Program Structure

Course Title	Credit Hour
Semester 1	
Arabic Language I	2
English Language I	2
Human Organization	2
Religious Studies I	2
Introduction to Mechatronics Engineering	2
Chemistry I	3
Calculus I	3
Engineering Drawing I	3
Semester 2	
Arabic Language II	2
Chemistry II	3
English Language II	2

Course Title	Credit Hour
Religious Studies II	2
Engineering Drawing II	3
Physics I	3
Calculus II	3
Introduction to ICDL I	3
Semester 3	
Arabic Language III	2
Linear Algebra and Matrix Theory	3
English Language III	2
Structural Programming with C	3
Religious Studies III	2
Sudanese Studies	2
Material Science	3
Semester 4	
Differential Equations	3
Mechanics (Statics)	3
Discrete Mathematics	3

Course Title	Credit Hour
Probability and Statistics	3
Circuit Theory 1	3
Semiconductor Physics and Devices	3
Communication Skills for Engineering Professionals	2
Computer Programming I(C++)	3
Semester 5	
Circuit Theory II	3
Electronics 1	3
Digital System I	3
Signals & Systems	3
Machine Theory	3
Semester 6	
Digital System II	3
Software Applications	3
Electronics II	3
Engineering Economics	2
Basic Training	3

Course Title	Credit Hour
Engineering Metrology	3
Fluid Mechanics	3
Semester 7	
Introduction in Control Systems	3
Programmable Logic Control	3
Total Quality Management	3
CNC Technology	3
Medical Electronics	3
Introduction to Analog and Digital System	3
Digital Signal Processing	3
Semester 8	
Computer System & Assembly Language	3
Modeling and Simulation	3
Robotics and Vision System	3
Hydraulic and Pneumatic Controls	3
Semester 9	
Final Year Project II	2

Course Title	Credit Hour
Design of Mechatronics System	3
Automotive Electronics	3
Electrical Instrumentation and Measurements	3
Computer Aided Design	3
Sensor and Signal Processing	3
Microcontroller and Application	3
Semester 10	
Engineering Ethics	2
Product Design and Development	3
Safety Engineering	2
Project III	2
Engineering Management	3
Total Credit Hour 180	