

HANDBOOK

MASTER ENGINEERING MANAGEMENT

NAJRAN UNIVERSITY - COLLEGE OF ENGINEERING

2026

Program Handbook

PROGRAM AT A GLANCE

DEGREE AWARDED	Master of Engineering Management (M.E.M.)
DEPARTMENT	Civil Engineering
MODE OF STUDY	On-Campus (Coursework & Thesis)
TOTAL CREDIT HOURS	36
PROGRAM CODE	07880101

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Program Introduction

The Master of Engineering Management (M.E.M.) program at Najran University is a graduate-level degree meticulously designed to bridge the crucial gap between the technical field of engineering and the discipline of management. It equips engineers, architects, computer scientists, and other technical professionals with the essential business acumen, leadership capabilities, and strategic thinking required to lead complex engineering projects, teams, and organizations effectively.

In today's rapidly evolving global economy, the ability to manage technology, innovation, and engineering operations is paramount. This specialization is critical for professionals aspiring to transition from purely technical roles into positions of leadership and strategic responsibility. The program provides a unique blend of advanced engineering topics and core management principles, preparing graduates to make data-driven decisions, optimize processes, and drive innovation within their organizations.

This program is strategically aligned with the goals of Saudi Arabia's Vision 2030. By fostering a new generation of engineering leaders, the program directly contributes to the Kingdom's objectives of economic diversification, developing a thriving economy built on non-oil sectors, and enhancing the capabilities of the national workforce. Graduates will be prepared to lead major infrastructure, technology, and industrial projects that are central to the Vision, ensuring they are managed efficiently, sustainably, and competitively on a global scale.

Program Development

The Master of Engineering Management (MEM) program at Najran University was developed through a rigorous and systematic benchmarking process to ensure alignment with national and international best practices in engineering management education. The development committee conducted a comprehensive comparative analysis of six leading universities, comprising three nationally recognized Saudi universities and three internationally ranked universities, to evaluate program structure, curriculum design, admission requirements, credit hours, learning outcomes, and graduation requirements.

At the national level, the program was benchmarked against:

- King Fahd University of Petroleum and Minerals (KFUPM)
- Imam Abdulrahman Bin Faisal University
- Prince Sultan University

These comparisons enabled the program to align with leading Saudi graduate programs while ensuring compliance with the Saudi Qualifications Framework and the requirements of the Education and Training Evaluation Commission (ETEC).

At the international level, benchmarking was conducted against highly reputable universities with internationally recognized Engineering Management programs:

- University of Michigan–Dearborn (USA)
- Aston University (United Kingdom)
- Abu Dhabi University (UAE)

The selected universities are internationally ranked and recognized for excellence in engineering and management education. Their programs were analyzed with respect to program objectives, curriculum content, industry engagement, leadership development, systems engineering, quality management, strategic management, admission policies, and graduate competencies.

The findings from these benchmarking activities directly informed the design of the Najran University MEM program. The curriculum integrates advanced engineering knowledge with modern management principles, emphasizing strategic decision-making, project and operations management, innovation, leadership, sustainability, digital transformation, and applied research. The resulting program reflects both local workforce needs and global trends in engineering management, ensuring graduates possess the technical, managerial, and leadership competencies required to contribute effectively to Saudi Vision 2030 and to compete in an increasingly global engineering environment.

02 — PROGRAM MISSION

Program Mission

Preparing professional graduates in a distinguished environment for academic excellence in the area of Engineering Management. Growing the body of knowledge through conducting impactful scientific research to fulfill community needs and promote prosperity.

03 — PROGRAM GOALS

Program Goals

The primary goals of the Master of Engineering Management program are to:

- Provide graduates with in-depth knowledge and skills required to succeed in the diverse areas of Engineering Management.
 - Provide graduates with advanced knowledge that prepares them to pursue advanced studies, business management, or certifications in Engineering Management.
 - Produce high-quality research that aligns with the highest international standards of excellence.
 - Bridge the gap between managerial and practical work to develop solutions that meet the specific requirements of the job market and community services.
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Program Educational Objectives (PEOs)

Within three to five years of graduation, graduates of the Master of Engineering Management program are expected to:

PEO 1 – Engineering Management Leadership

Lead and manage multidisciplinary teams, complex engineering projects, operations, and technology-driven organizations by applying advanced engineering management knowledge, professional judgment, and effective leadership practices.

