



**University of Tabuk**  
**Faculty of Engineering**

**Industrial Engineering Department**  
**Master of Engineering Management**

**Operation Plan**

**(2023-2025)**

**July, 2023**

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## 1. Introduction

The Industrial Engineering (IE) Department was established in the Fall/Winter Semester of 2010-2011. The department currently offers two academic programs: the Bachelor of Science in Industrial Engineering and the Master of Engineering Management. The Master of Engineering Management is a two-year program (4 semesters) that started in academic year 2021-22, upon successful completion of program criteria and university requirements. The Master of Engineering Management is designed to align with the Kingdom of Saudi Arabia's development plan, preparing graduates for various job sectors. Its mission adheres to both international and national standards for education quality, in alignment with the university's vision.

IE Department Web Link: <https://www.ut.edu.sa/en/faculty-of-engineering/industrial-engineering>

Motivated by its mission and goals, the Master of Engineering Management program develops an two-year operational plan to ensure the effective implementation and achievement of its objectives. This plan introduces a series of initiatives, measured by key performance indicators, to drive the program toward its goals. It outlines targeted strategies focused on educational excellence, the promotion of ethical values, social responsibility, community engagement, and a strong commitment to contributing to the nation's economic growth.

## 2. Development of the Operational Plan

This operational plan is developed by the approved committee to identify and allocate the manpower, the financial and physical resources to achieve the strategic goals of the Tabuk university. Each strategic goals of the university are made to satisfy the strategic themes through various initiatives by the college or program. The operation plan for Master of Engineering Management helps allocating resources, establishing timelines, setting goals, identifying the improvement area, and determining the necessary steps to achieve the goals through various initiatives. These initiatives are implemented and measured through various Key Performance Indicators (KPIs) to understand the achievements towards the mission to realize the long-term vision. This operational plan mainly focuses on improving the quality of education, research, and community engagement by developing an attractive educational environment, and an effective administrative and organizational environment for a period of two years. However, based on the changes in the program mission or goals, the changes in the strategic plan of the Faculty of Engineering or the University of Tabuk, the operational plan is revised.

### 3. Program Constituencies

The program constituents are those who must be satisfied with the performance of the Engineering Management program. The significant groups of constituencies of the program are:

- **Faculty:** IE faculty members are involved, on a regular basis, in the assessment processes, advising, supervising, etc.
- **Students:** Current EM students are interested in whether the EM program adequately prepares them for future employment and academician.
- **Alumni:** This group consists of recent graduates who have been graduated from the IE department with Master of Engineering Management. They should have the incentive to assess the quality of the program based on their career achievements.
- **Employers (government, industry and universities):** Employers' satisfaction with our students' education provides measure of the program success. Their satisfaction translates to employment opportunities for our students.
- **EAB (External Advisory Board):** These external members contribute to the program by providing recommendations for curriculum updates to align with labor market needs.

### 4. Vision of the University of Tabuk, Faculty of Engineering, and EMP

#### 4.1 University of Tabuk Vision

A university that is educationally and academically distinguished which cooperated in community service.

#### 4.2 Faculty of Engineering Vision

A distinguished and pioneering college locally and internationally in the field of engineering education, innovative research, and building a knowledge society.

#### 4.3 Department of Industrial Engineering Vision

To be a leading department in Industrial Engineering in Saudi Arabia, providing world-class education, advancing impactful research, and fostering community development that serves both local and international markets for undergraduate and graduate students.

## 5. Mission of the University of Tabuk, Faculty of Engineering, and EMP

### 5.1 University of Tabuk Mission

To offer a distinguished university education that meets the needs of society and the job market through an attractive educational, administrative, and technical environment that supports research and innovation.

### 5.2 Faculty of Engineering Mission

To graduate qualified engineers in accordance with the International Academic Standards and prepare them to meet the changing needs of society. These graduates will be able to compete locally and internationally. The Faculty of Engineering is committed to providing excellent education and pursuing relevant scientific research and partnership with industry and governmental societies.

### 5.3 Master of Engineering Management Program Mission

Master of Engineering Management program delivers interdisciplinary education combining engineering and management, supports applied research addressing industrial and societal problems, engages in community service, meets the need of society and promotes ethical leadership, innovation, and lifelong professional growth.

### 5.4 Alignment of the Missions

Table 1 gives the alignment of the missions by mapping the keywords of the University of Tabuk with the Faculty of Engineering and Master of Engineering Management.

