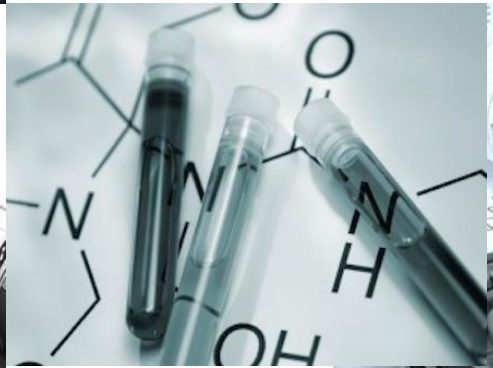
"To meet the international standards as a source of excellence in engineering learning and center of research in the university"

رؤية VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

جامعة الملك خالد
KING KHALID UNIVERSITY

Industrial Engineering Department Handbook

King Khalid University, Abha, Kingdom of Saudi Arabia



The Bachelor of Science in Industrial Engineering Program is accredited by the Engineering Accreditation Commission of ABET

https://www.abet.org.

ABET | Engineering Accreditation Commission

اعتماد كامل لبرنامج الهندسة الميكانيكية

The Master in Safety and Fire Protection Engineering in is fully accredited by National Center for Academic Accreditation and Evaluation
https://www.etec.gov.sa/en/ncaaa/

DEPARTMENT OF INDUSTRIAL ENGINEERING

Industrial Engineering Program Description

Kingdom of Saudi Arabia has been blessed with vast natural resources and these resources have been utilized for the progress of the country and welfare of its people. The proper utilization of these natural resources led to the opening of Industrial Engineering Department under College of Engineering (COE) at King Khalid University (KKU). The authorized body i.e. MoHE (private institutions and Council of Higher Education for public institutions) has approved the program. The Industrial Engineering Department was established in year 2007 at the Gregar main campus of King Khalid University with the objective of graduating students having expertise in all the aspects of Industrial Engineering (**https://engineering.kku.edu.sa/en/node/447**). The Kingdom of Saudi Arabia has been blessed by vast natural resources and these resources have been utilized for the progress of the country and welfare of its people. The proper utilization of these natural resources led to the opening of Industrial Engineering Department under College of Engineering (COE) at King Khalid University (KKU).The authorized body i.e. MohE (private institutions and Council of Higher Education for public institutions) has approved the program. The Industrial Engineering Department was established in year 2001 at the Guraiger main campus of King Khalid University with the objective of graduating students having expertise in all the aspects of Industrial Engineering.

The Department of Industrial Engineering offers two BSc programs for both male and female students, namely Bachelor in Industrial Engineering and Bachelor in Occupational Safety Engineering and two degrees in graduate level, namely Master in Safety and Fire Protection Engineering and Master in Engineering Management.

The IE department has a process for hiring the excellent faculty, for continuous professional development and for facilitating the research work of faculty. The IE department comprises of faculty with high academic achievements and a rich experience of teaching in various countries of the globe. In addition to academic experience, the many faculties have experience in industry, consultancy and professional organizations. The IE faculty have also administrative experience at the college and the university levels. The department chair discharges his duties through the various academic committees formed of specialized faculties for different aspects of management of the program. The department chair reports to the Dean of the college. The Dean is the administrative position responsible for all aspects of the academic process in the college.

The Department of Industrial Engineering equips graduates with the engineering, scientific and professional skills necessary to compete in many career fields in the public and private sectors. These career fields include academic fields in higher education institutions (public and private), industrial fields (data analysis, manufacturing operations, waste management, occupational safety, consulting and computer automation, quality assurance, health and services).

The Department of Industrial Engineering has several teaching and research laboratories, which are well equipped with cutting-edge technological equipment. All these resources are used to train undergraduate and postgraduate students and conduct research projects by researchers and faculty to serve the society and contribute to the overall development process of the country.

Industrial Engineering Program Vision

Achieving leadership in the field of Industrial Engineering in fields of education, scientific research and rendering community services in the Kingdom of Saudi Arabia.

Industrial Engineering Program Mission

Prepare students to design, optimize, and lead efficient, safe, and sustainable systems that integrate people, processes, and technology. Through innovative teaching, applied research, and experiential learning, the program equips graduates to solve complex problems, make data-driven decisions, uphold ethical standards, and contribute to economic and societal development.

Program Educational Objectives (PEOs)

• **PEO1:**	Analyze problems and create innovative industrial engineering designs considering functionality, cost-effectiveness, sustainability, safety, aesthetics, and satisfaction.
• **PEO2:**	Use modern technology and design tools, work individually and in a team effectively, and communicate ideas in written, oral, and graphical form clearly.
• **PEO3:**	Increase their personal knowledge and skills professionally and academically.
• **PEO4:**	Serve ethically as a team member or as a team leader to improve their communities.

Program Goals

1. Apply principles of transformational leadership to negotiate, mentor, motivate, and lead others toward a shared and ethical organizational vision or goal.
2. Apply knowledge of leadership, change, business models, organizational issues, and regulations to ensure organizational effectiveness, resulting in the improvement of emergency services.
3. Utilize the methods and resources of research, science, and technology to effectively manage emergency services.
4. Utilize appropriate communication strategies and methods to accomplish organizational goals and objectives.
5. Utilize appropriate assessment and planning skills to improve organization and community risk management for emergency services.

Program Learning Outcomes

Knowledge and understanding

PLO1-K1: Understand the broad in-depth knowledge to solve concept of engineering problems using the principles of engineering sciences, mathematics and natural sciences, and validate the solution obtained in the field of Industrial Engineering.

PLO2-K2: Recognize in-depth knowledge and understanding of processes, quality, statistical techniques and engineering practices relevant to the professional resolution of complex engineering problems.

PLO3-K3P Define the wide range of specialized knowledge in industrial system management, process optimization, sustainability, economics, environment, policy, health and safety, to be understood drawing on current developments in industrial engineering.

PLO4-K4P Identify the engineering problems and related industrial engineering area.

Skills

PLO5-S1: Apply the basic principles of integrated theories and concepts in production planning, operations management, statistical analysis and quality control.

PLO6-S2: Use advanced engineering software and technologies effectively for data analysis, simulation, and system optimization.

PLO7-S3: Implement critical thinking and creative solutions to real-life problems, in various settings, in the fields of industrial engineering.

PLO8-S4: Apply appropriate procedures, methods, tools, innovative and sustainable solutions to address and manage integrated practical problems in industrial engineering.

PLO9-S5: Communicate effectively to demonstrate theoretical knowledge in mathematics, statistics, industrial system, engineering sciences, quality control, natural sciences and specialized transfer of complex knowledge, skills and ideas to the community.

PLO10-S6P Apply and adapt current digital technology and applications to support research and reinforce problem solving in the field of industrial engineering.

Values, Autonomy, and Responsibility

PLO11-V1: Recognize ethical and professional integrity in engineering situations and commit to the professional ethics and norms of engineering practices.

PLO12-V2: Effectively plan and achieve professional development, evaluate own learning and performance, and autonomously make decisions related to self-development.

PLO13-V3: Engage in life-long learning for acquiring and implementing knowledge, as needed, using suitable learning strategies.

PLO14-V4: Communicate effectively on engineering activities with a range of audiences.

Graduate Attributes

The program has graduate attributes (GA) which are mentioned below:

GA-1: Scholarship of Knowledge

GA-2: Problem Solving

GA-3: Critical Thinking

GA-4: Usage of Modern Tools

GA-5: Communication

GA-6: Ethical Practices and Social Responsibility

GA-7: Independent and Reflective Learning

GA-8: Research/Investigation Skill

GA-9: Life-long Learning

Student Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences (Written and Oral Communication)
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Admission and Graduation Requirements

Admission Requirements:

Students applying for admission to the College of Engineering are centrally admitted by the Deanship of Admission and Registration, King Khalid University. The new applicants are not accepted directly to the Bachelor of Science in industrial Engineering program but they must complete one year in the Preparatory Year Program (PYP) -1st Year. University Council decides the number of students to be admitted for each academic year according to the recommendation of college council. The deanship of admissions and registration implements all policies in liaison with the college of engineering. Admission takes place only twice a year in the beginning of the academic year (1st Semester).

Requirements of admission to the Bachelor of Science in industrial Engineering program:

1) Secondary School Certificate (Natural Sciences) or its equivalent from inside or outside the Kingdom of Saudi Arabia.

