni_SurveyResult_23-24_24-25)

Graduate Preparedness

Survey results indicate that alumni generally perceive themselves as well prepared for professional roles in construction project management. Alumni reported strong confidence in their ability to apply theoretical knowledge to real-world project contexts, reflecting effective integration of academic content with practical applications. This outcome demonstrates the program's success in equipping graduates with foundational and advanced competencies required in professional environments

Alumni also expressed positive perceptions regarding the program's alignment with institutional mission and goals, particularly in relation to technical education, scientific research, and societal contribution. High ratings for mission consistency and goal alignment confirm that the program provides a coherent academic experience that supports professional advancement and contributes to national development priorities. Furthermore, a high proportion of alumni indicated willingness to recommend the program and the university to others, reflecting overall satisfaction with their educational experience

Comparative analysis with the previous academic year shows incremental improvement in key preparedness indicators, including application of theoretical knowledge and analytical problem-solving abilities. These trends suggest sustained enhancement of graduate readiness and the effectiveness of recent curriculum and teaching improvements

Skills Relevance

While overall skills relevance is rated positively, alumni feedback highlights specific areas requiring further strengthening. Skills related to creativity, innovation, and the development of new construction solutions received comparatively lower ratings, indicating that graduates perceive a gap between academic preparation and the innovative demands of contemporary construction practice. This finding suggests a need for greater emphasis on innovation-driven learning, emerging technologies, and applied problem-solving within the curriculum. In addition, alumni identified opportunities to enhance communication skills, acquisition of new professional skills, and alignment with employer expectations and career pathways. Although these skills are generally rated above acceptable benchmarks, their relatively lower scores compared to technical competencies indicate that further integration of transferable skills, professional communication, and career-focused learning activities would enhance graduate effectiveness in the workplace.

Overall, the alumni survey confirms that the CPM program is effective in preparing graduates for professional practice while also identifying clear, evidence-based priorities for improvement. These findings directly inform the Program Improvement Plan by emphasizing the need to strengthen innovation, creativity, professional communication, and closer alignment with evolving labor market requirements

3.3.3 Employer Survey Results

The employer survey conducted during the academic year 2024–2025 provides critical external evidence on the effectiveness of the Master of Science in Construction Project Management (CPM) program in meeting labor market needs and preparing graduates for professional practice. The survey evaluates employer satisfaction with graduates' knowledge, skills, values, and overall job readiness, as well as the alignment of the program's mission, objectives, learning outcomes, and curriculum with industry expectations (Evidence: 2-1-2-9 Employers Evaluation of the Program Graduates Competency_SurveyResult&Analysis2023-2024 & 2024-2025)

Employer Satisfaction

Overall, employers expressed a high level of satisfaction with MSc. CPM graduates, with most survey items exceeding the targeted benchmark on a five-point scale. Employers rated graduates highly in theoretical knowledge, understanding of construction concepts, and ability to learn and adapt to new professional requirements, indicating strong academic preparation and cognitive readiness for evolving industry demands. Knowledge of safety and security protocols also received high ratings, reflecting appropriate emphasis on regulatory compliance and risk awareness within the program

Graduates' technical problem-solving skills and oral and written communication abilities emerged as notable strengths, with communication skills receiving one of the highest average scores among all evaluated dimensions. Employers also confirmed that program learning outcomes, graduate attributes, and curriculum content are well aligned with labor market needs, and a strong willingness to employ King Khalid University graduates was reported. These results validate the relevance of the MSc. CPM program to industry requirements and its effectiveness in producing job-ready graduates.

Skill Gaps Identified:

Despite the overall positive feedback, employers identified several skill areas that require further development to enhance graduate competitiveness and workplace effectiveness. Leadership and teamwork skills, while rated as acceptable, received comparatively lower scores, suggesting the need for greater emphasis on collaborative work, leadership roles, and team-based project management within the curriculum. Similarly, ethical and professional values, along with negotiation and persuasion skills, were identified as areas with potential for improvement, indicating the importance of more applied and contextualized professional practice training.

Employers also noted that creativity, innovation, and adaptability to modern technologies could be strengthened further. Although graduates demonstrate solid technical foundations, the survey results suggest a need to enhance exposure to innovative construction practices, digital tools, and emerging technologies to better align graduate capabilities with the dynamic nature of the construction industry. These identified gaps provide clear, evidence-based priorities for targeted improvement actions within the Program Improvement Plan.

