Faculty of Engineering

Department of Industrial Engineering

Master of Engineering Management

Program Handbook

2024

Prepared By

Development and Quality Committee

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بسم الله الرحمن الرحيم

Contents

Chair's Message

Dear Students, Faculty Members, and Local Communities,

I hope this message finds you all in good health and high spirits. As we embark on a new academic year, I am filled with immense pride and enthusiasm to address all of you as the Chairman of the Industrial Engineering Department at the Faculty of Engineering, University of Tabuk. It is both an honor and a privilege to be a part of this distinguished institution, which stands at the forefront of education and innovation in Saudi Arabia. At the University of Tabuk, we understand the immense responsibility we bear in shaping the future of our students and contributing to the development of our local communities. As we aim to align ourselves with the Vision 2030 of Saudi Arabia, we are committed to providing world-class education in the field of industrial engineering, preparing our students to become future leaders and catalysts of change. Our vision is deeply rooted in the principles of excellence, innovation, and transformation. We strive to empower our students with the knowledge, skills, and ethics required to address the emerging challenges of the industry. By fostering an environment of academic rigor and hands-on learning experiences, we aim to cultivate a generation of engineers who can drive sustainable industrial growth, promote technological advancements, and contribute to the diversification of the national economy. In line with the broader mission of the University of Tabuk, we are dedicated to creating an inclusive and vibrant campus community. As we navigate the challenges of the ever-changing world, we remain focused on continuous improvement and adaptation. We strive to enhance our curriculum, facilities, and research programs to ensure that they are at par with the highest international standards. By collaborating with industry partners and encouraging research and development endeavors, we aim to bridge the gap between academia and the real-world, fostering innovation, and creating opportunities for our students and faculty to contribute to the socio-economic development of our nation.

Finally, I would like to express my sincere gratitude to the entire University of Tabuk community for the unwavering support and dedication shown in achieving our collective goals. Together, we shall continue to inspire greatness, encourage innovation, and shape the future of industrial engineering education in Saudi Arabia. I extend my warmest wishes to all the students embarking on this new academic journey, and I encourage you to embrace every opportunity that comes your way. Let us all work together to build a brighter future for ourselves, our communities, and our beloved nation.

Best regards,

Dr. Jasim Alnahas.
Chairman

Faculty of Engineering

The Council for Higher Education Issued its decision No. (13/44/1427) dated 21/10/1427 H concerning establishment of the Faculty of Engineering. The decision to establish the faculty came to keep up with the renaissance taking place in the Kingdom in many areas, as engineering is the profession that employs science to serve the welfare of society as well as to keep pace with the progress in scientific and technological advancement in the twenty-first century. The faculty was established to address the needs of the engineering market at the national and regional levels. The faculty started with its activities and functions from the academic year 1429/1430 H, whereby 80 students have been accepted in the first year for Bachelors. Further, The Master program is introduced and in academic year 2021-22 to provide a degree in Master of Engineering Management.

Vision

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

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.

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.

Department of Industrial Engineering (IE)

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.

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.

Mission

The Department of Industrial Engineering delivers high-quality education at both the undergraduate and graduate levels, preparing students to meet the evolving needs of local and international markets. It drives applied research to address industrial and societal challenges, builds strong partnerships with industries and communities, and fosters innovation, ethical practices, and continuous professional development in Industrial Engineering.

Goals

- Provide high-quality academic programs at both undergraduate and graduate levels in Industrial Engineering.
- Foster research that addresses real-world industrial and societal challenges, contributing to the advancement of knowledge and practice.
- Build strong partnerships with local and international industries, communities, and professional organizations to enhance academic and practical experiences.
- Promote innovation, ethical practices, and leadership within the field of industrial engineering.
- Support community development through professional services, applied research, and collaborations.

Master of Engineering Management Program

Vision

To be a distinguished graduate program in Engineering Management in Saudi Arabia, advancing leadership, innovation, and cutting-edge research to meet the evolving needs of both local and international markets.

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.

Program Educational Objectives (PEOs)

- **PEO 1**: Prepare graduates with strong education in engineering management to lead projects and teams successfully.
- **PEO 2**: Promote applied research that addresses the needs of industries and communities.
- **PEO 3**: Encourage active engagement in community services and industrial collaborations.

Master of Engineering Management 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.

University of Tabuk Admission Guidelines

https://www.ut.edu.sa/sites/default/files/2025-06/Admission%20guide%20to%20UT.pdf

Program Admission Requirements

1. Bachelor's Degree in any of following majors:
    - **a.** Industrial Engineering
    - **b.** Mechanical Engineering
    - **c.** Electrical Engineering
    - **d.** Civil Engineering
    - **e.** Chemical Engineering
    - **f.** Computer Engineering
    - **g.** Mining Engineering
    - **h.** Architecture Engineering
    - **i.** Architecture and Planning Engineering
2. Overall Grard: Good
3. ILETS Score: >4 or STEP 60 and Above
4. Passed the General Aptitude test for University Students

