



Hydraulic and Pneumatic Systems Section

Course Description

Course Title: Islamic Culture-1 ---- Code: ISL 101

This course reflects the concept of the Islamic culture and its privilege over the other cultures as it is considered a behavior based on divine course manifesting itself in belief and Sharia (Law of Islam). Then this course figures the bases of this belief and the stability of its origins and the greatness of its outcomes. It also details the most prominent that Islamic Sharia reveal, and its laws by clarifying the concept of worship in Islam, its position, the secrets of its legislation, and its effects on the behavior of groups and individuals. The course concentrates on prayer as it is the summit of all the apparent physical worships. This course also shows the place of noblemanners in Islam, its domains, and its good consequences on an individual and the society

C.u.:2 Lec:2 Lab/Tut:0

Course Title: Islamic Culture-2 ---- Code: ISL 102

This course covers principle areas of Islamic Sharia such as Islam systems (the aims of Islam, the social system, and the economical system) considering to the determination of the general objectives of Islam, the purposes, and the principles that Islam brought, concentrating on what distinguishes Islam in its organization with respect to its completeness, its detailing, and its linking between the purposes of Sharia and what it brought as a social and economical system.

(Prerequisite : ISL101)

C.u.:2 Lec:2 Lab/Tut:0

Course Title: Arabic Language---- Code: ARB 101

This course concentrates on improving the basic skills of Arabic composition of technical colleges students according to their needs and knowledge. It enables them to acquire enough knowledge of the two types of writing in Arabic: functional and creative writing. It also gives the theoretical description and practical training of the basic types of functional writing: summarizing, report, and administrative message. The course also intends to introduce dictative and grammatic subjects to solve the problems of writing and the common mistakes in composition with training on them to change them to acquired linguistic experiences. It also gives the student training on ideal use of Arabic punctuation marks in his writing.

C.u.:2 Lec: 2 Lab/Tut:0

Course Title: Introduction to Computer Applications ---- Code: CMT 101

This course contains introduction to Operating System ,Files System ,Word Processor ,Electronic Tables application software ,application Software Presentations & internet application Software Presentations.

C.u.: 2 Lec:0 Lab:4

Course Title: Professional Ethics and Communication Skills --- Code: ETH 101

This course contains Structure organization ,System of work ,ethics and habit of work ,The relationship between groups ,work activities & Modern Technology in communication (Email-voicemail.....etc)

C.u.: 2 Lec: 2 Lab/Tut:0

Course Title: Vocational Guidance & Excellence --- Code: VOC 107

This course contains Vocational Preferences ,Vocational Specialities ,Communication Skills ,Personality Building ,Dealing Skills with Others ,Planning and Time Management - Successful Student.

C.u.: 2 Lec: 2 Lab/Tut: 0

Course Title: General Physics ---- Code: PHY 115

This course contains measurement units in physics ,vector quantities ,scalar quantities ,force and motion.

C.u.:3 Lec:3 Tut:1

Course Title: Specialized Physics ---- Code: PHY 116

This course aims at giving direct and clear answers to all the questions about nature forces that God put in matter for the sake of man. Especially those questions in the field of mechanics. It also gives a practical and scientific definition for the indispensable measurement science.

(Prerequisite : PHY 115)

C.u.:3 Lec:3 Tut:1

Course Title: General Mathematics ---- Code: MAT 113

This course contains Algebraic expressions ,Linear Equations ,Matrices & Power and Algorithmic Functions.

C.u.:4 Lec:4 Lab/Tut:0

Course Title: Specialized Mathematics --- Code : MAT 116

This course contains Groups and Number Systems ,Logical Expressions & Numerical Mathematics Basics.

(Prerequisite : MAT 113)

C.u.:3 Lec:3 Tut:1

Course Title: General English Language ---- Code: ENG 106

This course provides students with a solid foundation of basic sentence form and function. It concentrates on grammatical structures, vocabulary expressions often used in technical and professional contexts.

C.u.:4 Lec:4 Tut:2

Course Title: Specialized English Language(1) ---- Code: ENG 184

This course contains the skills of speaking and writing Technical English in the field of Hydraulic and Pneumatic Systems ,Preparation for the enrolment of more advanced courses of similar nature. Improving student's pronunciation and vocabulary knowledge-Communication competence.

(Prerequisite : ENG 106)

C.u.:4 Lec:4 Tut:2

Course Title: Specialized English Language(2)---- Code: ENG 284

The general goal of this course is to enable the students to comprehend and speak basic simple written and spoken technical English in the field of Hydraulic and Pneumatic Systems as well as preparing them for enrollment in more advanced courses of similar nature.

(Prerequisite : ENG 184)

C.u.:4 Lec:4 Tut:2

Course Title: Engineering Drawing ---- Code: MEV 164

The course contains the fundamentals of engineering drawing, orthogonal projection, transformations and symbols, and sections.

C.u.: 2 Lec: 0 Lab:4

Course Title: Preparatory Workshop ---- Code: SYS 161

This course provides the trainee with the theoretical knowledge in the measurement field of dimensions, and hands working operations, such as filing, sawing, drilling, and thread cutting, as well as practical training on the fundamental skills to achieve machining operation and use of the necessary tools of measurement.

