

## **Teaching Statements**

I have a good experience in teaching undergraduate and post graduate students in the field of Mechatronics and Robotics. Furthermore, I have supervised over 15 graduation projects in the same field, in addition to, I have been joined four different universities in Egypt are, Nile University (NU), Zewail City for Science and technology (ZC), Universite Francaise D'Egypt" (UFE) and Misr University for Science and Technology. The following are the details of my courses in under and post graduate levels.

### ▪ **Undergraduate Courses**

Introduction to Robotics	MUST – UFE – CHEP ASU – ZC - NU
Advanced Robotics	MUST – ZC – NU
Mechatronics System Design	MUST – UFE – NU
Engineering Drawing	FENG – MUST
Basic Work Shop	FENG
Mechanical Measurements	FENG
Mechanical Vibrations	FENG
System Dynamics	FENG
Automatic Control	FENG – HTI - NU
Industrial Control Process	FENG
PLC Programming	FENG – UFE
Hydraulics and Pneumatics	NU – UFE

### ▪ **Postgraduate Courses**

Advanced Automatic Control	Production PhD students
Theory of precise Measurements	Production MSc Students
Sensors and Actuators	Mechatronics Pre-Master Students
Fuzzy Logic Control	Mechatronics MSc Students
Mechatronics Systems Design	Mechatronics MSc Students at (FENG) and (NU)

## **A. Research Supervision**

1. Development of Tracking System for Solar Cells using Artificial Intelligence
2. Modeling and Control of Upper limb Mechanism for an open Source Humanoid
3. Developing the Inverse Kinematics for Object Grasping for an open Source Humanoid
4. Design and Control of an Adaptive gripper
5. Design of a Novel Serial-Parallel Manipulator
6. System Identification and Control of a Twin Rotor
7. Characterization of Auxetic Materials
8. Fault Diagnosis using Neuro-Wavelet analysis

## **B. Graduation Project Supervision**

### **❖ (2017-2018) Graduation Projects:**

1. Design of Upper Limb Assistive Device
2. Control of Lower Limb Exoskeleton
3. Control of Prosthetics hand for handicapped people
4. Design and Control of a hybrid CNC/3D printer Machine
5. Control of Hybrid 3 DOF Delt Robot Manipulator

### **❖ (2016-2017) Graduation Projects:**

1. Design and Control of Underwater manipulator for ROV
2. Manufacturing and Control of 3D printed 6 DOF Robot arm
3. Design, Manufacturing and Control of 6 DOF Delta Robot Manipulator
4. Design and control of a Novel Delta 3D-Printer combined to 3D-Scanner.  
“Funded from the Academy of Scientific Research and Technology”

### **❖ (2015-2016) Graduation Projects:**

1. Design and control of **underwater** Remote operated Vehicle “Funded from the Academy of Scientific Research and Technology”
2. Design and Manufacturing of Pipe inspection robot
3. Design a Large scale 3D printer
4. Design and Control of 6 DOF serial Manipulator

### **❖ (2014-2015) Graduation Projects:**

1. Automatic Filling Machine
2. Design of Electrochemical Milling Machine.
3. Enhancing the controller of Mini-milling CNC machine.