3.3.4 Faculty Survey Results

Faculty survey results for the academic year 2024-2025 provide important internal evidence on teaching and assessment practices, institutional support, infrastructure, and the overall academic environment of the Master of Science in Construction Project Management (CPM) program. The surveys capture faculty perceptions of curriculum alignment, assessment effectiveness, professional development opportunities, and the adequacy of resources supporting teaching and research. These insights are critical for identifying challenges that directly influence program quality and learning outcomes (Evidence: 2-3-3-3 Faculty survey 2023-2024 & 2024_25)

Teaching and Assessment Challenges

Overall, faculty responses indicate a high level of satisfaction with the academic framework governing teaching and assessment. Faculty members reported strong agreement that the curriculum is well aligned with program objectives, learning outcomes, and professional and national qualification standards. Clear policies and procedures for quality assurance, program evaluation, and assessment processes were also positively rated, demonstrating effective institutional governance and compliance with NCAAA requirements

Despite these strengths, the survey identified several teaching- and assessment-related challenges that require targeted improvement. Faculty members noted challenges related to assessment workload and consistency, especially in courses involving intensive projects, thesis supervision, and applied assessments. Ensuring uniform application of assessment rubrics, timely feedback, and alignment between course-level assessments and program learning outcomes remains an area for ongoing attention. Faculty also emphasized the need for continued professional development in advanced assessment methods, technology-enhanced learning, and innovative pedagogical approaches to support evolving program demands.

3.4 Key Performance Indicators (KPIs)

Program performance for the academic year 2024-2025 was systematically evaluated using the 13-NCAAA-approved Program Key Performance Indicators (13-KPIs). These indicators provide quantitative evidence of program effectiveness in relation to student satisfaction, academic quality, research productivity, stakeholder engagement, and alignment with labor market needs. The analysis incorporates comparisons against predefined targets, internal benchmarks, and

external benchmarks (Qassim University), thereby ensuring objective evaluation and continuous improvement. (Evidence: 3-0-2-10 NCAAA_KPIs_Report Analysis 2022 to 2025) . Overall, the KPI results demonstrate strong program performance across most domains, with several indicators exceeding both internal and external benchmarks. However, selected KPIs highlight critical challenges that require targeted improvement actions and are therefore prioritized within the Program Improvement Plan.

Student Learning Experience and Academic Quality

Student-centered KPIs reflect high levels of satisfaction with learning experience and academic support. Students' evaluation of the quality of learning experience significantly exceeded the target and benchmark values, indicating effective curriculum design, teaching practices, and academic environment. Similarly, academic supervision quality achieved results above internal and external benchmarks, demonstrating strong faculty engagement and effective thesis supervision practices. The average time to graduation met the target and benchmark values, reflecting efficient program progression and academic planning

In contrast, the KPI related to course quality evaluation slightly underperformed relative to the external benchmark, although it remained close to the target and exceeded the internal benchmark. This finding indicates the need for continued enhancement of course design, delivery methods, and assessment practices to remain competitive with leading institutions

Student Retention and Support Services

A critical challenge identified through KPI analysis is the rate of student dropout, which substantially exceeded the target and both internal and external benchmarks. This indicator highlights a significant retention issue, suggesting the need for strengthened academic advising, early-warning systems, and targeted student support mechanisms. Conversely, students' satisfaction with support services achieved exceptionally high results, surpassing benchmarks, indicating that service quality is strong but may require better integration with retention strategies

The student-to-faculty ratio significantly exceeded performance expectations, demonstrating a highly favorable learning environment characterized by small class sizes and personalized academic support. This strength provides an important foundation for addressing retention and academic engagement challenges

Stakeholder Satisfaction and Labor Market Alignment

Employers' evaluation of graduates' competencies exceeded target and benchmark values, confirming that CPM graduates possess the knowledge and skills required by the labor market. This result aligns with findings from employer and alumni surveys and validates the relevance of

program learning outcomes and curriculum structure. High employer satisfaction further supports the program's contribution to workforce development and national priorities

Research Productivity and Innovation

Research-related KPIs demonstrate strong faculty performance and impact. The percentage of faculty publications reached 100%, and the citation rate per faculty member substantially exceeded target and benchmark values, reflecting high-quality research output and international visibility. However, the rate of published research per faculty member fell short of the target, indicating a need for additional support and incentives to further enhance productivity. Student research engagement, measured through the percentage of students publishing in refereed journals and conferences, exceeded internal and external benchmarks but remained below the ambitious target. This finding underscores the need for structured mentoring, publication workshops, and stronger integration of research dissemination into the thesis process. Although the number of patents, innovative products, and awards exceeded internal targets, performance remains modest when compared to external benchmarks, highlighting opportunities to scale innovation and enhance external visibility

4. Key Issues Requiring Improvement

The Master of Science in Construction Project Management (CPM) program demonstrates strong overall performance across academic quality, stakeholder satisfaction, and research productivity. The following key issues are identified as priority enhancement areas aimed at sustaining excellence, strengthening alignment with best practices, and supporting continuous quality improvement in line with NCAAA standards. These areas build on existing strengths and reflect the program's commitment to proactive improvement rather than corrective action.