PEO 2 – Integrated Problem-Solving and Organizational Improvement

Analyze, develop, and implement innovative, data-informed, financially viable, ethical, and sustainable solutions that integrate engineering and management principles to enhance organizational performance and address stakeholder and community needs.

PEO 3 – Career Advancement and Lifelong Learning

Advance their professional careers and enhance their competencies through progressive leadership responsibilities, professional certifications, continuing education, advanced studies, and engagement with emerging engineering and management technologies.

PEO 4 – Research, Innovation, and Knowledge Contribution

Create, evaluate, and disseminate applied research, innovative solutions, entrepreneurial initiatives, and professional practices that contribute to the advancement of engineering management knowledge and practice.

Program Learning Outcomes (PLOs)

Upon successful completion of the program, graduates will be able to:

KNOWLEDGE AND UNDERSTANDING

K1. Demonstrate a comprehensive understanding of multidisciplinary engineering management, including the ability to recognize and adopt new approaches, disciplines, techniques, and technologies.

SKILLS

- S1.** Utilize engineering and management knowledge, skills, and techniques to plan, execute, and control current projects and operations.
- S2.** Adapt engineering concepts to a variety of managerial contexts.
- S3.** Improve decision-making, create and execute strategies, and lead innovative teams by building analytical skills.
- S4.** Prepare participants for a career that addresses critical technical and managerial needs of private and public organizations throughout their lives.
- S5.** Demonstrate leadership and effective communication.

VALUES, AUTONOMY, AND RESPONSIBILITY

V1. Take charge of their own learning, recognize ethical and professional responsibilities, and demonstrate behavior consistent with social expectations.

Admission Requirements

Applicants seeking admission to the Master of Engineering Management program must meet the general admission requirements of Najran University in addition to the specific program requirements listed below.

ACADEMIC QUALIFICATION

The applicant must hold a Bachelor of Science (BSc) degree from a recognized university in one of the following engineering disciplines: Electrical Engineering, Civil Engineering, Chemical Engineering, Mechanical Engineering, Architectural Engineering, Industrial Engineering, or any other engineering discipline approved by the department's scientific committee and classified under the Saudi Classification of Engineering Specializations.

GPA REQUIREMENT

- A minimum cumulative GPA of 2.80 out of 4.0 or 3.5 out of 5.0, or its equivalent (70%)
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ENGLISH LANGUAGE PROFICIENCY

Applicants must submit a valid English language proficiency test score obtained within the last two years. Accepted tests include:

- IELTS (Academic): Minimum overall band score of 5.5;
- STEP: Minimum score of 67;
- TOEFL: Minimum score of 460 (Paper-Based Test) or an equivalent score in other recognized TOEFL formats;
- Or an equivalent score from another officially recognized English language proficiency test, subject to approval by the Department's Scientific Committee.

This requirement is waived for applicants who graduated from universities where English was the official language of instruction, applicants must submit an official letter from their previous institution confirming that their degree program was taught in English.

07 — PROGRAM STRUCTURE

Program Structure

The Master of Engineering Management is offered as a Thesis Track program, requiring the completion of 36 credit hours. The program is structured to be completed over four semesters of full-time study.

TABLE 1 — CREDIT HOUR DISTRIBUTION FOR MASTER'S DEGREE

COMPONENT	CREDIT HOURS	PERCENTAGE
Required Courses	18	50%
Elective Courses	12	33.33%
Thesis	6	16.67%
Total	36	100%

EARLY EXIT POINT: HIGH DIPLOMA IN ENGINEERING MANAGEMENT

The program offers a flexible exit point. Students who successfully complete 24 credit hours of coursework (18 required and 6 elective) are eligible to be awarded a High Diploma in Engineering Management.

Study Plan

The following is a recommended semester-by-semester study plan for a full-time student in the Master of Engineering Management (Thesis Track).