Organizational Structure

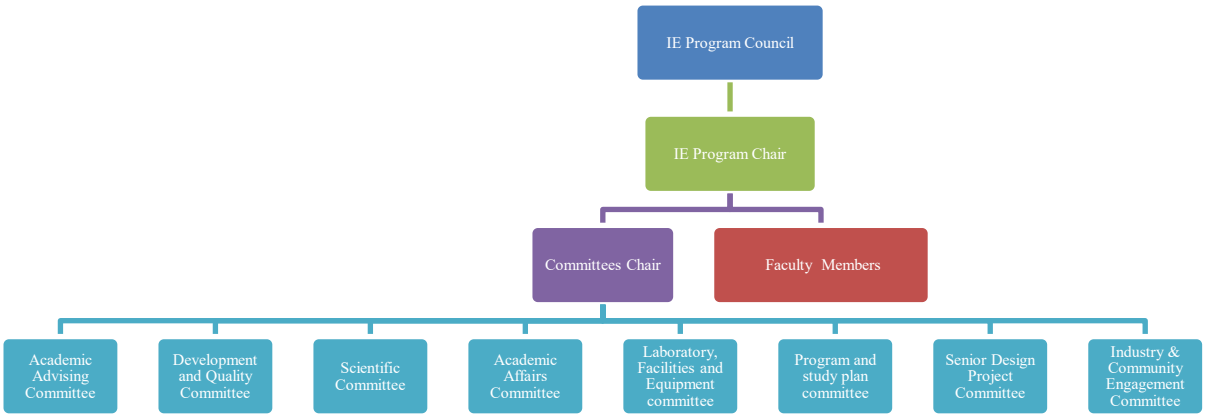

Fig1: Organizational Structure

Degree Requirements

The Department of Industrial Engineering awards the master's degree in engineering management. The curriculum within the Department of Industrial Engineering is structured in such a way as to provide its graduates with the technical and professional expertise necessary for serving and developing the society and for conducting scientific research within the Islamic and Engineering Ethical framework. To obtain the Master. degree in Industrial engineering, the student must successfully complete 42 Credit Hours credit hours which are split over 4 levels of studying. Towards the total of 42 credit hours, 30 credit hours core and 12 credit hours are elective courses. The tables below show an overall summary of requirements to obtain degree.

EMP Study Plan

Table 1: IE Study Plan

	Course Title	Course Code	Credit
1	Industrial Engineering Department Requirements	Compulsory	30
2		Elective	12
Total			**42**

Departmental Course Requirements (Compulsory)

The table below shows the set of compulsory courses in the Engineering Management Program.

Table 5: Set of compulsory courses in the Engineering Management Program..

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1.	Project Management and control	EMEN 511	3	0	0	3	
2.	Statistical Methods in Engineering	EMEN 512	3	0	0	3	
3.	Engineering Management	EMEN 513	3	0	0	3	
4.	Quality Engineering	EMEN 521	3	0	0	3	EMEN 512
5.	Decision Making	EMEN 522	3	0	0	3	
6.	Engineering Economics & Cost Analysis	EMEN 523	3	0	0	3	EMEN 513
7.	Logistic and Supply Chain Management	EMEN 531	3	0	0	3	

8.	Engineering Management Project (I)	EMEN 532	3	0	0	3	
9.	Law, ethics, and Professionalism	EMEN 541	3	0	0	3	
10.	Engineering Management Project (II)	EMEN 542	3	0	0	3	EMEN 532
Total			30	0	0	30	

Departmental Course Requirements (Elective Courses)

The students must choose four courses (12 credit hrs.). The name of these courses depends on the specialty area as follows:

Table 6: Set of Elective Courses in the Engineering Management Program.

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1.	Sustainable Design Engineering	EMEN 551	3	0	0	3	
2.	Leadership and Strategic Management for Engineers	EMEN 552	3	0	0	3	
3.	Technologies for Industry 4.0	EMEN 553	3	0	0	3	
4.	Design Thinking and Innovation	EMEN 554	3	0	0	3	
5.	Engineering Risk Management	EMEN 555	3	0	0	3	
6.	Lean Systems	EMEN 556	3	0	0	3	
7.	Special topics in Engineering Management	EMEN 557	3	0	0	3	
Total			12	0	0	**12**	

Engineering Management Program Study Plan First Year

1. 1st Level/First Year

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1.	Project Management and control	EMEN 511	3	0	0	3	
2.	Statistical Methods in	EMEN 512	3	0	0	3	

	Engineering						
3.	Engineering Management	EMEN 513	3	0	0	3	
4.	Elective	EMEN 55X	3	0	0	3	
Total			12	0	0	09	

2nd Level/ First Year

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1.	Quality Engineering	EMEN 521	3	0	0	3	EMEN 512
2.	Decision Making	EMEN 522	3	0	0	3	
3.	Engineering Economics & Cost Analysis	EMEN 523	3	0	0	3	EMEN 513
4.	Elective	EMEN 55X	3	0	0	3	
Total			**12**	**0**	**0**	**12**	

3rd Level / Second Year

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1.	Logistic and Supply Chain Management	EMEN 531	3	0	0	3	
2.	Engineering Management Project (I)	EMEN 532	3	0	0	3	
3.	Elective	EMEN 55X	3	0	0	3	
Total			09	0	0	09	

4th Level / Second Year

S. No	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Law, ethics, and Professionalism	EMEN 541	3	0	0	3	
2	Engineering Management Project (II)	EMEN 542	3	0	0	3	EMEN 532
3	Elective	EMEN 55X	3	0	0	3	
Total			09	0	0	**09**	

Master of Engineering Management Program Learning Outcomes (PLOs)

PLO(S1): An ability to identify, formulate, and solve complex and advanced problems by applying advanced knowledge of engineering, science, and mathematics.

PLO(S2): An ability to design an innovative engineering solution that meets specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors, while complying with relevant standards and design codes.

PLO(S6): An ability to Identify and evaluate the issues and constraints of sustainability, economy, environment, politics, health and safety, and society that are relevant to professional solving of complex engineering problems.

PLO(S3): An ability to develop and conduct advanced research or experimentation using specialized methodologies; and critically analyze data to generate valid, insightful conclusions relevant to industrial practice.

PLO(V1): An ability to recognize ethical and professional responsibilities in engineering solutions and uphold academic and professional ethics, and norms of engineering and make informed judgements.

PLO(V2): An ability to collaborate and provide leadership on a team, preferably in a multidisciplinary setting, to manage and execute complex tasks, projects, or research with a high level of autonomy and responsibility.

PLO(S4): An ability to communicate effectively in various forms to disseminate engineering knowledge, research results, and innovations to a range of audiences

PLO(V3): An ability to acquire and apply new knowledge through advanced learning strategies and research.

PLO(S5): Create, select, use, and adapt advanced digital technology and ICT tools to support and enhance leading research and/or projects related to discipline, professional practice with understanding of the limitations

PLO(K1): An ability to demonstrate deep and advanced knowledge of engineering management concepts, techniques, and recent developments.