4.1 Academic Enhancement Opportunities

Program performance indicators and annual reports confirm effective academic planning, timely graduation, and strong student learning outcomes achievement. To further enhance academic effectiveness, the program has identified opportunities to strengthen student engagement and continuity, particularly through early academic monitoring and structured academic mentoring. KPI analysis highlights the importance of reinforcing proactive academic support mechanisms to ensure consistent student progression and long-term success across cohorts, especially given the program's rigorous graduate-level requirements.

4.2 Curriculum Alignment Enhancement

Curriculum mapping and learning outcomes assessment demonstrate strong alignment between courses and Program Learning Outcomes (PLOs), particularly in core construction project management knowledge and research skills. To further enhance curriculum effectiveness, evidence from PLO assessment and stakeholder feedback suggests opportunities to deepen applied integration of innovation, leadership, ethical practice, and advanced project execution skills across selected courses and the Master's Thesis. These enhancements will strengthen alignment with evolving industry practices and reinforce the program's applied professional orientation.

4.3 Teaching and Learning Enhancement

Student surveys, faculty feedback, and KPIs reflect high satisfaction with teaching quality and academic supervision, indicating effective instructional practices and faculty engagement. Building on this strength, the program has identified opportunities to expand experiential, project-based, and technology-enabled learning approaches, particularly in areas related to innovation, leadership, and interdisciplinary problem-solving. Faculty feedback further supports continued investment in pedagogical development and instructional technologies to enrich graduate-level learning experiences.

4.4 Assessment and Evaluation Enhancement

Assessment practices across the program are well established and aligned with NCAAA requirements, with clear use of rubrics, multiple assessment methods, and regular review of

results. To further enhance assessment effectiveness, evidence from learning outcomes analysis highlights opportunities to strengthen alignment between course assessments, thesis evaluation, and higher-order applied learning outcomes. Faculty feedback also supports continued efforts to enhance assessment consistency, calibration, and feedback mechanisms, particularly for project-based and thesis assessments.

4.5 Student Support Services Enhancement

Student satisfaction surveys and KPIs indicate very high levels of satisfaction with academic and support services, reflecting a supportive learning environment and effective service delivery. To further strengthen student success and retention, the program recognizes opportunities to integrate advising, academic monitoring, and early-warning systems more systematically, ensuring timely identification and support of students who may benefit from additional guidance during their studies. This enhancement aligns with best practices in graduate education and continuous improvement.

4.6 Resources and Facilities Enhancement

Students and faculty generally express positive perceptions of learning resources and research facilities, confirming adequate infrastructure to support program delivery. To sustain and enhance program quality, evidence suggests opportunities to expand access to specialized library resources, digital databases, research software, and advanced learning technologies, particularly those supporting interdisciplinary research and emerging construction management practices. Continued enhancement in this area will further support innovation, research productivity, and advanced graduate learning.

5. Program Improvement Plan

5.1 Improvement Actions Overview

Based on the evidence and analysis presented in Section 3, the following improvement actions are proposed to build on existing strengths, enhance program effectiveness, and ensure sustained alignment with NCAAA standards and best practices. The actions focus on academic excellence, curriculum enrichment, teaching and learning enhancement, assessment effectiveness, student success, and resource optimization.

Identified Enhancement Area	Evidence Source	Improvement Action	Responsible Unit / Person	Performance Indicator (KPI)	Target / Benchmark	Timeline	Status
Strengthening student engagement and continuity	Annual Program Report, KPI-PG-5	Implement an early academic monitoring and mentoring system for graduate students	Program Committee / Academic Advisors	Student dropout rate (KPI-PG-5)	0%	AY 2025-26	Planned
Enhancing applied and innovative learning outcomes	PLO Assessment Report, Alumni & Employer Surveys	Integrate applied projects, case studies, and innovation-focused assignments across selected courses	Curriculum Committee / Course Coordinators	PLO achievement (S2, S3, S6)	4.2 (1-5 level)	AY 2025-26	Planned
Strengthening leadership and professional skills development	Alumni & Employer Surveys, PLO Results	Embed leadership, teamwork, and professional skills activities within coursework and thesis guidance	Program Committee / Faculty Members	Employer satisfaction (KPI-PG-6)	4.3 (1-5 level)	AY 2025-26	Planned