LEVEL 1 — FIRST YEAR, SEMESTER 1

COURSE CODE	COURSE TITLE	CREDIT HOURS
711-ENM-3	Project Management	3
712-ENM-3	Sustainable Construction	3
713-ENM-3	Operations Management	3
***-ENM-3	Elective Course (Area 1)	3
Total		12

LEVEL 2 — FIRST YEAR, SEMESTER 2

COURSE CODE	COURSE TITLE	CREDIT HOURS
721-ENM-3	Engineering Economics and Feasibility	3
722-ENM-3	Risk Analysis & Management	3
723-ENM-3	Research Methods for Engineers	3
***-ENM-3	Elective Course (Area 2)	3
Total		12

LEVEL 3 — SECOND YEAR, SEMESTER 1

COURSE CODE	COURSE TITLE	CREDIT HOURS
730-ENM-0	Research Seminar	0
***-ENM-3	Elective Course (Area 3)	3
***-ENM-3	Elective Course (Area 4)	3
Total		6

LEVEL 4 — SECOND YEAR, SEMESTER 2

COURSE CODE	COURSE TITLE	CREDIT HOURS
740-ENM-6	Thesis	6
Total		6

Course Descriptions

This section provides detailed descriptions for all core, seminar, thesis, and elective courses offered within the Master of Engineering Management program.

CORE COURSES — 18 CREDIT HOURS

Project Management

711-ENM-33 Credit Hours (3-0-3)

This course provides a comprehensive examination of project management principles and practices. It covers the entire project lifecycle, including project definition, planning, organization, and control. Key topics include scope, time, cost, and quality management; resource allocation; communication strategies; and team motivation. The course offers an in-depth analysis of the project manager's role, responsibilities, and the ethical considerations inherent in the field.

Sustainable Construction

712-ENM-33 Credit Hours (3-0-3)

This course provides a broad understanding of sustainability principles in the context of engineering and construction. It prepares students to analyze projects from an integrated economic, environmental, and societal perspective using life-cycle assessment and other novel techniques. Topics include carbon footprint analysis, renewable energy, energy efficiency, net-zero design, green urban development, and internationally recognized green building certification systems.

Operations Management

713-ENM-33 Credit Hours (3-0-3)

This course introduces the concepts, principles, and practices of managing operations in manufacturing and service organizations. Emphasis is placed on the transformation process of converting inputs (e.g., labor, materials, knowledge) into outputs (goods and services). The course covers strategic topics such as process design, capacity planning, quality control, and supply chain management, utilizing quantitative tools for effective decision-making.

Engineering Economics and Feasibility

721-ENM-33 Credit Hours (3-0-3)

This course focuses on the economic evaluation and feasibility analysis of engineering projects. It provides detailed insight into cost estimation, evaluation of alternatives, and project pricing based on demand correlations. Core concepts include the time value of money, cash flow analysis, depreciation, and after-tax economic analysis. The course also introduces modern financial engineering principles, such as mean-variance portfolio theory, to assess project viability.

Risk Analysis & Management

722-ENM-33 Credit Hours (3-0-3)

This course delivers a comprehensive understanding of risk identification, assessment, and mitigation strategies tailored to engineering projects. It covers probabilistic analysis, qualitative and quantitative risk models, decision theory under uncertainty, and the effective communication of risk management plans. Students apply these concepts to real-world case studies, with an emphasis on integration with industry standards and regulatory frameworks.

Research Methods for Engineers

723-ENM-33 Credit Hours (3-0-3)

This course provides a comprehensive introduction to the scientific research methodologies relevant to engineering and management disciplines. Students will gain a solid understanding of the entire research process, from formulating research questions and conducting literature reviews to designing experiments, collecting and analyzing data, and effectively communicating research findings through scholarly writing and presentations. Ethical principles and academic integrity in research are also emphasized.

THESIS AND SEMINAR COURSES 6 CREDIT HOURS

Research Seminar

730-ENM-00 Credit Hours (0-0-0)

This mandatory, non-credit course prepares students for their master's thesis research. Under the guidance of a faculty member, students identify a research topic, conduct a preliminary literature review, and develop a formal research proposal. The course focuses on establishing a clear link between a research question, a research strategy, and appropriate methodologies, ensuring students are well-prepared to begin their thesis work.

