Faculty of Engineering at Rabigh

Faculty Contact:
Dean’s Office
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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.
Faculty Requirements: Students must study the following 42 credit hours of faculty courses: Credit Hours 42

<table>
<thead>
<tr>
<th>No.</th>
<th>Course Code</th>
<th>Course No.</th>
<th>Course Title</th>
<th>Credit</th>
<th>HOURS</th>
<th>Prerequisite</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>CHEM</td>
<td>281</td>
<td>Chemistry Lab</td>
<td>1</td>
<td>2</td>
<td>CHEM 110</td>
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<tr>
<td>2</td>
<td>EE</td>
<td>201</td>
<td>Computer Programming</td>
<td>2</td>
<td>2</td>
<td>MATH 110</td>
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<tr>
<td>3</td>
<td>EE</td>
<td>251</td>
<td>Basic Electrical Engineering</td>
<td>4</td>
<td>3</td>
<td>EE 201, PHYS 202</td>
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<td>4</td>
<td>EE</td>
<td>332</td>
<td>Computer Methods In Engineering</td>
<td>3</td>
<td>3</td>
<td>EE 201, MATH 204</td>
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<td>5</td>
<td>IE</td>
<td>101</td>
<td>Technical Writing</td>
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<td>6</td>
<td>IE</td>
<td>201</td>
<td>Intro To Engineering Design 1</td>
<td>3</td>
<td>3</td>
<td>ELC 101, ELC 102</td>
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<td>IE</td>
<td>202</td>
<td>Intro To Engineering Design 2</td>
<td>2</td>
<td>2</td>
<td>IE 201</td>
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<td>8</td>
<td>IE</td>
<td>255</td>
<td>Engineering Economy</td>
<td>3</td>
<td>3</td>
<td>ELC 102, IE 201, MATH 203</td>
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<td>9</td>
<td>IE</td>
<td>331</td>
<td>Probability And Engineering Statistics</td>
<td>3</td>
<td>3</td>
<td>MATH 203</td>
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<td>MATH</td>
<td>202</td>
<td>Calculus 2</td>
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<td>203</td>
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<td>3</td>
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<td>204</td>
<td>Differential Equation</td>
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<td>13</td>
<td>ME</td>
<td>102</td>
<td>Engineering Graphics 1</td>
<td>3</td>
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<td>14</td>
<td>ME</td>
<td>130</td>
<td>Basic Work Shop</td>
<td>2</td>
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<td>202</td>
<td>General Physics 2</td>
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<td>Physics Lab</td>
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<td>PHYS 110</td>
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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**
**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**
**Prerequisites:** MATH 110

**EE 251: Basic Electrical Engineering**
**Prerequisites:** PHYS 202, ELC 102

**EE 332: Computational Methods in Engineering**
**Prerequisites:** EE 201, MATH 204
ME 102: Engineering Graphics

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
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Mousaab Mahmoud Nahas
Electrical Engineering - Communication
2007 Aston 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