2) Score of "Entrance Examination" based on an aptitude test and a subject test. The test is conducted by the National Centre for Assessment in Higher Education, Kingdom of Saudi Arabia. It consists of two sections. The first section is General Aptitude Test (QIYAS). This test measures a student's analytical and deductive skills. It focuses on testing the student's capacity for learning in general regardless of any specific skill in a certain subject or topic. The other section is called "Achievement test for Science Colleges (TEHSILI)". This section covers the general and key concepts in physics, chemistry, biology, mathematics and English covered in the courses of the three years of General Secondary School.

3) Character certificate from the Secondary School.

4) Appearance in interviews required by the university council.

5) Physical fitness certificate.

6) Permission from the employer (For employed candidates).

7) No record of suspension/rustication from King Khalid University (KKU) or any other university.

All the above conditions are mandatory for admission to be fulfilled by the applicants. A merit list of all applicants is prepared by the Deanship of Admissions and Registration on the basis of the following three types of scores;

- Secondary school certificate score (30%).
- Aptitude test score (30%).
- Achievement test score (40%).

Applicants are offered admissions in a college of their preferences on the basis of merit list subject to the availability of seats. Once seats are filled in a particular college, the admission to that particular college is closed and remaining students have to make their choices from other colleges. All freshly admitted students to the College of Engineering seeking acceptance to the Bachelor of Science in industrial Engineering program spend their first academic year in the PYP.

The major objectives of PYP program are

- To improve the students' English language proficiency because this is the principal language of instruction in college of engineering.
- To ensure the students" abilities to communicate effectively
- To strengthen the students" knowledge in mathematical and analytical techniques and calculus-based physics.
- To develop computer skills of the students.

The duration of the PYP is for one academic year, divided into two semesters, as well as a summer semester, if required. The PYP represents the first two semesters of the Bachelor of Science in industrial Engineering program. The complete program comprise of 10 levels covering over a period of five (5) years. The courses offered in PYP are Intensive English program I, General Chemistry, Differentiation and Integration I, Engineering Drawing I, Intensive to Islamic Culture, Intensive English Program II, Analysis and Algebra, Physics I and Computer Science. Based on their performance in the PYP, and in accordance with the implementation rules, students will be able to select the major of their choice. An orientation session is held during the second semester of PYP for students to learn about all programs in the engineering college to help them select the program that suits them the most. 7

On successful completion of the PYP, the performance of students seeking admission to the Bachelor of Science in industrial Engineering program is evaluated based on the GPA in the PYP. A merit list of these students is prepared and the department accepts the allocated number of students from the merit list.

Graduation Requirements

1) Student graduates after successfully completing all graduation requirements according to the degree plan, provided that his cumulative GPA is not less than pass.

2) If the student has passed the required courses but his cumulative GPA is low, the College Council, on the basis of the recommendations of the council of the department concerned, is entitled to specify the appropriate courses that the student must complete in order to improve his GPA.

Study Plan

الكلية :	الهندسة	القسم :	الهندسة الصناعية
اسم التخصص العام المندرج وفق تصنيف SASCED	الهندسة الصناعية	رمز التخصص العام المندرج وفق تصنيف SASCED	071903
اسم التخصص الدقيق المندرج وفق تصنيف SASCED	الهندسة الصناعية	رمز التخصص الدقيق المندرج وفق تصنيف SASCED	071903
اسم البرنامج	بكالوريوس الهندسة الصناعية	مستوى تصنيف البرنامج	المستوى السادس - بكالوريوس

السنة الأولى: المستوى الأول

رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
0522	نجل	اللغة الانجليزية المكثفة	5	15	.	0	0	5	15	-	متطلب جامعة
	ENGL	Intensive English Program									
0212	ثقف	الوسطية و الاعتدال	2	2	.	0	0	2	2	-	متطلب جامعة
	ISCL	Moderation									
0291	تطوع	مهارات في التطوع	2	2		0	0	2	2		متطلب جامعة
	VOLN	Volunteering Skills									
1413	كيم	كيمياء عامة	3	3	عملي	1	2	4	5		متطلب كلية
	CHEM	General Chemistry									
1311	ريض	تفاضل وتكامل 1	3	3		0	0	3	3		متطلب كلية
	MATH	Differentiation and Integration 1									
المجموع								16	27	Total	

السنة الأولى: المستوى الثاني

رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
		مقرر اختياري من القائمة 1	2	2	.	0	0	2	2	Refer to List 1	متطلب جامعة
		Elective from List 1									
0221	عرب	مهارات اللغة العربية	2	2	.	0	0	2	2		متطلب جامعة
	ARAB	Writing and Editing Skills									
1311	نجل	اللغة الإنجليزية المكثفة 2	3	3	.	0	0	3	3	ENGL 0522	متطلب كلية
	ENGL	Intensive English Program 2									
1312	ريض	تفاضل وتكامل 2	3	3	.	0	0	3	3	MATH 1311	متطلب كلية
	MATH	Differentiation and Integration 2									
1414	فيز	فيزياء 1	3	3	عملي	1	2	4	5		متطلب كلية
	PHYS	Physics 1									
1211	إحص	مبادئ الإحصاء والاحتمالات	2	2	.	0	0	2	2		متطلب كلية
	STAT	Principles of Statistics and Probability									
المجموع								16	17	Total	

السنة الثانية: المستوى الثالث

رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
2311	همك	رسم هندسي	0	0	عملي	3	6	3	6		متطلب كلية
	ME	Engineering Drawing									
2271	همصن	إدخال ومعالجة البيانات	0	0	عملي	2	4	2	4		متطلب برنامج
	INE	Data Input and Manipulation									
2312	همك	علم المواد	2	2	عملي	1	2	3	4	PHYS 1414 CHEM 1413	متطلب برنامج
	ME	Materials Science									
2213	همك	استاتيكا	2	2	-	0	0	2	2		متطلب برنامج
	ME	Statics									
2411	فيز	فيزياء 2	3	3	عملي	1	2	4	5	PHYS 1414	متطلب كلية
	PHYS	Physics 2									
2301	ريض	الجبر الخطي	3	3	-	0	0	3	3		متطلب كلية
	MATH	Linear Algebra									
المجموع								17	24		Total

السنة الثانية: المستوى الرابع

رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
2315	همك	تكنولوجيا الإنتاج والورش	1	1	عملي	2	4	3	5	ME 2311	متطلب برنامج
	ME	Production Technology and Workshop									
2331	همصن	الإحصاء التطبيقي في الهندسة الصناعية	3	3	-	0	0	3	3	STAT 1211	متطلب برنامج
	INE	Applied Statistics in Industrial Engineering									
2211	همصن	مقدمة الهندسة الصناعية	2	2	-	0	0	2	2		متطلب برنامج
	INE	Introduction to Industrial Engineering									
2301	كهر	هندسة كهربائية 1	2	2	عملي	1	2	3	4	MATH 2301 PHYS 1414	متطلب برنامج
	EE	Electrical Engineering 1									
2217	همك	ديناميكا	2	2	-	0	0	2	2	ME 2213	متطلب برنامج
	ME	Dynamics									
2211	همم	كتابة التقارير الفنية	2	2	-	0	0	2	2		متطلب كلية
	GE	Technical Report Writing									
2302	ريض	تفاضل وتكامل 3	3	3	-	0	0	3	3	MATH 1312	متطلب كلية
	MATH	Differentiation and Integration 3									
المجموع								18	21		Total

السنة الثانية: الصيفي

رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
0401	مهر	مهارات الاعداد الوظيفي (تدريب 1)	4	4	-	0	0	4	4		متطلب جامعة
	COMM	Career Preparation Skills									
المجموع								4	4		Total

السنة الثالثة: المستوى الخامس											
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
3211	همم GE	أخلاقيات المهنة Professional Ethics	2	2	-	0	0	2	2		متطلب كلية
3311	همن INE	تصميم وقياس العمل Work Design and Measurement	2	2	عملي	1	2	3	4	ME 2315	متطلب برنامج
3312	همن INE	عمليات التصنيع Manufacturing Processes	2	2		1	2	3	4	ME 2315	متطلب برنامج
3271	همن INE	الانحدار والتنبؤ Regression and Forecasting	2	2	-	0	0	2	2	INE 2331 INE 2271	متطلب برنامج
3331	همن INE	الموثوقية وتخطيط عمليات الصيانة Reliability and Maintenance Planning	2	2		1	2	3	4	STAT 1211	متطلب برنامج
3240	همن INE	الاقتصاد الهندسي Engineering Economy	2	2	-	0	0	2	2		متطلب كلية
3301	ريض MATH	معادلات تفاضلية Differential Equations	3	3	-	0	0	3	3	MATH 1312	متطلب كلية
المجموع								18	21	Total	