C.u.: 2 Lec: 0 Lab:4

Course Title: Fluid Power Basics ---- Code: SYS 162

This course includes the study of Pascal's law, Bernoulli principle, and force and pressure transmission in hydraulic systems and determining the type of flow with solving some exercises. Also, the course includes the principle properties of compressed air and dealing with the unit used and an introduction about the special devices that convert the energy and the devices used in energy control

C.u.: 4 Lec: 3 Lab: 2

Course Title: Hydraulic & Pneumatic Components ---- Code: SYS 171

This course provides the trainee with the basic knowledge concerned with the functions, processes, and applications of the hydraulic and pneumatic components.

(Prerequisite :SYS 162)

C.u.: 4 Lec:3 Lab:2

Course Title: Hydraulic & Pneumatic Systems ---- Code: SYS 172

In this course, the trainee studies the structure and principle of performance analysis of all hydraulic and pneumatic components. Also, performing the design, and constructing basic circuits in the lab, by using the used components in the industrial applications.

(Prerequisite : SYS 162)

C.u.: 4 Lec:2 Lab:4

Course Title: Workshop Technology --- Code: SYS 173

The subjects of this course talk about the traditional methods of operating and formation. Also this course provides the theoretical knowledge and practical training on the essential technical skills for operating and formation of the metals.

(Prerequisite : SYS 161)

C.u.: 4 Lec: 2 Lab:4

Course Title: Welding Technology ---- Code: SYS 174

This course deals with topics that related to fundamentals and highlighted the different methods of welding. Therefore, this course gives theoretical knowledge and practical training in the basic technical skills of welding for metals.

(Prerequisite : SYS 161)

C.u.: 2 Lec: 1 Lab:2

Course Title: Computer Aided Drawing ---- Code: SYS 175

This course contains on the ways to use computer assisted drawing for the implementation and amendment of engineering drawings.

(Prerequisite : MEC 164)

C.u.: 3 Lec: 0 Lab:6

Course Title: Electro-Hydraulic --- Code: SYS 251

Through this course, the trainee know the electrical components used in controlling circuits of the hydraulic and pneumatic capacity, and build a number of electro hydraulic circuit for specific applications.

(Prerequisite : SYS 172)

C.u.: 3 Lec: 2 Lab:2

Course Title: Maintenance of Hydraulic Systems --- Code: SYS 252

This course deals with matters that relating to the types of maintenance and its importance in industrial enterprises and major faults in hydraulic and pneumatic systems, the components, and perform its maintenance, in addition to the testing of the hydraulic and pneumatic components on the test device.

(Prerequisite : SYS171 & SYS172)

C.u.: 3 Lec: 1 Lab:4

Course Title: Computer Manufacturing Processes --- Code: SYS 253

This course contains an introduction to digital control by computer, and programming methods to digital control, as well as basic practical training for trainee on how to use the WINCAM program in designing and manufacturing of the mechanical parts, and simulation of the industrialization process.

(Prerequisite : SYS 175)

C.u.: 3 Lec: 1 Lab:4

Course Title : Automatic Control --- Code: SYS 254

This course deals with the concept of feedback control system, the measurement devices used in control systems, and the mode of their operation. Also, the trainee examines many different applications of industrial control processes for the purpose of forming diagram box. Study the relationship between output and income for each element to identify performance in terms of accuracy, stability, and speed of response and also make the necessary modifications to the sector.

C.u.: 3 Lec: 2 Lab: 2

Course Title: Vocational Safety --- Code: SYS 255

The industrial safety is part from the basic of career that trainee have to know. This course contains the precautions that should be taken to prevent accidents and industrial healthy.

C.u.: 1 Lec: 1 Lab:0

Course Title: Repairing of Hydraulic Systems --- Code: SYS 261

In this course, the trainee receives all the information necessary to treat any defects in the art of hydraulic system, and will also be conversant on processing, maintenance, and repairing the hydraulic elements or parts.

(Prerequisite : SYS 252)

C.u.: 2 Lec: 0 Lab:4

Course Title : Programmable Logic Control Systems --- Code: SYS 262

This course aims to define trainee with the necessary background information about the components and methods of the programmable logical programs units, as well as the areas of use in the various control systems.

(Prerequisite : SYS 251)

C.u.: 4 Lec: 2 Lab:4

Course Title : Planning and Design of Hydraulic & Pneumatic Systems --- Code: SYS263

This course includes the planning procedures, the required accounts, and the occasion selection for hydraulic/pneumatic components, as well as the establishment of hydraulic/pneumatic systems.

(Prerequisites : SYS171 & SYS172)

C.u.: 3 Lec: 2 Lab:2

Course Title : Proportional and Servo Hydraulics --- Code: SYS 264

This course includes the study of different types of the proportional elements and its uses in the hydraulic system. It also includes the study of the functions and characteristics of the servo valves and comparison between the proportional valves and servo ones. Also, study the characteristics of closed loop control systems.

(Prerequisites : SYS 251)

C.u.: 4 Lec: 2 Lab:4

Course Title: Project --- Code: SYS 265

In this course the trainee designs and implements an applied project concerned to his field in any workshop or laboratory related to the department.

(Prerequisites : SYS 172)

C.u.: 2 Lec: 0 Lab:4

Course Title: Cooperative Training --- Code SYS 299

This course is a one term training in which students will have an opportunity to apply their academic skills in companies with a view to developing their career plans.

C.u.:4 Lec:0 Lab/Tut:0