**Table 1:** Alignment of the mission by mapping the keywords of the University of Tabuk with the Faculty of Engineering and Master of Engineering Management Program

Keywords	University of Tabuk	Faculty of Engineering	Master of Engineering Management Program
<b>Needs of society</b>	To offer a distinguished university education that	To graduate qualified engineers in accordance with the International Academic Standards and prepare them to meet the changing <b>needs</b>	Master of Engineering Management program delivers interdisciplinary education combining engineering and

<b>interdisciplinary education</b>	meets the <b>needs of society</b> and the job market through an <b>attractive educational,</b>	<b>of society.</b> These graduates will be able to compete locally and internationally. The Faculty of Engineering is committed to providing <b>excellent education</b> and pursuing relevant scientific	management, supports applied research addressing industrial and societal problems, engages in community service, meets the need of society and promotes ethical leadership, innovation, and lifelong professional growth.
<b>Research</b>	administrative, and technical environment that supports <b>research</b> and innovation.	<b>research</b> and partnership with industry and governmental societies.	

## 6. Goals of the University, College, and Program

### 6.1 University Goals

**UG1:** To provide a distinguished university education that meets the needs of the labor market.

**UG2:** To support innovative research to contribute to building a knowledge economy.

**UG3:** To promote social responsibility and community partnership.

**UG4:** Sustainability of infrastructure and technology for an attractive educational environment.

**UG5:** Effective governance and management.

**UG6:** Diversify innovative financing sources and achieve expenditure efficiency.

### 6.2 Faculty of Engineering Goals

**CG1:** To deliver distinguished academic education that meets the needs of the labor market.

**CG2:** Providing creative research to contribute to building the knowledge economy of society.

**CG3:** Effective contribution to sustainable development and community service.

**CG4:** Offer a stimulating and attractive learning environment.

**CG5:** Develop an effective administrative and organizational environment in the college.

**CG6:** Providing innovative financing sources.

### 6.3 Master of Engineering Management Program Goals

- **PG1:** Provide advanced education that integrates engineering and management, preparing graduates to lead and manage complex projects and teams.
- **PG2:** Promote applied research that addresses practical challenges in industries and communities.

- **PG3:** Encourage ethical leadership, innovation, and continuous professional growth among graduates to serve community.
- **PG4:** Develop professional capabilities that enable graduates to contribute to the development of the local and global economy.

#### 6.4 Mapping the goals and the mission of Master of Engineering Management

The goals of the Master of Engineering Management are formulated based on its mission, and the alignment between the program objectives and the mission is outlined in Table 2.

**Table 2:** Alignment between the program objectives and the mission

Program Goal (PG)	Alignment with EM Program Mission
<b>PG1:</b> Provide advanced education that integrates engineering and management, preparing graduates to lead and manage complex projects and teams.	Aligns with the mission's core focus on delivering interdisciplinary education that combines engineering and management to build leadership and managerial competencies.
<b>PG2:</b> Promote applied research that addresses practical challenges in industries and communities.	Supports the mission's commitment to applied research targeting industrial and societal problems.
<b>PG3:</b> Encourage ethical leadership, innovation, and continuous professional growth among graduates.	Reflects the mission's emphasis on promoting ethical leadership, innovation, and lifelong professional development.
<b>PG4:</b> Develop professional capabilities that enable graduates to contribute to the development of the local and global economy.	Supports the mission's broader objectives of addressing societal needs and preparing graduates to have an economic impact at both local and global levels.

#### 6.5 Mapping the Program Goals with the Three Pillars

Program Goals	Education	Community Services	Research
<b>PG1:</b> Provide advanced education that integrates engineering and management, preparing graduates to lead and manage complex projects and teams.	✓		
<b>PG2:</b> Promote applied research that addresses practical challenges in industries and communities.		✓	✓
<b>PG3:</b> Encourage ethical leadership, innovation, and continuous professional growth among graduates.		✓	✓

<b>PG4:</b> Develop professional capabilities that enable graduates to contribute to the development of the local and global economy.	✓	✓	
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## 6.6 Alignment of Goals

Table 4 gives the alignment of the goals of the University of Tabuk with the Faculty of Engineering and Master of Engineering Management.

**Table 4:** Alignment of the goals of the University of Tabuk with the Faculty of Engineering and Master of Engineering Management.