Thesis

740-ENM-66 Credit Hours (0-0-6)

The thesis is a mandatory component representing a partial fulfillment of the M.Eng.M. degree requirements. It requires the student to conduct original, independent research under the supervision of a faculty advisor. The student must demonstrate a thorough knowledge of the relevant literature, explain the significance of the research, apply a sound research methodology, and present a well-argued program of research. The process culminates in the submission of a formal thesis document and a successful oral defense before a thesis committee.

ELECTIVE COURSES — 12 CREDIT HOURS

Students must select four courses (12 credit hours), choosing one course from each of the following four elective areas.

ELECTIVE AREA 1 — GENERAL ENGINEERING

Strategic Planning

714-ENM-3 3 Credit Hours (3-0-3)

This course examines the integration of engineering and technology within an organization's overall business strategy. Topics include the strategic planning process, corporate vision and mission, analysis of industry trends, and the formulation of product, market, and financial strategies. Case studies are used to illustrate how engineering leaders can anticipate and respond to market dynamics through effective strategic management.

Total Quality Management (TQM)

715-ENM-3 3 Credit Hours (3-0-3)

This course covers the fundamental concepts and implementation of Total Quality Management. It introduces TQM as a management philosophy aimed at embedding awareness of quality in all organizational processes. Topics include customer focus, continuous improvement (Kaizen), Six Sigma methodologies, Lean principles, and quality standards such as ISO 9001, with a focus on application within industrial and engineering systems.

Data Mining for Engineering Applications

716-ENM-3 3 Credit Hours (3-0-3)

This course introduces data mining concepts and statistics/machine learning techniques for analyzing large-scale engineering data. Students learn to extract valuable insights and build predictive models to support decision-making in areas such as process control, predictive maintenance, and system optimization. Topics include data preparation, classification, clustering, and association rule mining, with hands-on application to engineering datasets.

ELECTIVE AREA 2

— INDUSTRIAL ENGINEERING

Supply Chain and Logistics

724-ENM-33 Credit Hours (3-0-3)

This course provides an in-depth study of the principles and practices for designing and managing global supply chains. It covers key functions including procurement, materials planning, inventory control, transportation, warehousing, and e-logistics. The course emphasizes the use of analytical and technological tools to optimize logistics networks and align supply chain strategy with business objectives.

Safety Management

725-ENM-33 Credit Hours (3-0-3)

This course covers the fundamental concepts and principles of safety management in engineering and industrial environments. It focuses on the development and implementation of safety management systems (e.g., ISO 45001), hazard identification, risk assessment, and control strategies. Topics include the role of human factors, compliance with regulations like OSHA, and the integration of safety into an organization's culture to prevent accidents and ensure a healthy workplace.

Project Evaluation and Control

726-ENM-33 Credit Hours (3-0-3)

This course focuses on the quantitative techniques used to monitor, evaluate, and control project performance. Students will learn methods for measuring progress against scope, schedule, and cost baselines, including Earned Value Management (EVM). The course covers performance forecasting, variance analysis, and the implementation of corrective actions to ensure projects are completed on time and within budget.

ELECTIVE AREA 3 — **ENGINEERING PROJECT MANAGEMENT**

Building Information Modelling (BIM)

731-ENM-33 Credit Hours (3-0-3)

This course examines the principles and practical application of Building Information Modelling (BIM) as a collaborative process for managing the entire lifecycle of construction and infrastructure projects. Students will learn how to use BIM technologies for design coordination, clash detection, 4D (time) and 5D (cost) simulation, and facility management, enhancing project efficiency and decision-making.

Procurement & Contract Administration

732-ENM-33 Credit Hours (3-0-3)

This course covers the strategic processes of procurement, sourcing, and contract management in engineering projects. Topics include developing procurement strategies, supplier selection and evaluation, negotiation, and various types of contracts. Emphasis is placed on the legal aspects and administrative procedures for managing contracts to ensure compliance, control costs, and mitigate risks.