Engineering Management Project

The Engineering Management Project is an emulation of real-life engineering projects where students develop their technical and professional skills and apply their knowledge to solve complicated engineering problems. The project is designed to enable the students to practice their research and problem-solving skills and enhance their communication, teamwork, time management and project planning skills. Furthermore, it emphasizes students' understanding of safety policies, ethical issues, conflict of interest as well as social and environmental

impacts of engineering solutions.

Students undertaking senior design projects work under the direct supervision of a faculty advisor. The students are expected to work on a team on an engineering problem, conduct sufficient literature survey, recognize the objectives of their work and identify any relevant constraints, perform experiments, build prototypes and/or produce simulations as appropriate to their problem, analyze the results and present their work in the form of a report and a presentation.

Process for Selection of Graduate Project Topic – Step-by-Step

1. Orientation and Awareness

At the beginning of the second semester, the program coordinator organizes an orientation workshop to:

- Clarify research expectations and deliverables.
- Explain the timeline and evaluation criteria.
- Present institutional priorities and thematic focus areas.
- Introduce potential supervisors and their research interests.

2. Preliminary Research and Exploration

Students begin exploring potential topics by:

- Reviewing current literature, industry needs, and emerging technologies.
- Analyzing previous theses, case studies, and research reports.
- Reflecting on their own professional experience and interests.

3. Consultation with Faculty

Each student is encouraged to meet faculty members to:

- Discuss ideas and research gaps.
- Receive guidance on feasibility and scope.
- Identify a potential supervisor based on expertise.

Faculty may also suggest a list of available or ongoing research areas that students can adopt or adapt.

4. Drafting the Graduate Research Topic Proposal

Once a preliminary idea is formed, students develop a short proposal (1–2 pages) containing:

- Proposed title
- Background and problem statement
- Objectives of the research
- Methodological approach
- Expected outcomes or potential impact
- References

5. Submission of Proposal

- The proposal is reviewed by the assigned academic supervisor and the Research Committee of the Department of Industrial Engineering.
- The Research Committee plays a key role in:
    - Ensuring that the proposed topics align with the objectives of the Master in Engineering and Management program.
    - Verifying the originality, feasibility, and academic value of the proposed research.
    - Providing constructive feedback to improve the quality and relevance of the proposal.
    - Approving the final topic and, where needed, recommending modifications or reorientation.
- The student receives written feedback within a defined period (typically 1–2 weeks) and is expected to implement any suggested changes before final approval.

6. Proposal Revision (if required)

If revisions are requested, the student must:

- Modify the proposal accordingly.
- Resubmit it within the given time frame.

This stage may involve additional meetings with the supervisor to refine objectives or methods.

7. Final Approval

Once the proposal meets the necessary criteria, it is formally approved by:

- The assigned supervisor
- And/or the program's academic committee

An official notification of approval is sent to the student.

8. Supervisor Assignment

If not previously assigned, a qualified faculty member is designated as the project supervisor. Their role is to:

- Guide the student throughout the research.
- Ensure academic and ethical standards are maintained.
- Monitor progress and provide feedback.

9. Registration of Topic

- The approved topic is recorded in the student's academic file.
- A formal registration form may be completed and signed by the student and supervisor.
- This registration confirms the beginning of the research phase.

10. Changes to the Topic (if necessary)

- If a significant change to the research topic is required after approval, the student must submit a written justification.
- Approval of the revised topic must follow the same process of review and registration.
- Minor adjustments (e.g., wording or scope refinement) can often be approved by the supervisor directly.

11. Progress Monitoring

- Regular meetings are scheduled between the student and supervisor.
- The student must submit progress reports or chapter drafts according to an agreed timeline.
- Issues and challenges should be communicated early to avoid delays.

12. Completion and Evaluation

Upon completing the research, students must:

- Submit the final project/thesis by the program deadline.

- Defend their work in front of a committee, if required.
- Incorporate any feedback before final submission.

Engineering Management Project Perquisites and Duration

Students must complete at least 24 credit hours as well as certain courses depending on the field of study prior registering for Engineering Management Project I. Then, the student continues their project in Engineering Management Project II. The completion of senior design project requires two semesters (1 academic year).

General Instructions for Research and Academic Writing

Academic writing is about communicating technical ideas clearly, logically, and formally. Your goal is to inform, explain, or argue a point using evidence and structured reasoning. Most engineering writing follows a formal structure. Learn and use standard formats such as:

1. Research Project

The research project is a core requirement for completing the Master of Engineering Management program. It aims to:

- Address a real-world problem related to engineering or industrial management.
- Apply engineering management tools, methods, and frameworks.
- Enhance students' skills in critical thinking, project planning, data analysis, and professional writing.

Scope of Research Topics

The project must align with engineering management domains, including (but not limited to):

- Project Management
- Operations Management
- Quality Management and Six Sigma
- Supply Chain and Logistics
- Engineering Economy
- Risk and Safety Management
- Innovation and Technology Management
- Sustainable Systems and Green Manufacturing
- Data-driven Decision Making in Industry

The topic must be approved by the supervisor and program coordinator.

Timeline and Milestones

Phase	Description	Timeline
Topic Selection	Choose topic, define objectives, and identify supervisor	Week 1–2
Proposal Writing	Write and submit a research proposal	Week 3–5
Proposal Defense	Present proposal to committee	Week 6
Data Collection	Execute data collection according to approved	Week 7–12

Phase	Description	Timeline
	methodology	
First Draft Submission & Discussion	Submit first draft (Introduction, Literature Review, Methodology, Data Collection)	Week 16
Data Analysis	Analyze data, interpret results, prepare discussion	Week 17–24
Second Draft Submission	Submit second draft (including Analysis, Results, Discussion, Conclusion)	Week 25
Revision & Feedback	Receive feedback from supervisor and revise accordingly	Week 26–29
Final Submission	Submit final version after all revisions	Week 30-31
Oral Presentation	Present research findings	Week 32

Structure of the Research Project Report

- Cover Page (UT template)
- Acknowledgments (optional)
- Abstract (Arabic and English)
- Table of Contents
- List of Figures and Tables
- Introduction
- Literature Review
- Methodology
- Data Analysis
- Results & Discussion
- Conclusion and Recommendations
- List of References
- Appendices (if any)