Program Goals	Faculty of Engineering Goals						University of Tabuk Goals					
	CG1	CG2	CG3	CG4	CG5	CG6	UG1	UG2	UG3	UG4	UG5	UG6
PG1	✓			✓			✓			✓		
PG2		✓				✓		✓	✓			
PG3				✓	✓		✓		✓		✓	
PG4		✓	✓				✓	✓	✓			✓

## 7. The Operational Plan for Master of Engineering Management

This section outlines a series of initiatives aligned with the program objectives of the Master of Engineering Management program. These initiatives are crafted to establish a structured and actionable framework for achieving the program's goals by translating them into clearly defined operational objectives. The operational plan serves as a roadmap, offering a systematic and measurable approach to driving program performance, enhancing student outcomes, and supporting both community engagement and national development priorities.

To effectively track progress, we have identified 17 Key Performance Indicators (KPIs) specific to this operational plan, which serve as measurable benchmarks. This KPI strengthens the program's capacity to measure success, effectiveness, and alignment with its mission. Continuous monitoring of these KPIs ensures ongoing evaluation and refinement of program strategies, reinforcing our commitment to academic



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excellence, evidence-based decision-making, and continuous improvement. The detailed mapping of initiatives, operational goals, and KPIs for the EM program is presented in Table 5.

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## 8. EM Program Goals, Initiative, Operational Goals and KPI

**Table 5:** EM Program Goals, Initiative, Operational Goals and KPI

Goal	Initiatives	Operational Goal	KPI	KPI Code	Target (2023-24)	Target (2024-25)	Responsibility	Implementation Period
PG1: Provide advanced education that integrates engineering and management, preparing graduates to lead and manage complex projects and teams.	Improve curriculum and learning outcomes	Review and update curriculum aligned with industry and interdisciplinary expectations	Scale of evaluation of the Program Curriculum and Learning Outcomes by stakeholders	KPI-OP-1	4.00/5	4.25/5	Program and Study Plan Committee	Annual
	Enhance graduate proficiency in the job market	Assess graduate readiness for leadership and management roles	Employers' evaluation of graduate proficiency	KPI-OP-2	4.00/5	4.25/5	Development and Quality Committee	Annual
	Organize guest lectures by industry professionals	Expose students to real-world management practices and leadership experiences	Number of guest lectures conducted	KPI-OP-3	2	3	Program Coordinator	Annual
PG2: Promote applied	Enhance Faculty Research Support	Facilitate and guide faculty in securing research	No. of research projects and	KPI-OP-4	2	3	Scientific Committee	Annual

Goal	Initiatives	Operational Goal	KPI	KPI Code	Target (2023-24)	Target (2024-25)	Responsibility	Implementation Period
research that addresses practical challenges in industries and communities .		grants and forming interdisciplinary project teams	grants applied by the program					
	Encourage faculty for research collaborations and publications	Strengthen research aligned with industrial/community needs	Percentage of faculty with published research	KPI-OP-5	60%	70%	Scientific Committee	Annual
	Increase impact of research	Improve citation and knowledge dissemination	Citation rate in referred journals per faculty member	KPI-OP-6	10	15	Scientific Committee	Annual
	Increase Research Visibility and Participation	Promote participation in academic conferences, seminars, and scholarly events	Number of events attended by the students	KPI-OP-7	2	3	Scientific Committee	Annual
	Strengthen Student Research Capacity	Organize skill-building workshops focused on research	No. of research related workshop conducted by the program	KPI-OP-8	1	2	Scientific Committee	Annual

Goal	Initiatives	Operational Goal	KPI	KPI Code	Target (2023-24)	Target (2024-25)	Responsibility	Implementation Period
		methodology, data analysis, and academic writing						
	Showcase Student Research Achievements	Coordinate poster competitions and research exhibitions	Percentage of students participated in the Poster Competitions	KPI-OP-9	50%	60%	Scientific Committee	Annual
PG3: Encourage ethical leadership, innovation, and continuous professional growth among graduates.	Integrate leadership, ethics, and innovation in the curriculum	Develop ethical, innovative, and leadership competencies	Students' evaluation of the quality of the courses	KPI-OP-10	4.00/5	4.25/5	Program and Study Plan Committee	Annual
	Facilitate innovation workshops and entrepreneurship events	Increase engagement in innovation-driven projects	Number of training programs/events organized	KPI-OP-11	2	3	Student Affairs Committee	Annual
	Invite alumni to share professional growth journeys	Motivate students through role models and lived experience	Satisfaction of alumni regarding the program	KPI-OP-12	1	2	Industry & Community Engagement	Annual

