Faculty of Engineering at Rabigh

Faculty Contact:

Dean's Office
Tel : 6952239 Fax: 6952549
Email : *sgutub@kau.edu.sa*
Web Site: *http://www.fer.kau.edu.sa*

History:

The Faculty was established in 2009.

Vision:

To be pioneers in engineering science and its applications.

Mission:

To educate and train students to become qualified engineers and conduct scientific research that serves our community.

Unique Features:

The faculty provides new sciences and research areas that were not previously available such as Mechatronics Engineering.

Requirements for Graduation:

To earn a B.Sc. in Engineering, student must complete 165 credit hours distributed as follows:

- 27 credit hours of prep year courses,
- 14 credit hours of university requirements
- 124 credit hours of department courses taken from three departments under development:
  - i. Industrial,
  - ii. Electrical,
  - iii. Mechanical.

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Faculty Requirements: Students must study the following 42 credit hours of faculty courses: Credit Hours 42

No.	Course Code:	Course No.	Course Title	Credit	HOURS			Prerequisite
					Theory	Lab	Prac.	
1	CHEM	281	Chemistry Lab	1		2		CHEM 110
2	EE	201	Computer Programming	2	2	1		MATH 110
3	EE	251	Basic Electrical Engineering	4	3	1		ELC 102, PHYS 202
4	EE	332	Computer Methods In Engineering	3	3			EE 201, MATH 204
5	IE	101	Technical Writing	2	2	1		ELC 101
6	IE	201	Intro To Engineering Design 1	3	3	2		ELC 101, ELC 102
7	IE	202	Intro To Engineering Design 2	2	2	2		IE 201
8	IE	255	Engineering Economy	3	3			ELC 102, IE 201, MATH 203
9	IE	331	Probability And Engineering Statistics	3	3			MATH 203
10	MATH	202	Calculus 2	3	3			MATH 110
11	MATH	203	Calculus 3	3	3			MATH 202
12	MATH	204	Differential Equation	3	3			MATH 202
13	ME	102	Engineering Graphics 1	3	3			MSN 343
14	ME	130	Basic Work Shop	2	1	3		
15	PHYS	202	General Physics 2	4	3	1		PHYS 110, MATH 110
16	PHYS	281	Physics Lab	1		2		PHYS 110
			Total	**42**	**37**	**15**		

Course Descriptions:

IE 101: Technical Writing
Reading passages, writing general and technical reports. General and technical listening. Speed of reading and electronic communications. Presentation of a computer-based rap-up Project.
Prerequisites: ELC 102

IE 201: Introduction to Engineering Design (1)
Introduction to active learning: team work, team dynamics, team norms and communication, conducting effective meetings and quality assessment. Problem solving procedure: problem definition, generation of solutions, selection methodology, solution implementation, assessment of implementation. Levels of learning and degrees of internalization. Ethical decision. Organization of the work and design notebook. Reverse engineering and design projects. Students will learn basic concepts.
Prerequisites: ELC 102

IE 202: Introduction to Engineering Design (2)
Engineering design process. Computer modeling and heuristics for solving problems, in teams, in the areas of comparison of strategies, trade-offs, decision making, stochastic processes, optimization and expert systems. Interpretation of results. Preparation of professional technical reports of engineering work and multimedia presentation. Students will learn basic concepts.
Prerequisites: IE 201

IE 255: Engineering Economy
Fundamentals of engineering economy. Time value of money. Evaluation of alternatives. Replacement and retention analysis. Break even analysis. Depreciation methods. Basics of inflation. Students will learn basic concepts.
Prerequisites: ELC 102, IE 201, MATH 203

IE 331: Probability and Engineering Statistics
Descriptive statistics with graphical summaries. Basic concepts of probability and its engineering applications. Probability distributions of random variables. Confidence intervals. Introduction to hypothesis testing. Correlation and linear regression. Students will learn basic concepts.
Prerequisites: MATH 203

EE 201 ; Structured Computer Programming
Introduction to computers. Simple algorithms and flowcharts. Solving engineering and mathematical problems using a mathematically-oriented programming language. Programming concepts: I/O, assignment, conditional loops, functions and subroutines. Programming selected numerical and non-numerical problems of mathematical and engineering nature.
Prerequisites: MATH 110

EE 251: Basic Electrical
Elementary circuit analysis. Diode and op-amp circuits. Motors, generators and transformers. High-voltage equipment. Power systems and 3-phase circuits. Measuring instruments.
Prerequisites: PHYS 202, ELC 102

EE 332: Computational Methods in Engineering
Introduction. Solution of non-linear equations. Solution of large systems of linear equations. Interpolation. Function approximation. Numerical differentiation and integration. Solution of the initial value problem of ordinary differential equations. Students will learn basic concepts.
Prerequisites: EE 201, MATH 204

ME 102: Engineering Graphics
Introduction: Skills of freehand sketching. Methods of projection: orthographic, isometric. Dimensioning of views. Third view prediction. Primary and successive auxiliary views. Intersections of surfaces and bodies. Development of surfaces. Sectioning. Introduction to assembly drawings. Steel sections. Standards and conventions. Computer Aided Graphics using SOLIDWORK crafting package Applications.

ME 130: Basic Work Shop
Introduction to principles of production. Engineering materials, Metal forming; foundry and pattern making, forging processes, rolling, extrusion, sheet metal work, bench work and fitting. Metal machining, drilling, turning, shaping, milling, grinding, joining of materials (fastening. riveting. welding), industrial safety. Measurements, interchange-ability and standards, specifications. Quality control, production planning, and management.

FACULTY MEMBERS

Associate Professors

Adnan Hassan
Industrial Engineering
2003 University Technological, Malaysia

Walid Aniss Aissa
Mechanical Engineering
1999 Cairo University, Egypt

Zaharuddin Mohamed
Electrical Engineering
2003 University of Sheffield, UK

Assistant Professors

Mohammad Hamza Ahmad
Mechanical Engineering
2004 University of Connecticut, USA
mhamza@kau.edu.sa
http://mhamza.kau.edu.sa

Mousaab Mahmoud Nahas
Electrical Engineering - Communication
2007Aston University, UK

Shaikh Nasir Shaikh Husin
Electrical Engineering
2008 University Technologi Malaysia, Malaysia

Lecturers

Harish Abdul-hameed
Electrical Engineering - Computer
2006 University of Calicut, India

Mohammed Osman Hamid
Mechanical Engineering
2009 University of Khartoum, Sudan

Nisamudheen Koden Gaden
Electrical Engineering - Computer
2009 Sikkim Manipal University, India

Jasir Kalangode
Electrical Engineering - Computer
2007 Bangalore University, India