Tools and Resources

- Software: Excel, Minitab, MATLAB, SPSS, Python, MS Project
- Reference Management: EndNote, Zotero, Mendeley
- Templates: Available on department website

- Support: Graduate Studies Deanship, Writing Center, Library

2. Research Papers:

- Abstract – concise summary of your work
- Introduction – what you're studying and why
- Literature Review – what others have done
- Methodology – how you did your work
- Results & Analysis – what you found
- Conclusion – summary and implications
- References – list of all sources used

Developing a Clear Writing Style

- Aim for precision and conciseness, especially when describing formulas, processes, or technical systems.
- Avoid unnecessary jargon; if technical terms or acronyms are essential, define them upon first use.
- Prefer the active voice for clarity and engagement—for example, say “We analyzed the data...” instead of “The data was analyzed...”.

Support Your Claims

- Use data, equations, figures, and citations to support your statements.
- Include graphs or charts to visualize complex results.

Reference Properly

- Use reference styles required by your department (e.g., IEEE, APA).
- Tools like Zotero, Mendeley, or EndNote help manage citations easily.
- Always cite others' ideas, even if you paraphrase them.

Do Your Research Thoroughly

- Use Google Scholar, Scopus, IEEE Xplore, ScienceDirect, and your university library.
- Keep notes while reading articles—write down the main ideas, how they relate to your work, and the citation.

Revise and Proofread

- Don’t submit your first draft.
- Review your work for:
- Clarity and logic
- Grammar and spelling
- Proper citations
- Ask a friend, or advisor to review your draft.

Common Mistakes to Avoid

- Plagiarism: copying text without citation is a serious offense.
- Mixing tenses or inconsistent verb usage
- Overuse of passive voice or filler phrases

- Incomplete figure/table captions

Tips for Research Projects

- Start early—research is time-consuming.
- Choose a topic that genuinely interests you.
- Narrow your focus: one clear objective leads to better depth.
- Document everything—notes, data, changes, ideas—throughout your research journey.
- Ask your advisor questions regularly and be open to feedback.

Laboratories

The laboratories used by the IE Department are located in the Laboratories Buildings (Buildings-11 and 12). The laboratories have adequate equipment for carrying out experimental work for senior design projects, thesis work and community service. The laboratories are well maintained and regularly upgraded. The laboratories thus adequately support the curriculum delivery. These include the following laboratories:

A. Engineering Workshop

B. Mechanics of materials and engineering materials laboratory

C. Fluid Mechanics and Hydraulic Lab.

D. Work Study Lab

E. Human Factors Lab.

F. Manufacturing Processes and CIM Lab.

G. Electrical Circuits Lab.

H. Control Systems and Automation Lab.

I. Computer Lab

Copyright of computer software

1- Students must abide by all terms of software license agreement and must be aware that ALL computer software is protected by copyright unless it is explicitly labeled as PUBLIC DOMAIN.

2- Students must not copy software for any purpose outside those allowed in that particular software's license agreement.

3- Students must not accept unlicensed software.

4- Students must not install, nor direct others to install, illegal copies of computer software or unlicensed software onto any University-owned or operated computer system.

A. Engineering Workshop

The IE workshop is equipped with machines and apparatus for training the students in the fields of casting, metal forming, and machining processes. This Engineering Workshop covers the experimental work associated with the Engineering Management Project and research work.

B. Mechanics of materials and engineering materials laboratory

This lab actively contributes to teaching activities in the IE Department. Its enables faculty and students to provide tests such as tension, compression, shear, buckling, hardness, bending, deep drawing, impact and metallurgical observations, and used in determining the mechanical properties and characterization of materials and testing for students. The lab is used in the Engineering Management Project and research work related to mechanical testing of materials.

C. Fluid Mechanics and Hydraulic Lab.

The Fluid Mechanics and Hydraulic laboratory provides a “hands on” environment that is crucial for developing students understanding of theoretical concepts. The laboratory contains equipment for the measurement of various fluid properties and flow characteristics. Facilities are available for investigating the fundamentals of fluid statics as well as kinematics and kinetics of fluid flow to enhance the hands-on experience of our students. The lab is equipped with test rigs for experiments pertinent to fluid mechanics, pumping machinery, and hydraulic turbines. The pumping machinery and hydraulic turbines devices aim to give students hands-on experience at conducting experiments and analyzing the data to obtain the performance characteristics of various types of pumps, fans and compressors. The lab has an essential and effective role enabling Engineering Management students to gain educational understanding and experimental information in the field of fluid

mechanics and hydraulics, turbomachines and projects.

D. Work Study Laboratory

The Work Study laboratory is equipped with a wide variety of instructional facilities in work study. The laboratory contains modern instruments which are used to train students in the practical aspect of the work-study. This laboratory class aims to provide students with general knowledge of work study and methods engineering. Also, the laboratory session is an introductory laboratory in which students obtain general knowledge of human factor engineering as well as the nature of experiments and laboratory exercises. The work study laboratory covers the experimental work associated with the Engineering Management Project and research work.

E. Human Factors Laboratory

Human Factors Engineering (Ergonomics) is the study, design and integration of human capabilities and limitations into the workplace. The Human Factors Engineering Lab provides students with the tools and measurements to collect data, analyze and provide recommendations for improved human effectiveness and productivity in the workplace. The lab covers the experimental work associated with the Engineering Management Project and research work.

F. Manufacturing Processes and CIM Laboratory

This laboratory is aiming to provide an introduction of Know-how of common processes used in industries for manufacturing parts by removal of material in a controlled manner. Auxiliary methods for machining desired accuracy and quality will also be covered. The emphasis throughout the laboratory course will be on understanding the basic features of the processes rather than details of constructions of machines, or common practices in manufacturing or acquiring skill in the operation of machines. The Manufacturing Processes and CIM Lab covers the experimental work associated with the Engineering Management Project and research work.