السنة الثالثة: المستوى السادس											
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
3321	همن INE	بحوث العمليات 1 Operations Research 1	2	2	عملي	1	2	3	4	MATH 2301	متطلب برنامج
3313	همن INE	نظم التصنيع Manufacturing Systems	2	2	عملي	1	2	3	4	INE 3312	متطلب برنامج
3314	همن INE	تصميم وتحليل التجارب Design and Analysis of Experiments	2	2	عملي	1	2	3	4	INE 3312	متطلب برنامج
3361	همن INE	هندسة العوامل البشرية Human Factors Engineering	2	2	عملي	1	2	3	4	INE 3311	متطلب برنامج
3315	همن INE	تخطيط ومراقبة الإنتاج Production Planning and Control	2	2	عملي	1	2	3	4	INE 3271	متطلب برنامج
3312	ريض MATH	طرق عددية Numerical Methods	3	3	-	0	0	3	3	MATH 3301	متطلب كلية
المجموع								18	23	Total	

السنة الرابعة: المستوى السابع										
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
4371	هصن	تحليل وتصميم المحاكاة	2	2	عملي	1	2	3	4	INE 2331	متطلب برنامج
	INE	Simulation Analysis and Design									
4214	هصن	الإدارة الهندسية	2	2	-	0	0	2	2		متطلب برنامج
	INE	Engineering Management									
4331	هصن	ضبط الجودة	3	3	-	0	0	3	3	INE 3312	متطلب برنامج
	INE	Quality Control									
4321	هصن	بحوث العمليات 2	2	2	عملي	1	2	3	4	INE 3321 STAT 1211	متطلب برنامج
	INE	Operations Research 2									
4351	هصن	تخطيط وتصميم ونمذجة سلاسل الإمداد	3	3	-	0	0	3	3	INE 3321	متطلب برنامج
	INE	Supply Chain Engineering: Planning, Design and Modelling									
4361	هصن	هندسة السلامة والبيئة	2	2	عملي	1	2	3	4		متطلب برنامج
	INE	Industrial Safety and Environmental Engineering									
المجموع								17	20	Total	

السنة الرابعة: المستوى الثامن										
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
4800	هصن	تدريب تعاوني	8	8	-	0	0	8	8	Completion of 120 Credit Hours s	متطلب كلية
	INE	Co-op Training									
المجموع								8	8	Total	

السنة الخامسة: المستوى التاسع											
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
		مقرر حر 1	2	2	-	0	0	2	2		متطلب حر
		Free Course 1									
	همص	مقرر اختياري 1	2	2	عملي	1	2	3	4	Refer to List 3	متطلب برنامج
	INE	Elective 1									
5371	همص	تحليل البيانات واتخاذ القرار	3	3	-	0	0	3	3	INE 4321	متطلب برنامج
	INE	Data Analytics and Decision Making									
5351	همص	تخطيط المنشآت	2	2	عملي	1	2	3	4	INE 3315	متطلب برنامج
	INE	Facilities Planning									
5212	همص	تصميم وتطوير المنتجات	2	2	-	0	0	2	2	INE 3311	متطلب برنامج
	INE	Product Design and Development									
5300	همص	مشروع تخرج ‡	3	3	-	0	0	3	3	Completion of 130 Credit Hours	متطلب برنامج
	INE	Capstone Design Project									
المجموع								16	18	Total	

السنة الخامسة : المستوى العاشر											
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
		مقرر اختياري حر	2	2	-	0	0	2	2	Refer to List 2	متطلب كلية
		Free Elective course									
	همص	مقرر اختياري 2	2	2	عملي	1	2	3	4	Refer to List 3	متطلب برنامج
	INE	Elective 2									
	همص	مقرر اختياري 3	2	2	عملي	1	2	3	4	Refer to List 3	متطلب برنامج
	INE	Elective 3									
5321	همص	نظم الطوابير	2	2	عملي	1	2	3	4	INE 4371	متطلب برنامج
	INE	Queuing Systems									
5372	همص	التصميم والتصنيع بمساعدة الحاسب	2	2	عملي	1	2	3	4	INE 3312	متطلب برنامج
	INE	Computer Aided Design and Manufacturing									
5373	همص	مقدمة في الذكاء الاصطناعي	2	2	عملي	1	2	3	4	INE 5371	متطلب برنامج
	INE	An Introduction to Artificial Intelligence									
المجموع								17	22	Total	
المجموع الكلي لساعات البرنامج المعتمدة والاتصال								165	205	Total program credit and contact hours	

List 1 قائمة 1

Elective 1 مقرر اختياري 1

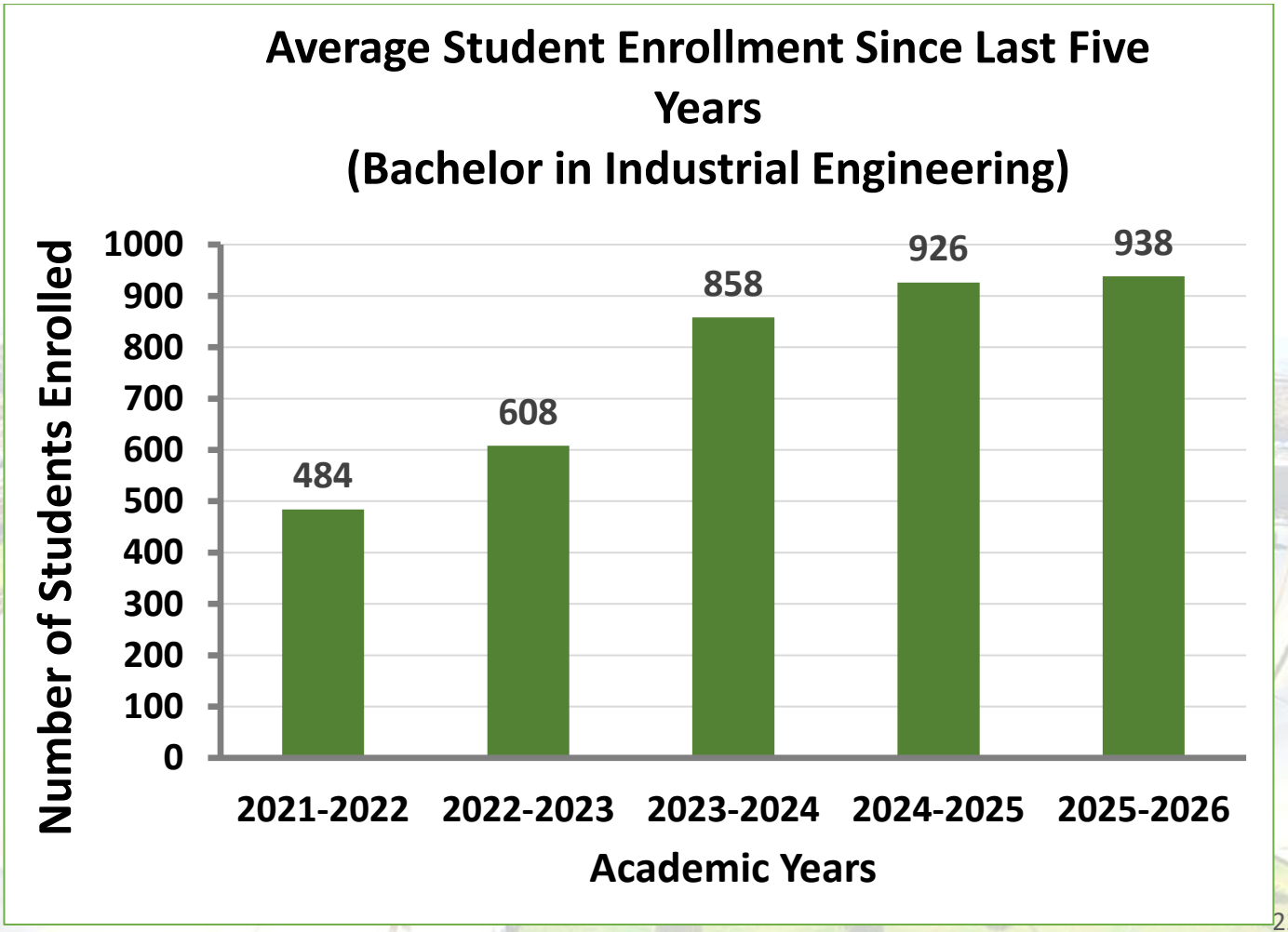
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
0211	ثقف	الاخلاق والقيم	2	2	.	0	0	2	2	-	متطلب جامعة
	ISCL	Ethics and Values									
0213	ثقف	الحقوق	2	2	.	0	0	2	2	-	متطلب جامعة
	ISCL	Rights									
0214	ثقف	بناء الوعي	2	2	.	0	0	2	2	-	متطلب جامعة
	ISCL	Awareness- Building									
0231	فكر	الفكر والفلسفة	2	2	.	0	0	2	2	-	متطلب جامعة
	THPH	Thinking and Philosophy									
0251	دار	مبادئ ريادة الاعمال	2	2	.	0	0	2	2	-	متطلب جامعة
	BUSI	Principles of Entrepreneurship									
0261	تقن	مقدمة في مهارات الحاسب الالي	2	2	.	0	0	2	2	-	متطلب جامعة
	DITE	Introduction to Computer Skills									
0271	وطن	المواطنة	2	2	.	0	0	2	2	-	متطلب جامعة
	CITI	Citizenship									
0281	صحة	الوعي الصحي	2	2	.	0	0	2	2	-	متطلب جامعة
	HETH	Health Awareness									
0215	ثقف	المدخل الى الثقافة الوطنية	2	2	.	0	0	2	2	-	متطلب جامعة
	NCUL	Introduction to the National Culture									
0241	فن	الفنون	2	2	.	0	0	2	2	-	متطلب جامعة
	Arts	Arts									
0272	وطن	التاريخ الوطني	2	2	.	0	0	2	2	-	متطلب جامعة
	Nahs	National History									