Communication & Leadership

733-ENM-33 Credit Hours (3-0-3)

This course focuses on developing the essential leadership and communication skills required for managing technical teams and complex projects. It explores theories of leadership, organizational behavior, motivation, and conflict resolution. Students will practice effective communication techniques for diverse audiences, including stakeholder management, professional presentations, and technical writing, to guide and inspire their teams.

ELECTIVE AREA 4**— ENGINEERING SUSTAINABILITY****Green Building****734-ENM-3** 3 Credit Hours (3-0-3)

This course provides a detailed examination of the principles, materials, and technologies used in green building design and construction. It covers topics such as passive design strategies, energy-efficient systems, water conservation, sustainable materials, and indoor environmental quality. The course also explores prominent green building rating systems like LEED and their role in promoting sustainable development.

Resource Planning & Management**735-ENM-3** 3 Credit Hours (3-0-3)

This course addresses the strategic planning and management of critical resources such as energy, water, and raw materials within engineering operations. It explores concepts of resource efficiency, waste minimization, and the circular economy. Students will learn analytical methods for resource forecasting, allocation, and optimization to enhance both economic performance and environmental sustainability.

Special Topics in Sustainability Development**736-ENM-3** 3 Credit Hours (3-0-3)

This course offers an in-depth exploration of advanced, emerging, or specialized topics within the field of sustainable engineering and development. The specific content may vary each semester based on current research, technological innovations, industry trends, and faculty expertise. Potential topics include industrial ecology, climate change adaptation, corporate social responsibility, and sustainable policy-making.

Teaching and Learning Strategies

The program employs a diverse range of student-centered teaching and learning strategies to foster a dynamic and interactive educational environment. These methods are designed to ensure students achieve the intended learning outcomes and are prepared for professional practice. Strategies include:

- **Lectures and Seminars**
Expert-led lectures provide foundational knowledge, while interactive seminars and group discussions encourage critical thinking and peer-to-peer learning.
- **Case Studies**
Analysis of real-world engineering management challenges to develop problem-solving and strategic decision-making skills.
- **Research Projects**
Individual and group projects that require students to apply theoretical concepts, conduct research, and produce technical reports, culminating in the master's thesis.
- **Self-Learning**
Guided self-study using a rich repository of printed and electronic materials to promote lifelong learning.
- **Guest Speakers**
Seminars by distinguished speakers from industry and academia provide insights into modern developments and best practices in the field.
- **Field Visits**
Site visits to relevant organizations and project sites to provide practical context and support applied learning objectives.

Assessment Methods

Student performance and the achievement of learning outcomes are evaluated through a comprehensive and balanced set of direct and indirect assessment methods.

DIRECT ASSESSMENT METHODS

- **Examinations**
Midterm and final exams to assess theoretical understanding and analytical capabilities.
- **Assignments and Quizzes**
Regular homework, quizzes, and problem sets to reinforce course concepts.
- **Research Reports and Projects**
Evaluation of technical reports, case study analyses, and term projects to assess research, application, and synthesis skills.
- **Presentations**
Oral presentations to evaluate communication skills and the ability to articulate complex ideas.
- **Thesis Evaluation**
Assessment of the master's thesis and oral defense to measure mastery of the research process and contribution to the field.

INDIRECT ASSESSMENT METHODS

- **Course Evaluation Surveys**
Student feedback on the quality of courses and instruction at the end of each semester.
- **Graduating Student Exit Surveys**
Comprehensive feedback from graduating students on their overall program experience and achievement of learning outcomes.
- **Alumni Surveys**
Periodic surveys of alumni to assess the long-term impact of the program on their career progression and the relevance of the curriculum.
- **Employer Surveys**
Feedback from employers of graduates to evaluate their performance and the program's effectiveness in meeting industry needs.

Research Areas

The program's faculty and students engage in research across a spectrum of engineering management disciplines. The primary research themes are structured around the program's elective areas, allowing for specialized and in-depth investigation. Key research areas include:

- **General Engineering Management**

Focusing on strategic planning, total quality management, and the application of data analytics and data mining in engineering contexts.

- **Industrial and Systems Engineering**

Research in supply chain management, logistics optimization, safety engineering, and systems for project evaluation and control.