G. Electrical Circuits Lab

This lab is designed to give the student an overview of the electrical and electronic engineering lab instruments, such as Digital Multi-Meters (DMM), Power supply Oscilloscopes and the Training Electronic Boards (prototype boards) and to practice the use of these lab instruments. In the Electrical Circuit Lab. students can create their own electrical circuits and do measurements on it. It complements the theoretical material presented in lectures. The lab demonstrates DC circuits, KVL, Network theorems, Transient analysis in RL, RC, and RLC circuits, and Power measurements. Students can analyze the collected data by creating graphs of the data and use the graphs in the conclusion. The lab covers the experimental work associated with the Engineering Management Project and research work.

H. Control Systems and Automation Laboratory

This lab consists of appropriate training kits and equipment to investigate the implementation of control systems principles on various applications and to explore the effect of tuning the control gains on the system responses. This lab provides students with an overall background in the applications of engineering control for industrial uses. This laboratory covers experimental work associated with Engineering Management Project and research work.

I. Computer Laboratory

The students of the IE department have access to the computer lab provided by the FAO. The complete description of the FAO computer center is shown in Table 7-2. The systems are supplied with all necessary software for the students to carry out their tasks like: MS-Office (complete), AUTOCAD, MATLAB and other software. Total Number of PCs is 30 with total capacity of the laboratory maximum of 30 students. It is used for teaching different courses like Engineering Management Project and research work.

Library and Research Resources

The University of Tabuk is committed to providing extensive academic and research resources to support students' learning and research activities. The General Administration of Libraries offers a wide range of electronic, printed, and research services accessible to all Electrical Engineering students.

Library Services Overview

Students have access to:

- Electronic resources include e-books, academic journals, databases, and digital archives.
- Research supports finding, retrieving, and using information from different sources.
- Physical resources such as printed books, reference materials, and official publications.
- Training sessions on how to use research databases, search techniques, and citation management.

The university library also provides:

- Room reservation services for meetings, study sessions, or academic workshops through the Sahel System.
- Borrowing services for printed materials with clear policies for renewal, return, and fines.
- Remote reference services, allowing students to request research help by email or phone.

Digital Library Access

All students have full access to the Saudi Digital Library (SDL)

- More than 11,400 full-text digital references across all academic disciplines.
- Access to major international databases such as:
- IEEE Xplore (Electrical Engineering and Computer Science)
- Scopus (abstract and citation database)
- ScienceDirect (scientific and technical research)
- EBSCO, Springer, Wiley, SAGE, Cambridge, and more.
- Electronic books, journals, conference papers, and theses.

Through the library portal, students can:

- Search by keyword, author, title, subject, or publication date.
- Access resources 24/7 from anywhere using university credentials.
- Download materials, manage citations, and organize research more effectively.

Training sessions on how to use the digital library and specific databases are conducted regularly, both in-person and online, helping students and researchers maximize the use of these resources.

A. Research Services Support

The Research Services Unit helps students:

- Search for books, journals, and theses using the electronic catalogue.
- Retrieve information from databases and the internet.
- Locate materials across all branches of the University of Tabuk library system.
- Receive research guidance through personalized support or remote consultation.

- Get help in choosing suitable resources for research projects and theses.
- Improve the quality of academic outputs through research consultations.
- Helping with citation and bibliographic referencing.
- Offering workshops on how to use databases and digital research tools.
- Providing access to information even if not available in the university's collections by cooperating with other libraries or purchasing materials.

Borrowing and Lending Services

Students are eligible to borrow printed books according to the following:

- Undergraduate students: 5 books for 15 days.
- Graduate students: 7 books for 30 days.
- Faculty members: up to 12 books for 90 days.
- Borrowing can be renewed before the due date, and overdue fines apply for late returns. Certain materials such as encyclopaedias, theses, and rare books are not available for external borrowing but can be accessed within the library.

Copyright

As a general rule, students can make a single photocopy of a "reasonable" proportion of a published work, typically up to 5% of a book, or one chapter of a book, or one article from a journal for own private study. This is permitted under the terms of the Copyright Exception for Personal research & private study.

How to Access Saudi Digital Library

- Visit the University of Tabuk Website.
- Click on "المكتبة الرقمية" (Digital Library) from the homepage.
- Log in using your university credentials to access thousands of digital resources instantly.
- Training videos, live workshops, and online guides are also available to help students become proficient in using the digital library and research tools.

Saudi Digital Library Access Guide

Learning Management System (LMS)

The **Learning Management System (LMS)** is an essential tool for managing your learning experience at the University of Tabuk. It serves as the central platform where students access course materials, submit assignments, participate in discussions, and communicate with instructors. At the University of Tabuk, the LMS is used.

What You Can Do on Blackboard (LMS)

- **Access Course Materials:**
  Download lecture slides, reading materials, assignments, lab instructions, and supplementary resources for each course.
- **Submit Assignments:**
  Upload your homework, lab reports, projects, and papers directly through the system before deadlines.
- **Take Quizzes and Exams:**
  Many quizzes, midterms, and even final exams are administered through Blackboard. Ensure you follow time limits and instructions carefully.
- **Participate in Discussions:**
  Engage in course discussion boards, collaborate with classmates, and contribute to academic forums set by instructors.
- **Track Your Grades:**
  View your marks and feedback on assignments, quizzes, and exams throughout the semester.
- **Receive Announcements:**
  Stay informed about course updates, deadlines, exam schedules, and other important announcements from your instructors.
- **Communicate with Faculty:**
  Send messages to professors and teaching assistants, either privately or through course discussion boards.

How to Access the LMS (Blackboard)

- Visit: https://lms.ut.edu.sa/
- Enter your **university email** and **password**.
- Access your list of enrolled courses and select the course you want to open.

For Full Guidance on Using the LMS

Students are encouraged to visit the official University of Tabuk website for complete guides, manuals, and support regarding Blackboard (LMS).

There, you will find:

- Step-by-step tutorials on how to use Blackboard.
- Video guides for submitting assignments, taking exams, and attending online lectures.
- Troubleshooting tips and technical support contacts.