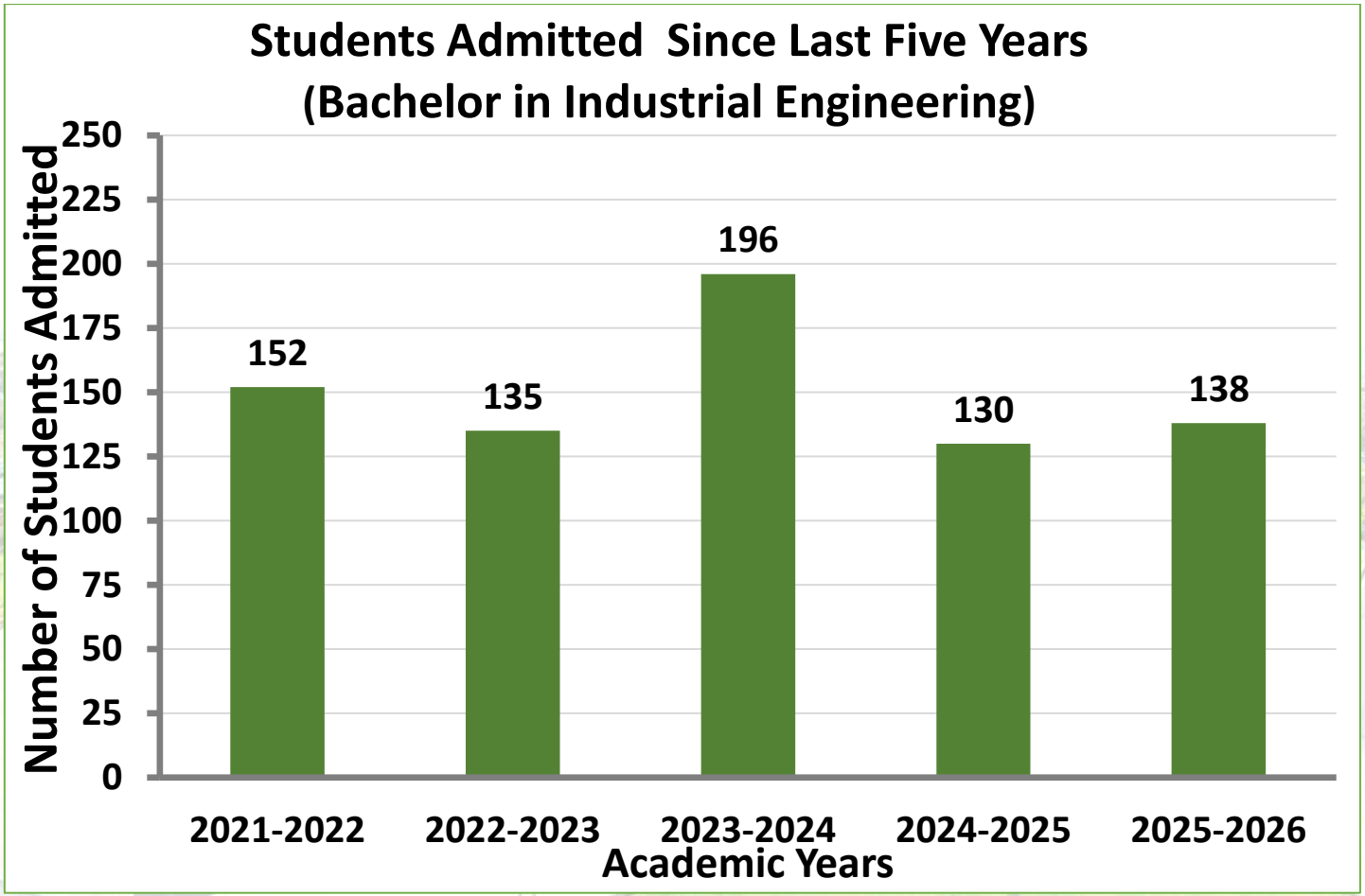
List 2											قائمة 2
Free Elective Course											مقرر اختياري حر
رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
			الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
5201	هعم	إدارة المعرفة	2	2	-	-	-	2	2		متطلب كلية
	GE	Knowledge Management									
5202	هعم	التفكير التصميمي	2	2	-	-	-	2	2		متطلب كلية
	GE	Design Thinking									
5203	هعم	ريادة الأعمال الهندسية	2	2	-	-	-	2	2		متطلب كلية
	GE	Engineering Entrepreneurship									
5204	هعم	الإبداع والابتكار	2	2	-	-	-	2	2		متطلب كلية
	GE	Creativity and Innovation									
5205	هعم	مهارات التعلم	2	2	-	-	-	2	2		متطلب كلية
	GE	Learning Skills									
2204	هعم	الاتصالات الفنية والمهنية	2	2	-	-	-	2	2		متطلب كلية
	GE	Technical and Professional Communications									

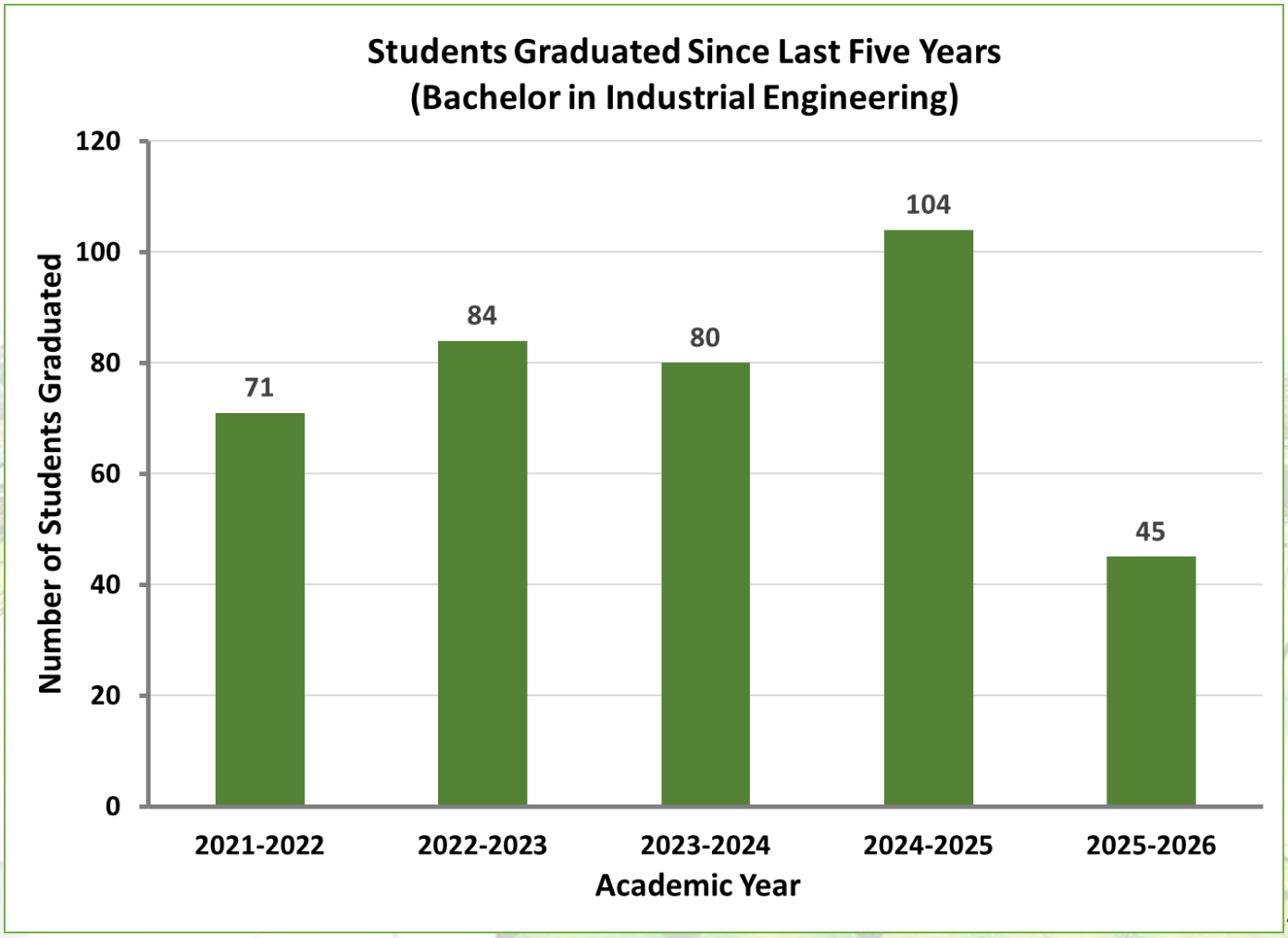
List 3: Elective Course	قائمة 3: المقررات الاختيارية
Trak 1: Supply Chain Engineering Track	مسار1: مسار هندسة سلاسل الامداد