Identified Enhancement Area	Evidence Source	Improvement Action	Responsible Unit / Person	Performance Indicator (KPI)	Target / Benchmark	Timeline	Status
Enhancing experiential and technology-enabled teaching	Student Surveys, Faculty Survey	Expand thesis-based, technology-enhanced, and experiential learning practices	Department / Faculty Members	Student learning experience (KPI-PG-1)	4.5 (1-5 level)	AY 2025–26	Ongoing
Improving assessment alignment and feedback consistency	PLO Assessment Report, Faculty Survey	Conduct assessment calibration workshops and refine thesis rubrics	Quality Committee / Faculty Members	PLO achievement consistency	4.3 (1-5 level)	AY 2025–26	Planned
Strengthening integration of student support services	Student Surveys, KPI Results	Align advising, academic monitoring, and student support services through coordinated follow-up mechanisms	Program Committee / Student Support Units	Student satisfaction with services (KPI-PG-7)	4.6 (1-5 level)	AY 2025–26	Ongoing
Enhancing research dissemination by students	KPI-PG-12, Annual Report	Provide structured publication workshops and mentoring for thesis students	Research Committee / Thesis Supervisors	Student publication rate (KPI-PG-12)	50% (toward long-term target)	AY 2025–27	Planned
Expanding learning resources and research facilities	Student & Faculty Surveys	Upgrade library resources, databases, and specialized research software	College Administration / Library	Student satisfaction with resources	4.8 (1-5 level)	AY 2025–26	Planned

5.2 Detailed Improvement Actions

5.2.1 Enhancing Student Engagement and Academic Continuity

Description of the Enhancement Area

The CPM program demonstrates strong academic quality, timely graduation, and high student satisfaction. To further strengthen academic continuity and maximize student success, the program seeks to enhance proactive engagement mechanisms that support students throughout their academic journey, particularly during critical stages of coursework and thesis development.

Supporting Evidence

Evidence from the Annual Program Report and KPI analysis highlights the importance of strengthening early academic monitoring and mentoring to ensure consistent student progression and sustained engagement across cohorts (Section 3.1 and Section 3.4).

Planned Improvement Actions

- Introduce an early academic monitoring system for graduate students
- Strengthen structured academic mentoring and periodic progress reviews
- Enhance coordination between program administration and academic advisors

Expected Outcomes

- Improved student engagement and persistence
- Early identification and support of students requiring additional guidance
- Sustained improvement in academic progression indicators

KPIs and Success Criteria

KPI-PG-5: Student dropout rate

Target: Progressive reduction toward internal benchmark and long-term target

Implementation Timeline: Academic Year 2025–2026

5.2.2 Enhancing Applied, Innovative, and Leadership-Oriented Learning Outcomes

Description of the Enhancement Area

The program achieves strong learning outcomes in core construction project management knowledge and research skills. To further enhance graduate readiness and alignment with industry expectations, the program aims to deepen applied learning experiences related to innovation, leadership, and advanced project execution.

Supporting Evidence

Learning outcomes assessment results and feedback from alumni and employers indicate opportunities to strengthen applied integration of innovation, leadership, and professional skills, particularly within project-based coursework and thesis work.

Planned Improvement Actions

- Integrate applied case studies and industry-based projects into selected courses
- Embed leadership and teamwork components within coursework and thesis supervision
- Increase use of real-world problem-solving and technology-enabled learning activities

Expected Outcomes

Enhanced attainment of applied and higher-order learning outcomes

Stronger alignment between academic learning and professional practice

Improved graduate confidence in leadership and innovation roles

KPIs and Success Criteria

PLO achievement levels (Skills and Values domains)

Employer satisfaction (KPI-PG-6)

Target: Achievement at or above benchmark levels

Implementation Timeline: Academic Year 2025–2026

5.2.3 Enhancing Teaching and Learning Practices

Description of the Enhancement Area

Student surveys and KPIs indicate very high satisfaction with teaching quality and academic supervision. Building on this strength, the program seeks to further enrich teaching and learning practices through expanded experiential, project-based, and technology-enhanced instructional approaches.

Supporting Evidence

Student and faculty survey results highlight opportunities to further integrate innovative pedagogical methods and advanced instructional technologies to enhance graduate-level learning experiences (Sections 3.3.1 and 3.3.4).