Faculty Members

Faculty Name	Rank	Area of Expertise	Email
Dr. Jaism Alnahas	Assistant Professor	Industrial and System Engineering	jalnahas @ut.edu.sa
Dr. Hassan Hijry	Assistant Professor	Systems Engineering	hhegri@ut.edu.sa
Dr. Abdullah Alghuried	Assistant Professor	Industrial Engineering	aalghuried@ut.edu.sa
Dr. Moahd Alghuson	Assistant Professor	Transportation Systems Management	malghuson@ut.edu.sa
Dr. Omar Albalawi	Assistant Professor	Industrial Engineering	oalbalawi@ut.edu.sa
Dr. Abdulaziz Alotaibi	Assistant Professor	Manufacturing Engineering	A.Aldalbahi@ut.edu.sa
Dr. Muidh Algahtani	Assistant Professor	Industrial Engineering	maalgahtani@ut.edu.sa
Dr. Ahmed Hassan	Assistant Professor	Production and Manufacturing	a.yassin@ut.edu.sa
Dr Shahbaz Khan	Assistant Professor	Supply Chain Management	skhan@ut.edu.sa
Dr AbuAli Mahmoud	Professor	Mineral Processing	mabuali@ut.edu.sa
Eng. Muhammad AlAtawi	Lecturer	Engineering Management	msalatawi@ut.edu.sa

Exams, Assessment & Academic Integrity

Types of Assessment

In Electrical Engineering, your knowledge and skills are tested in many ways. Each type of assessment helps measure a different aspect of your learning.

Written Exams

- Typically involve problem-solving, calculations, and theoretical questions.
- Common in midterms and finals.
- Focus on accuracy, logic, and time management.

Oral Exams or Presentations

- Measure your ability to explain complex ideas clearly.
- You may present projects, defend designs, or explain results.
- Tip: Practice in front of friends and anticipate questions.

Projects and Reports

- Show how you apply engineering skills to solve real problems.
- Emphasize teamwork, design process, and professional documentation.
- Include coding, modeling, simulations, or research.

Thesis

- Address a real-world problem related to engineering or industrial management.
- Apply engineering management tools, methods, and frameworks.
- Enhance students' skills in critical thinking, project planning, data analysis, and professional writing.

Procedure for Upholding Academic and Ethical Standards

The Industrial Engineering (IE) program at the University of Tabuk is committed to fostering an environment where academic integrity, ethical research practices, and proper administrative conduct are paramount. Recognizing the value of original work and the importance of protecting intellectual property, the program has implemented a set of mechanisms based on established university guidelines and procedural manuals. These measures ensure that all academic, research, and administrative activities are conducted with the highest level of professionalism and accountability.

Academic integrity

Academic integrity is the foundation of trust in education and engineering practice.

Avoiding Plagiarism

Plagiarism is a serious academic offense and is considered a form of cheating. It occurs when a student submits work that is not their own, having taken content from another source without proper acknowledgment. To maintain academic integrity and avoid plagiarism:

- Always cite your sources, even when you are paraphrasing ideas in your own words.
- Use plagiarism detection tools before submitting assignments, reports, papers, or research work.
- Adhere to similarity limits: the total similarity index should not exceed 20%, and similarity from any single source should not exceed 5%.
- Do not copy solutions from classmates, online sources, or previous submissions.

Maintaining academic honesty reflects your professionalism and ethical standards as an engineer in training.

Ethical Conduct

- Don't falsify data in labs or reports.
- Collaborate when allowed but submit individual work when required.
- In projects, share responsibilities and give credit to all contributors.

Why It Matters

- Engineers must be trustworthy and accurate ethics in school prepares you for professional life.
- Violations can lead to disciplinary action and harm your academic record.

EM Program Enforcement and Disciplinary Procedures

The EM Program at the University of Tabuk enforces a strict academic integrity policy to ensure fairness and professionalism. The procedures include:

Preventive Measures:

- Academic integrity workshops, training on referencing, and the use of plagiarism detection software (e.g., SafeAssign, iThenticate).
- All submissions are monitored through Blackboard with automated plagiarism checking (20% similarity threshold).

Detection and Verification:

- Faculty actively monitor submissions and compare them for originality.
- Students may be asked to defend their work in interviews or oral exams (especially for labs, projects, and field training).
- Practical assessments, raw data logs, and unique assignments are used to confirm individual effort.

Strict Response to Violations:

- In cases of proven cheating in exams or assignments, penalties may include:
- Failing the specific exam or assignment
- Failing multiple courses
- Failing all courses for the semester
- Each case is documented and investigated thoroughly, and decisions are based on severity, past offenses, and the nature of misconduct.

Academic Dishonesty -- Plagiarism and Cheating

Academic misconduct is any activity that tends to compromise the academic integrity of the institution or undermine the education process. Examples of academic misconduct include:

Plagiarism: To take and use another's words or ideas as your own without appropriate referencing or citation. The

Cheating: Intentionally using or attempting to use or intentionally providing unauthorized materials, information, or assistance in any academic exercise. This includes copying from another student's test paper, allowing another student to copy from your test, using unauthorized material during an exam, and submitting a term paper for a current class that has been submitted in a past class without appropriate permission.

Fabrication: Intentional or unauthorized falsification or invention of any information or

citation, such as knowingly attributing citations to the wrong source or listing a fake reference in the paper or bibliography.

Other: Selling, buying or stealing all or part of a test or term paper, unauthorized use of resources, enlisting in the assistance of a substitute when taking exams, destroying another's work, threatening or exploiting students or instructors, or any other violation of course rules as contained in the course syllabus or other written information.

Such activity may result in failure of a specific assignment, an entire course, or, if flagrant, dismissal from University of Tabuk

LINK WEBISTE
https://www.ut.edu.sa/en/faculty-of-engineering/study/academic-programs/engineering-management

Professional & Career Development

How to Build a Professional Network

Building a strong professional network is key to accessing internships, job opportunities, and mentorship—especially in a dynamic and multidisciplinary field like Industrial Engineering.