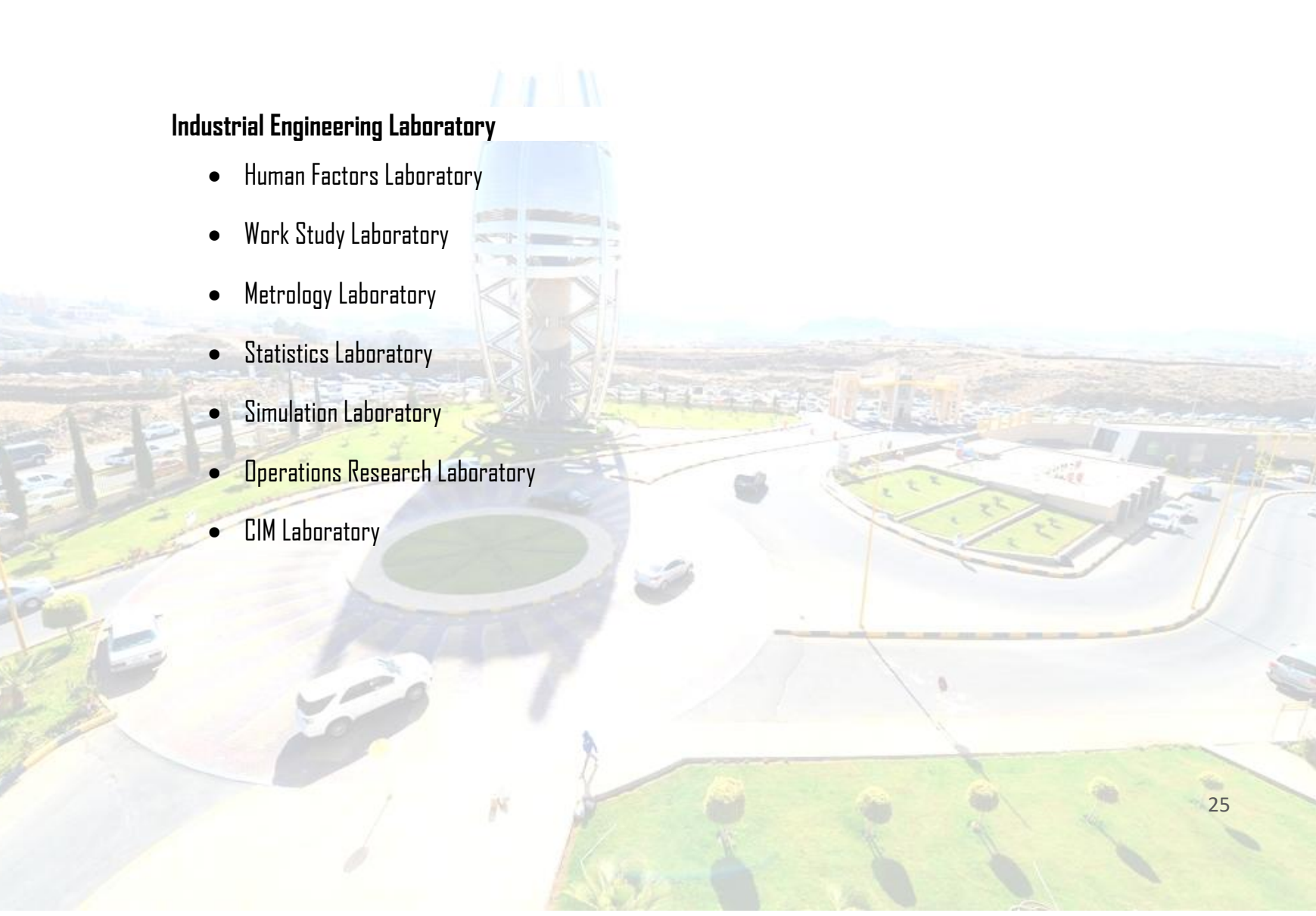
	رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
				الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
مقرر اختياري 1	5351	همص	اقتصاديات سلاسل الامداد	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Supply Chain Economics									
	5352	همص	تحليل سلاسل الامداد	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Supply Chain Analysis									
مقرر اختياري 2	5353	همص	الخدمات اللوجستية المتقدمة	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Advance Logistics									
	5333	همص	النمذجة العشوائية المتقدمة	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Advanced Stochastic Modeling									
مقرر اختياري 3	5354	همص	ادارة سلاسل الامداد العالمية المستدامة	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Global Sustainable Supply Chain Management									
	5355	همص	إدارة المستودعات المتقدمة	2	2	عملي	1	2	3	4	INE 4351	متطلب برنامج
		INE	Advanced Warehouse Management									

Trak 2: Occupational Health and Safety Engineering Track											مسار2: مسار هندسة السلامة والصحة المهنية			
	رقم المقرر	رمز المقرر	اسم المقرر	النشاط النظري		النشاط - النشاط المصاحب			المجموع		المتطلب السابق/المتزامن	نوع المتطلب
				الساعات المعتمدة	ساعات الاتصال	نوع النشاط المصاحب	الساعات المعتمدة	ساعات الاتصال	الساعات المعتمدة	ساعات الاتصال		
مقرر اختياري 1	5361	هصن	القانون المهني والصحي	2	2	عملي	1	2	3	4	INE 3361	متطلب برنامج
		INE	Professional and Health Law									
	5362	هصن	الصحة المهنية	2	2	عملي	1	2	3	4	INE 3361	متطلب برنامج
		INE	Occupational Health									
مقرر اختياري 2	5363	هصن	بيئة العمل المتقدمة	2	2	عملي	1	2	3	4	INE 3361	متطلب برنامج
		INE	Advanced Ergonomics									
	5364	هصن	أنظمة السلامة	2	2	عملي	1	2	3	4	INE 3361	متطلب برنامج
		INE	Safety Systems									
مقرر اختياري 3	5365	هصن	إدارة الأزمات والكوارث	2	2	عملي	1	2	3	4	INE 4361	متطلب برنامج
		INE	Crisis and Disaster Management									
	5366	هصن	الوقاية من الحرائق والانفجارات	2	2	عملي	1	2	3	4	INE 4361	متطلب برنامج
		INE	Fire and Explosion Prevention									


Average Student Enrollment Since Last Five Years
(Bachelor in Industrial Engineering)
Number of Students Enrolled
1000
900
800
700
600
500
400
300
200
100
0
484
608
858
926
938
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
Academic Years


Students Admitted Since Last Five Years
(Bachelor in Industrial Engineering)
Number of Students Admitted
250
225
200
175
150
125
100
75
50
25
0
152
135
196
130
138
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
Academic Years