Planned Improvement Actions

- Expand project-based and experiential learning activities
- Encourage the use of digital tools, simulation software, and emerging technologies
- Provide targeted faculty development workshops on innovative teaching practices

Expected Outcomes

- Enhanced student engagement and deeper learning
- Greater consistency in innovative teaching practices across courses
- Sustained high satisfaction with teaching quality

KPIs and Success Criteria

KPI-PG-1: Students' evaluation of learning experience

Target: Maintain or exceed benchmark values

Implementation Timeline: Ongoing, with initial enhancements in Academic Year 2025–2026

5.2.4 Enhancing Assessment Alignment and Feedback Effectiveness

Description of the Enhancement Area

Assessment practices in the CPM program are well established and aligned with NCAAA requirements. To further enhance assessment effectiveness, the program aims to strengthen alignment between course-level assessments, thesis evaluation, and program learning outcomes.

Supporting Evidence

Learning outcomes assessment reports and faculty feedback indicate opportunities to enhance assessment calibration, consistency of rubric application, and feedback quality, particularly in applied and thesis-based assessments.

Planned Improvement Actions

- Conduct assessment calibration and rubric alignment workshops
- Refine thesis evaluation rubrics to better capture applied learning outcomes
- Promote consistent feedback practices across courses

Expected Outcomes

- Improved consistency and transparency in assessment
- Stronger evidence of applied learning outcomes achievement
- Enhanced student understanding of performance expectations

KPIs and Success Criteria

- PLO achievement consistency across assessment methods
- Target: All assessed PLOs meeting or exceeding benchmarks
- Implementation Timeline: Short to medium term (Academic Year 2025–2026)

5.2.5 Enhancing Student Support Services Integration

Description of the Enhancement Area

Student satisfaction with academic and support services is very high. To further strengthen student success, the program aims to enhance integration between academic advising, monitoring systems, and student support services.

Supporting Evidence

Student surveys and KPI results indicate strong service quality, while also highlighting the value of coordinated academic monitoring to support retention and progression.

Planned Improvement Actions

- Strengthening coordination between academic advisors and support units
- Integrate advising data with academic performance monitoring
- Enhancing communication of available support services to students

Expected Outcomes

- Improved student awareness and utilization of support services
- Enhanced academic continuity and progression
- Sustained high levels of student satisfaction

KPIs and Success Criteria

KPI-PG-7: Student satisfaction with services

Target: Maintain or exceed benchmark values

Implementation Timeline: Academic Year 2025–2026

5.2.6 Enhancing Learning Resources and Research Facilities

Description of the Enhancement Area

The program is supported by adequate learning resources and facilities. To further strengthen graduate education and research capacity, the program aims to enhance access to specialized resources and advanced research tools.

Supporting Evidence

Student and faculty surveys indicate opportunities to expand access to digital databases, specialized software, and research facilities supporting advanced construction project management studies.

Planned Improvement Actions

- Upgrade library collections and electronic research databases
- Expand access to specialized software and digital learning tools
- Strengthen coordination with institutional support units

Expected Outcomes

- Enhanced support for advanced coursework and research
- Improved student and faculty satisfaction with learning resources
- Greater capacity for innovation and research dissemination

KPIs and Success Criteria

Student satisfaction with learning resources

Target: Achieve or exceed internal benchmarks

Implementation Timeline: Academic Year 2026–2027

6. Conclusion

The Program Improvement Plan reflects the Master of Science in Construction Project Management (CPM) program's strong commitment to continuous quality enhancement and sustained alignment with NCAAA standards. Building on solid academic performance, high stakeholder satisfaction, and robust research outcomes, the program has identified focused improvement commitments aimed at strengthening student engagement and academic continuity, enriching applied and innovative learning experiences, enhancing teaching and assessment practices, integrating student support services, and expanding learning resources and research facilities. These commitments are evidence based, clearly prioritized, and supported by defined responsibilities, measurable performance indicators, and realistic implementation timelines.

The expected impact of these improvement actions includes sustained excellence in program delivery, stronger alignment between learning outcomes and labor market needs, and enhanced consistency in the achievement of higher-order and applied learning outcomes. Students are expected to benefit from deeper experiential learning, improved academic guidance, and enriched research and learning resources, leading to greater professional readiness and lifelong learning capacity. Collectively, the implementation of this Program Improvement Plan will further strengthen program quality, reinforce a mature quality assurance culture, and ensure continuous improvement in student learning and graduate outcomes in support of accreditation and institutional strategic goals.