Steps to Start Building Your Network:

1. **Engage with Professors, Academic Advisors and Supervisor**
    - Visit office hours regularly to discuss academic progress and explore career paths in areas such as operations, supply chain, quality, or systems engineering.
2. **Join Professional Societies**
    - Actively participate in organizations relevant to industrial engineering, such as:
        - IIE (Institute of Industrial and Systems Engineers)
        - Saudi Council of Engineers
        - Student chapters for operations research, quality, supply chain, and productivity
3. **Attend Program and University Events**
   The Engineering management program organizes events that foster professional connections, such as:
    - **Alumni Guest Speaker Sessions** – Gain insight from EM graduates working in sectors like manufacturing, logistics, consulting, and healthcare.
    - **Industry Expert Lectures** – Hear from professionals about trends in Lean, Six Sigma, digital transformation, and smart factories.
    - **Career Workshops and Fairs** – Hosted in collaboration with the Deanship of Student Affairs to connect students with employers.
    - **Research Activities** – EM program conduct several workshops on research activities for the students and faculty members.
4. **Use LinkedIn Strategically**
    - Develop a professional LinkedIn profile that highlights your skills, interests, and projects.
    - Connect with classmates, faculty, alumni, and professionals in areas like supply chain, operations, data analytics, and industrial automation.
    - Join LinkedIn groups related to Engineering Management to stay updated with trends and opportunities.
5. **Participate in Competitions and Projects**
    - **Annual Projects Competition** – A Faculty of Engineering event (sponsored by BAE Systems) where EM students can showcase innovative solutions in logistics, process improvement, and systems design.
    - **Engineering Day** – Present your projects and network with professionals from a wide range of industries including manufacturing, energy, and consulting.

   These platforms help you build visibility and credibility within the engineering community.

Internships, Apprenticeships, and Co-op Programs

Industrial Engineering Department internships provide essential hands-on experience and expose students to the diverse roles EM professionals play in organizations.

Why They Matter:

- Apply classroom learning to real-world operations and systems.
- Gain exposure to tools like ERP, simulation, Lean, and Six Sigma.
- Enhance your resume with project-based experiences.
- Expand your professional network within companies and industries of interest.

Program Support for Internships:

The Faculty of Engineering and the Engineering Management program support students in finding internship opportunities through partnerships with leading organizations, including:

- BAE Systems
- NEOM
- AECOM
- Saudi Electricity Company
- STC
- Aramco, SABIC, Ma'aden, and other local and international firms

Students are encouraged to monitor internship announcements from the program and faculty and take full advantage of these valuable career-building opportunities.

Resume and Cover Letter Writing Tips

Your resume and cover letter are often your first impression with a potential employer. They should be **professional, focused, and tailored** to the opportunity.

Resume Tips:

- **Limit to one page** – Ideal for students and recent graduates.
- **Highlight key areas** – Include education, technical and soft skills, internships, capstone projects, and relevant coursework.
- **Use action verbs** – e.g., *analyzed, optimized, improved, coordinated, designed, implemented*.
- **Customize for each application** – Align your resume with the specific job or internship requirements.
- **List relevant tools and skills** – Such as Excel (advanced), ERP systems, simulation software (e.g., Arena, Simul8), statistical tools (Minitab, SPSS), Lean/Six Sigma tools, or programming skills (Python, SQL, R).

Cover Letter Tips:

- **Personalize it** – Address the specific job and company you're applying to.
- **Introduce yourself clearly** – Mention your academic background, the position you're applying for, and your career interests.
- **Match your skills with the company's needs** – Show how your experience and coursework make you a strong fit.
- **Keep it concise and formal** – No longer than one page, and clearly structured.

Support Available:

The Deanship of Student Affairs regularly organizes career development workshops throughout the academic year on:

- Resume and CV writing
- Cover letter preparation
- Interview and communication skills
- Job search and networking strategies

These workshops are announced through university emails, social media platforms, and the Industrial Engineering program's communication channels.

Career Opportunities and Job Market Trends for Industrial Engineering

Industrial Engineering offers diverse and evolving career paths across sectors. Staying informed helps you align your skills with market demands.

Growing Career Fields in Industrial Engineering:

- Supply Chain and Logistics Management
- Human Factors and Ergonomics
- Process Optimization and Systems Engineering
- Technology and Innovation Management
- Sustainability and Environmental Management
- Data Analytics and Science
- Artificial Intelligence and Industry 4.0 Integration
- Engineering Project Management
- Entrepreneurship and Startups

Emerging Trends:

- Data-driven decision-making is transforming IE roles—skills in analytics, visualization, and optimization are highly sought after.
- Industry 4.0 technologies (IoT, AI, automation) are reshaping production and service systems.
- Sustainability and Green Manufacturing are creating new opportunities for IEs in circular economy and sustainable operations.
- Interdisciplinary expertise is increasingly valuable—blending IE with computer science, data science, or business strategy.

University Support:

The Faculty of Engineering and the Deanship of Student Affairs provide opportunities to engage directly with employers through:

- Career fairs and industry networking events
- Internship and co-op recruitment days
- Industrial visits and guest speaker sessions

Where to Look for Jobs:

- Manufacturing firms and service operations
- Supply chain, logistics, and transportation companies
- Healthcare systems and consulting firms
- Government organizations and regulatory bodies
- Tech startups and multinational corporations
- Energy, defense, and infrastructure sectors

Personal Well-Being & Work-Life Balance

Time Management Strategies and Productivity Tips for Industrial Engineering Students

With coursework spanning operations research, simulation labs, data analysis, and systems design, Industrial Engineering demands smart time management and productivity habits. These strategies will help you stay organized and perform at your best.

Weekly Planning

- Use a weekly planner or Google Calendar to map out lectures, lab sessions, study time, and assignment deadlines.
- Allocate specific time blocks for high-focus tasks like modeling, report writing, or problem-solving.

Pomodoro Technique

- Focused study sessions: **25 minutes of work + 5-minute break**.
- After four cycles, take a longer 15–30-minute break.
- Boosts concentration and helps prevent burnout—perfect during project crunch times.