Students Graduated Since Last Five Years
(Bachelor in Industrial Engineering)
Number of Students Graduated
120
100
80
60
40
20
0
71
84
80
104
45
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
Academic Year

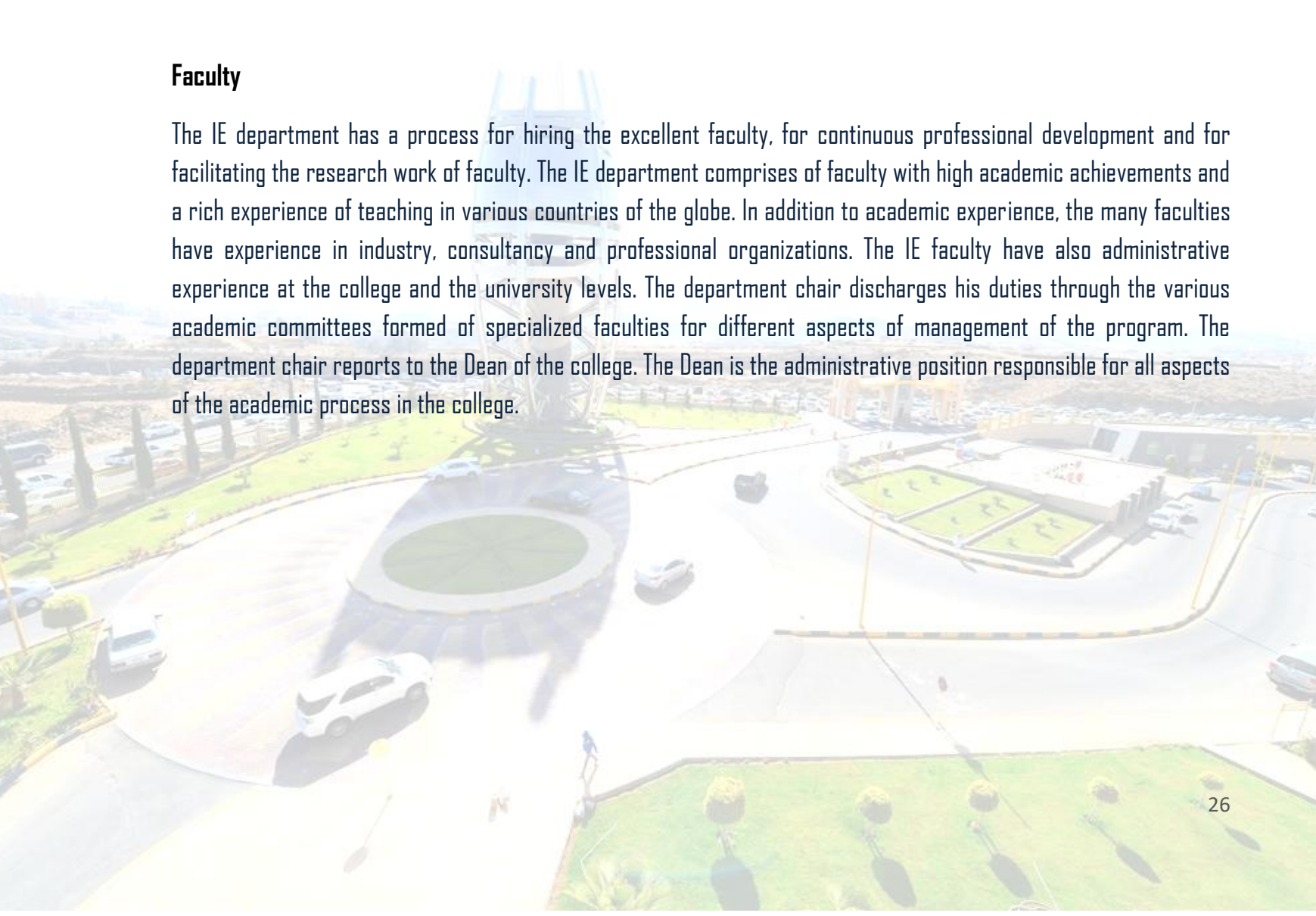


Industrial Engineering Laboratory

- Human Factors Laboratory
- Work Study Laboratory
- Metrology Laboratory
- Statistics Laboratory
- Simulation Laboratory
- Operations Research Laboratory
- CIM Laboratory

Faculty

The IE department has a process for hiring the excellent faculty, for continuous professional development and for facilitating the research work of faculty. The IE department comprises of faculty with high academic achievements and a rich experience of teaching in various countries of the globe. In addition to academic experience, the many faculties have experience in industry, consultancy and professional organizations. The IE faculty have also administrative experience at the college and the university levels. The department chair discharges his duties through the various academic committees formed of specialized faculties for different aspects of management of the program. The department chair reports to the Dean of the college. The Dean is the administrative position responsible for all aspects of the academic process in the college.



Faculty Workload

The assigned workload of the faculty is as per the university current regulations and it is according to the academic rank of the faculty. Based on the rank and regulation, the teaching load assigned to the faculty without any extra remunerations are as given below.

Professor:	10 credit hours
Associate Professor:	12 credit hours
Assistant Professor:	14 credit hours
Lecturer:	16 credit hours

The faculty having the administrative responsibilities, in addition to academic, assigned lesser teaching load. The teaching load assigned is in line to support the faculty professional development, educational quality improvement activities and for facilitating their research work. The working hours assigned for Saudi faculty are 35 hours per week and for faculty on yearly contract, the working hours are 40 hours per week. The working hours meant for teaching, research, academic advising, laboratory supervision and any other tasks assigned to them.

Faculty Size

Discuss the adequacy of the size of the faculty and describe the extent and quality of faculty involvement in interactions with students, student advising and counseling, university service activities, professional development, and interactions with industrial and professional practitioners including employers of students.

Currently, the department of IE has 03 Professors, 07 Associate Professor, 15 Asst. Professors, and 6 with B.Sc. degree Teaching Assistants.

In addition to the above faculty, the teaching assistants are also appointed and some of them sent abroad for higher studies. The faculties of Industrial Engineering department possess from diverse background and nationalities i.e. Saudi Arabia, Egypt and India.

Professional Development

Professional development has given prime importance to develop strong program in the department. The university budgetary provision supports the faculty's professional development activities. At department level, it starts with new joining faculty for his professional development. The head of the department starts with a short session with each new faculty member explaining what is required for the tenure process and giving information about sources and infrastructure as well as their other proposed activities. The head also assigns department coordinators to new faculty on their arrival for mentoring purpose.

The department faculty is encouraged to undertake research, attend conferences, workshops and professional development programs, organize national and international conferences and seminars, collaborate with experts in industry and academia, for consulting and professional practice, and where appropriate pursues higher studies. Faculty are also offered incentives to formulate research proposal in collaboration with other faculties to develop a research culture in the department. The department head collect yearly performance profiles of all faculties and discussed with the Dean of the College to review and evaluation. The faculty are being awarded in recognition of their efforts in professional development and to develop interests, abilities, and achievements as a both teachers and learners.