Goal	Initiatives	Operational Goal	KPI	KPI Code	Target (2023-24)	Target (2024-25)	Responsibility	Implementation Period
							IEE Committee	
	Participation in community service	Students participated in community service or related projects	Percentage of students participated in community service or related projects	KPI-OP-13	50%	60%	Industry & Community Engagement Committee	Annual
PG4: Develop professional capabilities that enable graduates to contribute to the development of the local and global economy.	Enhance graduate employability	Track success in job market and further education	Percentage of graduates employed	KPI-OP-14	70%	75%	Academic Affairs Committee	Annual
	Provide industry exposure and training certification	Equip students with practical skills and experiences	Percentage of students having training certificates	KPI-OP-15	60%	65%	Internship Coordinator / Academic Affairs	Annual
	Maintain optimal class size and	Improve learning environment and engagement	Average number of students in a class	KPI-OP-16	18	15	IE Department Chair	Annual

Goal	Initiatives	Operational Goal	KPI	KPI Code	Target (2023-24)	Target (2024-25)	Responsibility	Implementation Period
	student–faculty interaction							
	Strengthening student-to-faculty engagement	Ensure quality supervision and mentoring	Ratio of students to teaching staff	KPI-OP-17	08:01	05:01	IE Department Chair	Annual

## 9. Tasks of Department Committees

### I. Academic Advising Committee

1. Supervise the process of providing comprehensive academic, professional, psychological, and social guidance and counselling services to students through qualified and adequate staff.
2. Supervise and monitor the performance of academic advisors, develop an annual academic guidance plan, and address academic issues raised by advisors in coordination with department administration.
3. Implement mechanisms to identify and support gifted, creative, talented, and underachieving students within the program, offering tailored programs to nurture each group.
4. Build a database of talented and struggling students in the department and develop specialized programs for them.
5. Monitor student absences in the department and identify students with high absenteeism in coordination with academic advisors.
6. Integrate students with special needs into activities and provide appropriate support in coordination with specialized faculty units.
7. Supervise the process of providing comprehensive academic, professional, psychological, and social guidance and counseling services to students through qualified and adequate staff.

### II. Development and Quality Committee

1. Supervise the implementation of quality assurance measures and ensure compliance with institutional policies.
2. Monitor alignment with NCAAA standards, the National Qualifications Framework, and accreditation requirements.
3. Oversee the preparation and submission of accreditation documents, including self-study reports.
4. Define, align, and regularly update program learning outcomes (PLOs) and course learning outcomes (CLOs).
5. Develop and implement mechanisms for assessing learning outcomes and verifying achievement against benchmarks.
6. Identify areas for improvement based on assessment results, stakeholder feedback, and accreditation requirements.
7. Develop, implement, and monitor comprehensive improvement plans based on key performance indicators and assessments.
8. Manage data collection, analysis, and reporting to ensure continuous improvement and informed decision-making.
9. Prepare and present reports, including the Annual Program Report and survey report, to department leadership and stakeholders.
10. Develop and maintain the BSc Industrial Engineering program operational plan outlining strategic initiatives, operational goals, and Key Performance Indicators (KPIs) closely aligned with each program goal.

11. Ensure program alignment with the institution's mission, conduct periodic evaluations, and track improvement initiatives.
12. Prepare follow-up reports on the implementation of actions derived from survey findings and other data analyses, ensuring accountability and effectiveness in addressing identified areas for improvement.

### **III. Scientific Research Committee**

1. Participate in the preparation, implementation, tracking, and monitoring of operational plan initiatives for the program, focusing specifically on scientific research.
2. Promotes scientific integrity by ensuring adherence to values such as intellectual property rights, ethical practices, and proper conduct in research activities.
3. Encourages teaching staff to participate efficiently in academic, research, and scientific production activities.
4. Oversees teaching staff participation in professional and academic development programs, aligning these with staff needs and performance development.
5. Ensures compliance with regulations and guidelines related to research activities within the department.
6. Assesses faculty research output and provides feedback to enhance the quality and impact of their work.
7. Promotes collaboration between faculty members, external research institutions, and industry partners.
8. Reviews promotion requests from faculty members according to university scientific Council rules.
9. Evaluates faculty requests to attend scientific seminars and conferences based on scientific Council rules.
10. Identifies needs for faculty and similar positions, considering applicants for departmental roles in collaboration with relevant committees, using performance indicators.
11. Creates and updates a database of research groups, published research, projects, and scientific supervision by faculty members.
12. Organizes and coordinates conferences, workshops, seminars, scientific and cultural events, and scientific competitions within the department, overseeing their execution.