Eisenhower Matrix for Prioritization

Categorize your tasks to stay focused:

- **Urgent & important:** Immediate action (e.g., submission today).
- **Important but not urgent:** Plan and schedule (e.g., group project research).
- **Urgent but not important:** Delegate or reduce (e.g., minor admin tasks).
- **Neither:** Avoid or eliminate (e.g., excessive social scrolling).

Digital Tools to Stay on Track

- **Google Calendar** – Plan daily and weekly schedules.
- **Notion / Trello** – Organize project tasks, to-do lists, and team work.
- **Forest App / Focus To-Do** – Stay focused and avoid distractions.

Balancing Academics, Social Life, and Personal Time

Success in IE isn't just about grades—balance plays a huge role in performance, well-being, and creativity.

Plan with Flexibility

- Treat social and self-care time like important meetings—block it on your calendar.
- Schedule rest, meals, workouts, and free time intentionally.

Stay Connected

- Get involved in clubs, societies, or IE competitions.
- Build a strong peer group—collaborative study reduces stress and boosts learning.

Know When to Say "No"

- Don’t overcommit to group projects or social events.
- Learn to set boundaries around your study focus hours.

Know Yourself

- Are you a morning person or a night owl? Schedule demanding tasks during your peak productivity hours.

Healthy Habits for Physical and Mental Well-being

In a fast-paced IE program, your physical and mental health is a foundational asset. Here’s how to keep it strong:

Sleep is Non-Negotiable

- Aim for 7–8 hours per night—critical for memory, alertness, and logical thinking.

Eat Smart

- Don’t skip meals—keep brain fuel like nuts, fruits, or yogurt handy.
- Avoid overreliance on energy drinks—stay hydrated with water, lemon water, or herbal tea.

Stay Active

- Exercise 3–5 times/week. Even a short walk improves focus.
- Do light stretching between study blocks to reduce fatigue.

Hydration is Focus Fuel

- Carry a refillable water bottle—dehydration impairs focus and memory.

Coping with Stress and Burnout Prevention

Stress is common in any engineering program, but managing it proactively helps you thrive.

Know the Signs of Burnout

- Constant fatigue or lack of motivation
- Difficulty focusing
- Emotional exhaustion
- Losing interest in hobbies or study

Stress Management Tips

- Practice deep breathing, prayer, or mindfulness using apps like *Headspace* or *Calm*.
- Journal your thoughts to process stress or anxiety.
- Take short device-free walks to reset mentally.

Talk About It

- Open up to friends, advisors, or counselors.
- You're not alone—many students face the same challenges.

Build a Balanced Routine

- Don't over-study. Mix work with hobbies, rest, and sleep.
- Plan at least **one no-study evening per week** to recharge fully.

University Mental Health Services and Wellness Programs

Your well-being is just as important as academic success. The University of Tabuk provides holistic support to help you thrive emotionally, socially, and intellectually.

University Mental Health Services

Offered through the Student Guidance and Rights Unit (Deanship of Student Affairs)

Services Include:

- **Individual Counseling:** Confidential sessions for emotional, academic, or personal challenges.
- **Group Counseling:** Peer-based support sessions for stress and pressure management.
- **Crisis Intervention:** Immediate help in cases of mental health emergencies.

Support Areas:

- ✓ Managing academic stress
- ✓ Exam period strategies
- ✓ Emotional balance and self-esteem
- ✓ Psychological compatibility in university life
- ✓ All sessions are strictly confidential.

University Wellness Programs

The university organizes **ongoing wellness activities** to promote a healthy and supportive environment.

Wellness Activities:

- Workshops/Seminars on stress, time management, mindfulness, and healthy living
- Awareness Campaigns on mental health, physical activity, and nutrition
- Access to Sports & Fitness Facilities – Gyms, swimming pools, and fields to stay physically active

❖ Stay updated through university email, social media, and program announcements.

How to Access Mental Health and Wellness Services

- Students can easily reach out for support or book appointments:

Contact Method	Details
📧 **Email**	srights@ut.edu.sa
📞 **Phone**	+966 144563216
📋 **Appointment Booking Form**	Click here to book an appointment

University Policies & Regulations

Academic Policies

Admission Guide

Provides comprehensive guidance for students on admission for regular and paid master's programs

Student Academic Guide

Provides comprehensive guidance for students on academic policies, course registration, grading, examinations, and graduation requirements.

Regulations for Scientific Research

Provides comprehensive guidance for students on regulation of scientific research

Code of Conduct: Expected behavior on campus and in online settings, and Students rights and responsibilities.

Academic Integrity & Ethics: Policies on plagiarism, research misconduct, and intellectual property; penalties for violating academic integrity

University of Tabuk Mobile Application

The University of Tabuk Mobile App helps students easily access essential services. Through the app, students can manage course registration (add/drop), view grades, access academic records and study plans, and submit complaints or support requests. The app uses the student university ID as the username and the portal password for login. It is available for download on:

Apple App Store
Google Play Store

Students are encouraged to use the app to simplify their academic and administrative tasks and stay updated throughout their studies.

Emergency Contacts

Contact	Details
University Security	+966144561600
University Medical Center	+966144564400
Emergency	911

Academic Counselling Services

Academic Advising is an essential and central pillar of the educational system, and focuses on the two axes of the educational process: the educational institution and the student. This role is strengthened by the specialized academic advisor. Students have the option to communicate with their academic advisors through in-person meetings, email, or by utilizing the virtual services offered by the university.

Academic Advising

Virtual Academic Advising

https://lms.ut.edu.sa/

https://myut.ut.edu.sa/

Useful Links:

1. UT Deanship of Students Affairs

https://www.ut.edu.sa/en/deanship-of-student-affairs

2. Institute of Industrial and Systems Engineers

Institute of Industrial and Systems Engineers (iise.org)

3. Saudi Council of Engineers

https://www.saudieng.sa/English/Pages/default.aspx

4. American

Society for Quality

https://asq.org/

5. Project

Management Institute

https://www.pmi.org/

6. Occupational Safety and Health

Administration https://www.osha.gov/