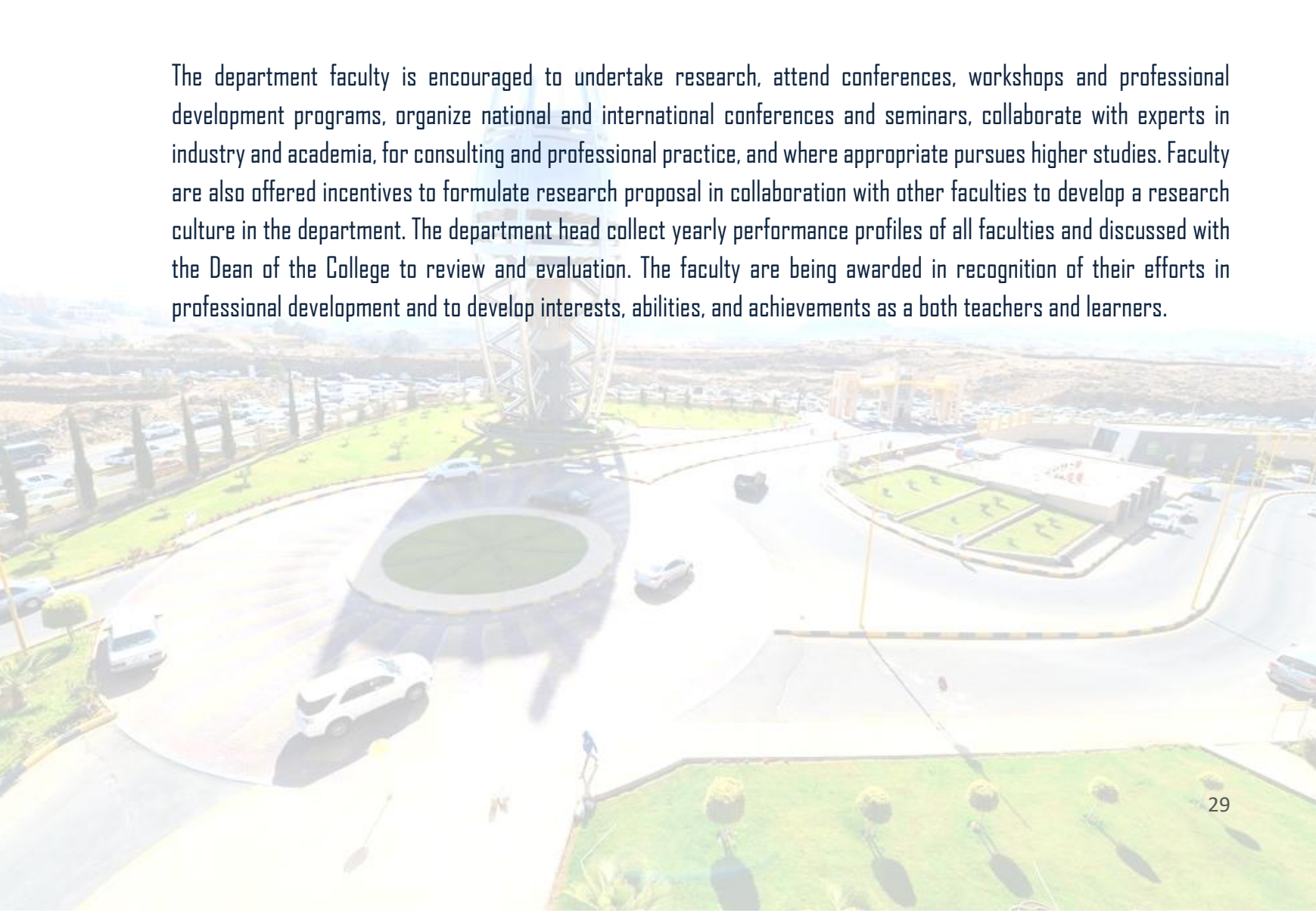


Table: Faculty Details

Faculty Name	Designation	Academic Position	Email	Research profile Link
Dr Ali Miuflih	Associate Professor	Department Chairman	asalmuflih@kku.edu.sa	https://www.researchgate.net/profile/Ali-Almuflih
Dr. Saleh Y Al Ghamdi	Associate Professor		syalghamdi@kku.edu.sa	https://www.researchgate.net/profile/Saleh_Alghamdil5
Prof. Mohamed Sayed Elsayed Elashhab	Professor	Academic Advising and Student Affairs Committee	malashhab@kku.edu.sa	https://scholar.google.com/citations?user=7Lv-UBEAAAAJ&hl=en
Dr. Naif Mana Abdullah Almakayeel	Associate Professor	Summer Training Committee	halmakaeel@kku.edu.sa	https://scholar.google.com/citations?hl=en&user=I-12kG8AAAAJ
Dr. Mohamed A.A. Mansour	Assistant Professor		momansor@kku.edu.sa	https://www.researchgate.net/profile/Mohamed_Mansour
Dr. Mohamed Rafik Noor Mohamed Qureshi	Professor	Schedules and examinations committee	mrnoor@kku.edu.sa	https://www.researchgate.net/profile/M_N_Qureshi

Faculty Name	Designation	Academic Position	Email	Research profile Link
Dr Raafat Elshaer	Associate Professor	Academic Development and Quality Committee	relshaer@kku.edu.sa	https://www.researchgate.net/profile/RaafatElshaer
Dr. Mohammed Alqahtani	Associate Professor		m.alqahtani@kku.edu.sa	https://www.researchgate.net/profile/Mohammed-Alqahtani-40?ev=hdr_xprf
Dr. Mohammed Al Awadh	Associate Professor		mohalawadh@kku.edu.sa	https://www.researchgate.net/profile/Mohammed-Al-Awadh
Dr Mohamad Mukhtar Alam	Assistant Professor	Projects Committee	mhoda@kku.edu.sa	https://www.researchgate.net/profile/mukhtar
Dr Abdullah Al Fatais	Assistant Professor	Curriculums and Plans Coordinator	alftas@kku.edu.sa	https://www.researchgate.net/profile/fatais
Dr. Abdulsalam Ahmed Alqarni	Assistant Professor	Scientific Research, Innovation, and Graduate Studies Committee	aalqarni@kku.edu.sa	https://scholar.google.com/citations?hl=en&user=bho-nEkAAAAJ
Dr Osamah Yahya Moshebah	Assistant Professor	Volunteer and Community Service Unit	omoshebah@kku.edu.sa	https://scholar.google.com/citations?view_op=list_works&hl=en&authuser=1&hl=en&user=7nxneN4

Faculty Name	Designation	Academic Position	Email	Research profile Link
Dr Bader Alfardan	Assistant Professor	Educational Services Committee, Faculty Affairs Committee	balfardan@kku.edu.sa	https://www.researchgate.net/profile/Bader-Al-Fardan
Dr. Ali Abdo Muhammad Arishi	Assistant Professor	Evaluation and Assessment Unit	awaje@kku.edu.sa	https://www.researchgate.net/profile/arishy
Dr Sandos Al-Qarni	Assistant Professor		soqarni@kku.edu.sa	
Dr Sahar Ahmed Idris	Assistant Professor		smohammedali@kku.edu.sa	http://reposi tory.susth. edu/handle/ 123456789/
Dr. Azeem Hafiz P A	Assistant Professor		aajmal@kku.edu.sa	https://www.researchgate.net/profile/Azeem-Parayil-Ajmal/research
Dr Bilal Akbar Chuddher	Assistant Professor		bmchuddher@kku.edu.sa	https://scholar.google.com/citations?hl=en&user=nkhhAiwAAAAJ

Faculty Name	Designation	Academic Position	Email	Research profile Link
Dr Imen Rashid BOUAZZI	Assistant Professor			https://scholar.google.com/citations?user=Ra_4tMsAAAAJ&hl=fr&oi=ao
Dr Abir Khamis Mouldi	Assistant Professor		amouldi@kku.edu.sa	https://scholar.google.com/citations?user=MbDrnBIAAAAJ&hl=fr
Dr Nermine Harraz	Professor		nharraz@kku.edu.sa	https://scholar.google.com.eg/citations?user=4WMVCAUAAAAJ&hl=en
Dr Marwa A. Abd El-baky	Associate Professor		msallam@kku.edu.sa	https://scholar.google.com/citations?user=IMDQTy4AAAAJ&hl=en
Dr Heba Elkhouly	Assistant Professor		hmohamedelkhouli@kku.edu.sa	https://scholar.google.com/citations?user=x8cYLilAAAAJ&hl=ar

Faculty Name	Designation	Academic Position	Email	Research profile Link
Dr Elaf	Assistant Professor		emakkawi@kku.edu.sa	https://scholar.google.com/citations?hl=en&user=xVZv-joAAAAJ
Dr. Boshra Taha Abdallah	Assistant Professor		btaha@kku.edu.sa	https://scholar.google.com/citations?hl=en&user=l9HEKuAAAAAJ

MSc in Safety and Fire Protection Engineering

Program Goal	The overall program goal is to provide the highest quality of academically well-trained competent safety practitioners for business and industries as well as government and municipalities in Saudi Arabia and globally.
Program objectives	The program focuses on the following objectives: **a)** To meet the needs of the Kingdom of qualified national professionals in the field of Safety and Fire Protection Engineering. **b)** To meet the needs of scientific researches in the field of Safety and Fire Protection Engineering and its relevant applications. **c)** To provide engineering and scientific professionals in the government and Industries in the field of Safety and Fire Protection Engineering and its relevant applications
The justification for the establishment of the new program	I. Economic Reasons: **a)** Helps in providing cost effective Safety and Fire Protection Engineering program that increase Saudi organization safety and economy. There is no current program in Safety and Fire Protection Engineering in Saudi Arabia Universities. **b)** Serves as a Safety and Fire Protection Resource Center in Saudi Arabia. **c)** Meets and respond to the changing Safety and Fire Protection Engineering needs and expectations of the Saudi Arabian Community.