### **IV. Academic Affairs Committee**

1. Participate in the preparation, implementation, tracking, and monitoring of operational plan initiatives for the program, focusing particularly on introducing necessary workshops for students.
2. Ensure the program has enough qualified staff to perform its administrative, professional, and technical tasks, with defined tasks and authorities.
3. Implement clear and publicized procedures to verify the quality and validity of assessment methods and ensure the level of student achievement.
4. Implement effective procedures to ensure academic integrity at the program level, verifying the authenticity of students' work and assignments.
5. Supervise the process of providing comprehensive information to students at the beginning of each course, including learning outcomes, teaching and learning



- strategies, assessment methods and dates, and expectations for student performance, with continuous feedback throughout the course.
6. Offer extracurricular activities across various fields to enhance students' abilities, skills, and encourage their active participation and development.
  7. Provide students with regular education and training on academic integrity, including workshops, seminars, and resources on how to avoid plagiarism and uphold ethical standards.
  8. Supervise the process of preparing and reviewing academic schedules, identifying course and section needs, managing student registration and add-drop procedures, and overseeing the examination process, including handling excuses and developing invigilation schedules.
  9. Implement mechanisms to identify and support gifted, creative, talented, and underachieving students within the program, offering tailored programs to nurture each group.
  10. Implement effective mechanisms to evaluate the adequacy and quality of services provided to students and measure their satisfaction, using the results for continuous improvement.
  11. Develops mechanisms to support excellence in teaching, encouraging creativity and innovation among teaching staff.

**V. Program and Study Plan Committee**

1. Make sure about the application of the systems, regulations, and procedures approved by the institution/college, including those related to grievances, complaints, and disciplinary cases.
2. Develop the curriculum for programs in the department in accordance with the standards set by both the University and the Faculty of Engineering.
3. Conduct periodic evaluations of study plans, gathering comprehensive feedback and recommendations from stakeholders and reviewers. Implement appropriate suggestions and actions to ensure alignment with program goals, learning outcomes, and advancements in the field of specialization, encompassing educational, scientific, technical, and professional developments.
4. Review and update program and course specifications when necessary.
5. Review and update the course learning outcomes when necessary.
6. Develop and implement a clear and approved teaching, learning, and evaluation strategy that reflects the program's educational philosophy and ensures achievement of intended learning outcomes.
7. Establish and maintain a matrix for aligning learning outcomes of courses with program learning outcomes to ensure consistency and coherence across the curriculum.
8. Adapt teaching and learning strategies, as well as assessment methods, to the nature and level of the program, ensuring alignment with program learning outcomes and fostering effective learning experiences.
9. Monitor the commitment of the teaching staff to learning and teaching strategies and assessment methods included in the program and course specifications through specific mechanisms.

10. Implement and maintain a clear and approved teaching, learning, and evaluation strategy that reflects the program's educational philosophy and ensures the achievement of intended learning outcomes.

**VI. Industry & Community Engagement Committee**

1. Collaborate with industry partners to identify and secure training opportunities and placements for students and ensuring a match with their academic and career interests.
2. Organize orientation sessions to prepare students for field training, covering expectations, responsibilities, and professional conduct.
3. Provide continuous supervision and support to students during their field training, addressing any issues or concerns that may arise.
4. Develop and implement assessment tools to evaluate student performance during field training, including feedback from employers.
5. Collect, analyze, and evaluate feedback from students and industry partners, gathered through both discussions and surveys, to monitor, evaluate, and improve the effectiveness of field training and supervision..
6. Prepare comprehensive reports on field training activities, outcomes, and areas for improvement, and present these to the department council.
7. Organize workshops and seminars to enhance students' skills and readiness for field training.
8. Ensure that students are aware of and adhere to safety protocols and ethical standards during their field training.
9. Regularly review and update the field training program to reflect changes in industry practices and feedback from stakeholders.
10. Preparing a comprehensive field training guide, including course binders and student feedback surveys.
11. Participate in the preparation, implementation, tracking, and monitoring of operational plan initiatives for the program, focusing particularly on engaging students in Community Services.
12. Establish and maintain effective communication channels with alumni, involving them in program events and activities, seeking their feedback, and leveraging their expertise and support. Maintain updated and comprehensive databases about alumni. In other words (Actively engage with the alumni and develop an effective mechanism to benefit from their expertise.)
13. Facilitate interactions with the advisory board, including organizing meetings, setting agendas, preparing meeting minutes, and compiling a list of recommendations based on the advisory board's expertise to advise on program improvements and alignment with industry needs.
14. Organize and facilitate community partnership activities for teaching staff, integrating these engagements into their professional development and evaluation processes.

-----End of Operation Plan-----