- **Engineering Project Management**

Investigating advanced project management topics such as Building Information Modeling (BIM), procurement strategies, contract administration, and leadership in technical teams.

- **Engineering Sustainability**

Focusing on green building principles, sustainable construction, resource planning and management, and other special topics in sustainable development.

Thesis Requirements

The Master's Thesis (740-ENM-6) is a mandatory 6-credit-hour component of the program, representing the culmination of the student's research and analytical work. It requires students to conduct original research on a topic of significance within engineering management under the guidance of a faculty supervisor.

PREREQUISITES FOR THESIS REGISTRATION

To register for the thesis, a student must have successfully completed:

- A minimum of 15 credit hours of coursework.
 - 723-ENM-3 Research Methods for Engineers.
 - 730-ENM-0 Research Seminar.
-

THESIS PROCESS

1. Supervisor and Topic Selection

The student, in consultation with faculty, selects a research supervisor and defines a feasible thesis topic.

3. Thesis Proposal

The student prepares a detailed research proposal outlining the research problem, objectives, literature review, methodology, and expected outcomes. This proposal must be approved by the thesis committee.

5. Research and Writing

The student conducts the research under the continuous guidance of the thesis advisor, adhering to all ethical guidelines.

7. Thesis Defense

Upon completion of the thesis manuscript, the student must defend their work in an oral examination before the thesis committee. The defense involves a presentation of the research followed by a question-and-answer session.

9. Final Submission

After a successful defense and incorporation of any required revisions, the final thesis is submitted to the College of Engineering and the Deanship of Graduate Studies for approval.

Graduation Requirements

To be awarded the Master of Engineering Management degree, a student must:

- Successfully complete a total of 36 credit hours as specified in the study plan.
 - Complete all 18 credit hours of required core courses.
 - Complete 12 credit hours of elective courses, with one course from each of the four elective areas.
 - Successfully complete and defend the 6-credit-hour Master's Thesis (740-ENM-6).
 - Maintain a minimum cumulative GPA as required by the university's graduate studies regulations. Fulfill all other administrative and financial requirements of Najran University.
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Career Opportunities

Graduates of the Master of Engineering Management program are equipped for a wide range of leadership, managerial, and specialized roles across governmental, private, and non-profit sectors. The interdisciplinary nature of the degree opens doors to numerous career paths where technical expertise and management skill are combined. Potential professions include:

- Projects Manager / Construction Operations Manager
 - Operations Manager
 - Planning Manager / Urban Planning Manager
 - Project Management Specialist
 - Risk Management Specialist
 - Quality Manager
 - Supply Chain Manager
 - Service Management Specialist
 - Value Engineering Specialist
 - Business Analyst / Policy Analyst
 - Consultant
 - Researcher / Instructor
-

Quality Assurance and Continuous Improvement

The Master of Engineering Management program is committed to maintaining the highest standards of quality and engaging in a continuous cycle of improvement. Our quality assurance system is comprehensive, systematic, and involves all stakeholders.

QUALITY ASSURANCE SYSTEM

- Ensuring all program information is clear, accurate, and regularly reviewed by departmental and college committees.
- Aligning program objectives with the mission and strategic goals of the College of Engineering and Najran University.
- Engaging with stakeholders (students, alumni, employers, advisory board) through direct and indirect channels to ensure learning outcomes remain relevant to the needs of the community and the labor market.
- Involving all faculty and staff in the application and monitoring of quality standards.

QUALITY MONITORING PROCEDURES

- Periodic review of the program and course specifications to ensure currency and relevance.
- Application of peer review methods for lectures, course materials, and examinations.
- Systematic collection and analysis of feedback from alumni, employers, and graduating students through surveys and meetings.
- Annual meetings with the Industrial Advisory Board to guide program improvement.
- Regular meetings between the Dean, Program Chair, and students to discuss the learning experience and outcomes.

Alignment with Accreditation Standards

The Master of Engineering Management program is designed and implemented in alignment with the standards of leading national and international accreditation bodies to ensure its quality, relevance, and global recognition.