2.	Social or cultural reasons:
a)	Promotes the safe and serene environment of Safety and Fire protection related practices in Saudi industries and organizations.
b)	Responds to Sa_udi social and cultural development by introducing sociology and environment, and other relevant subjects in the new curriculum.
3.	Technological developments
a)	Responds to the quick development in Safety Engineering Technology in general.
b)	Responds to the new development in Engineering education, teaching and learning and assessment methods and technology.
c)	Meets the students' needs for learning advanced software in the field of safety and fire protection engineering in research & professional development.

Study Plan Structure:

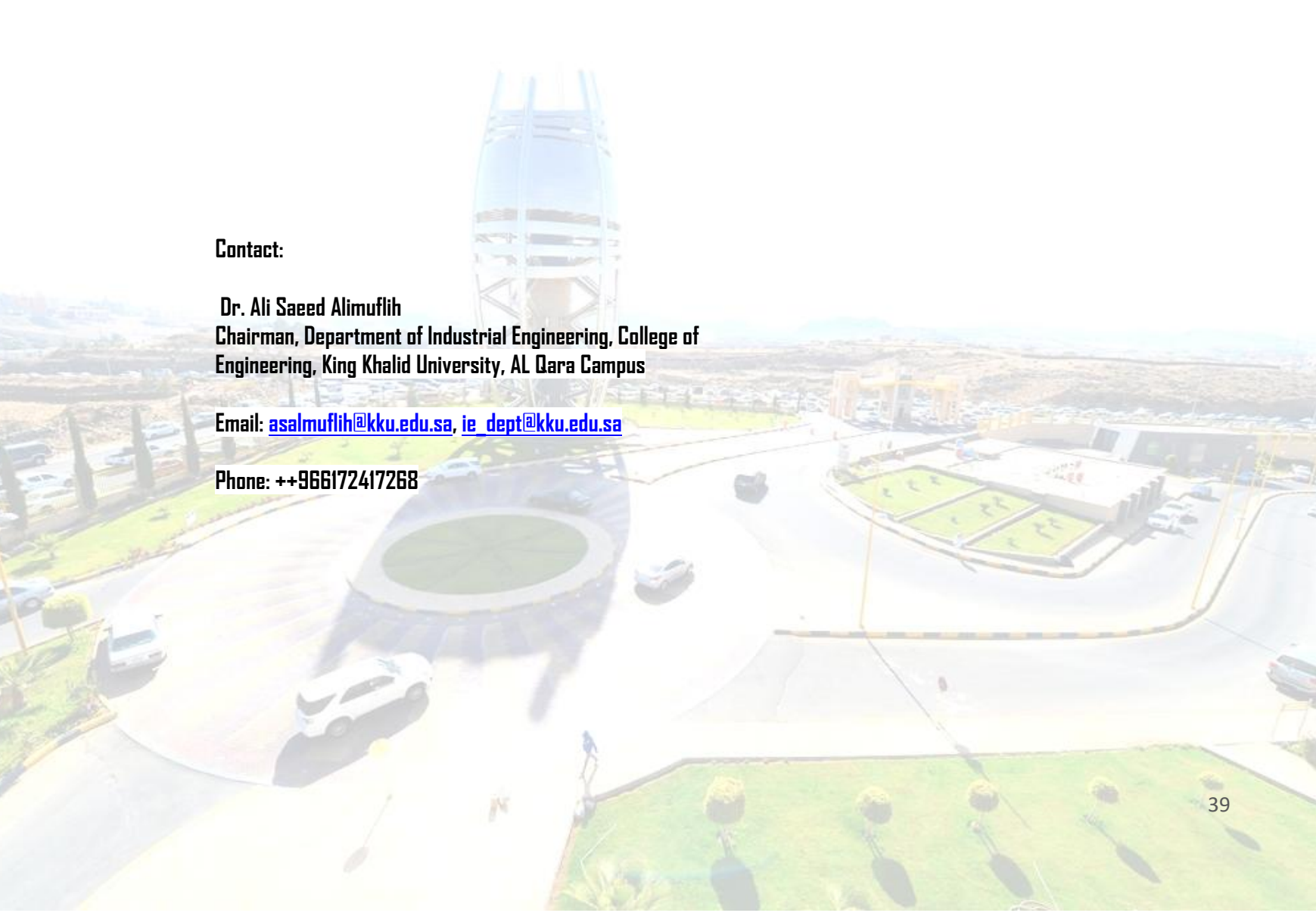
Program Structure		No. of Courses	Credit Hours	Percentage
Course	Required	7	21	50%
	Elective	6	18	43%
Graduation Project (if any)		NA	0	00%
Thesis(if any)		1	3	7%
Field Experience(if any)		NA	0	00%
Total		14	42	100%

Program Courses:

Level	Course Code	Course Title	Pre-requisite(s)	Credit hours				Level	Course Code	Course Title
				Theory	Lab	Tutorial	Total			
Level (I)	751INE-3	Industrial safety laws	None	3	0	0	3	3	Department	Compulsory
	721INE-2	Advanced Engineering Statistics	None	2	0	0	2	2	Department	Compulsory
	752INE-1	Research Methods in Safety and Fire Protection Engineering	None	1	0	0	1	1	Department	Compulsory
	7** INE-3	Elective (I)	None	3	0	0	3	3	Department	Elective
Level (II)	781INE-3	Fundamental Thermal Science	None	3	0	0	3	3	Department	Compulsory
	771INE-3	Safety Methods	None	3	0	0	3	3	Department	Compulsory
	782INE-3	Advanced Fire Dynamics	None	3	0	0	3	3	Department	Compulsory
	7**INE-3	Elective (II)	None	3	0	0	3	3	Department	Elective
Level (III)	783INE-3	Fire Modeling	None	3	0	0	3	3	Department	Compulsory
	722INE-3	Hazardous Waste Operations and Emergency Response	None	3	0	0	3	3	Department	Compulsory
	7**INE-3	Elective (III)	None	3	0	0	3	3	Department	Elective
	7**INE-3	Elective (IV)	None	3	0	0	3	3	Department	Elective
	799INE-0	Research Project	None	0	0	0	0	0	Department	Compulsory
Level (IV)	7**INE-3	Elective (V)	None	3	0	0	3	3	Department	Elective
	7**INE-3	Elective (VI)	None	3	0	0	3	3	Department	Elective
	799INE-3	Research Project	799INE-0	3	0	0	3	3	Department	Compulsory

Electives

Elective (1)	761INE-3	Work Equipment Hazards and Risk Control	None	3	0	0	3	3	Department	Elective
	762INE-3	Human Behavior in Fire	None	3	0	0	3	3	Department	Elective
	763INE-3	Workplace Hazards and Risk Control	None	3	0	0	3	3	Department	Elective
Elective (2)	764INE-3	Quantitative Environmental Risk Assessment	None	3	0	0	3	3	Department	Elective
	765INE-3	Toxicology for Engineers	None	3	0	0	3	3	Department	Elective
	773INE-3	Product Liability Control	None	3	0	0	3	3	Department	Elective
Elective (3)	784INE-3	Fire Protection Structure and Protection	782INE-3	3	0	0	3	3	Department	Elective
	785INE-3	Fire Protection Engineering	771INE-3	3	0	0	3	3	Department	Elective
	774INE-3	Electrical Safety	None	3	0	0	3	3	Department	Elective
	786INE-3	Fire Safety	None	3	0	0	3	3	Department	Elective
	787INE-3	Smoke Management and Special Hazards	782INE-3	3	0	0	3	3	Department	Elective
Elective (4)	788INE-3	Advanced Fire Behavior	781INE-3	3	0	0	3	3	Department	Elective
	775INE-3	Fire Investigation Analysis	None	3	0	0	3	3	Department	Elective
	789INE-3	Fire Engineering	762INE-3	3	0	0	3	3	Department	Elective
Elective (5)	776INE-3	Industrial Safety	None	3	0	0	3	3	Department	Elective
	766INE-3	Safety in Facility and Product Design	None	3	0	0	3	3	Department	Elective
	777INE-3	Safety and Security	None	3	0	0	3	3	Department	Elective
	767INE-3	Physical and Psychological Safety	None	3	0	0	3	3	Department	Elective
Elective (6)	778INE-3	Chemical and Biological Hazards Control	None	3	0	0	3	3	Department	Elective
	768INE-3	Transport Hazards and Risk Control	None	3	0	0	3	3	Department	Elective



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