NCAAA — National Center for Academic Accreditation and Assessment

The program adheres to the standards for postgraduate programs set by the Education & Training Evaluation Commission (ETEC), represented by the NCAAA, the national quality assurance body in Saudi Arabia. This includes a clear definition of the program's mission, goals, and learning outcomes; a structured curriculum; robust student assessment methods; and a documented system for quality assurance and continuous improvement. The program specification, curriculum mapping, and Key Performance Indicators (KPIs) are all maintained in accordance with NCAAA requirements.

ABET — Accreditation Board for Engineering and Technology

While ABET accreditation is most common at the baccalaureate level, the program's structure and content are informed by the principles of ABET's Engineering Accreditation Commission (EAC) criteria for master's level programs. This includes having clearly published Program Educational Objectives (PEOs) and Program Learning Outcomes (PLOs), a documented process for assessment and continuous improvement, and a curriculum that provides both technical depth and professional skills. The program's focus on teamwork, communication, ethical responsibility, and lifelong learning aligns directly with ABET's core values.

Program Governance

The governance of the Master of Engineering Management program ensures academic integrity, administrative efficiency, and strategic direction. The structure is designed to facilitate faculty oversight and stakeholder involvement.

- **Program Scientific Committee**

Comprised of faculty members from the department, the Program Committee is responsible for the day-to-day management of the program. Its duties include curriculum review and development, student admissions, monitoring student progress, and implementing quality assurance policies.

- **Department Council**

The Civil Engineering Department Council provides higher-level oversight, approving major curriculum changes, faculty appointments, and strategic program decisions recommended by the Program Committee.

- **Industrial Advisory Board**

The program is supported by an Industrial Advisory Board consisting of senior professionals and leaders from relevant industries. The board provides external perspective and strategic advice on curriculum relevance, industry trends, and graduate attributes to ensure the program remains aligned with the needs of the job market.

Appendices

Appendix A — Graduate Attributes

DOMAIN	ATTRIBUTES
Citizenship	Graduates will be able to make a meaningful contribution to communities using ethical and visionary approaches in a variety of settings.
Communication	Graduates will be able to present information effectively, as well as being proficient in written and oral communication skills. Furthermore, they will develop research and note-taking skills that will enhance their ability to negotiate and persuade others professionally.
Entrepreneurship and Innovation	Graduates will be able to identify opportunities and to use their innovative and creative mindset to leverage those opportunities for the benefit of their communities and organizations.
Leadership	Graduates will be able to motivate, guide, and lead others with the necessary skills and knowledge that have been gained.
Organizational Management	Graduates will be able to plan and guide project processes from conception to completion.
Technical Specialization	Graduates will be able to demonstrate high levels of expertise, discipline, knowledge, and skills, as well as the ability to apply them in different contexts to come up with effective solutions.

Appendix B — Curriculum Map (Courses vs. PLOs)

This matrix indicates the level at which each Program Learning Outcome (PLO) is addressed in the program courses.

COURSE	M = Mastered		P = Practiced		— = Not addressed		
	K1	S1	S2	S3	S4	S5	V1
711-ENM-3	P	P	P	P	P	—	P
712-ENM-3	P	—	P	P	P	P	P
713-ENM-3	M	M	M	M	M	—	M
714-ENM-3	M	M	M	M	—	M	M
715-ENM-3	M	M	—	M	M	—	M
716-ENM-3	M	M	M	M	M	—	M
721-ENM-3	M	M	—	M	—	—	M
722-ENM-3	M	M	—	—	M	—	M
723-ENM-3	M	M	M	M	—	—	M
724-ENM-3	M	M	M	M	M	—	M
725-ENM-3	M	M	M	M	M	—	M
726-ENM-3	M	M	—	M	—	—	M
730-ENM-0	M	—	M	—	—	—	M
731-ENM-3	M	M	M	—	M	—	M
732-ENM-3	M	M	M	M	—	M	M
733-ENM-3	M	M	—	M	M	M	M
734-ENM-3	M	M	—	M	M	M	M
735-ENM-3	M	M	M	M	M	M	M
736-ENM-3	M	M	M	M	M	M	M
740-ENM-6	M	M	M	M	M	M	M

