Robotics School - Course Syllabus

Course Title: VEX-IQ 101 **Credit hours:** 18

Prerequisites: none

Course Description:

This is a hands-on course, students will be introduced to robots and robotics world through VEX-IQ platform, they will learn how to design and program functioning and simple robots through methodological and sequential procedure.

Course Requirements:

1. Laptop
2. VEX-IQ Kit

The content of the course:

Topic	No. of Lectures
Ch1: Robots premiere • **1.1 Robots** • **1.2 Robotics** **Ch2: VEX-IQ Platform** • **2.1 : Introduction to VEX-IQ platform** • **2.2 Building pieces** • **2.3 Electronic devices**	3
Ch3: My first Robot • **3.1 Wheeled mobile robots** • **3.2 IEX1 Robot** • **3.3 Design concepts and uses**	1
Ch4: ABC Coding • **4.1 Basics of VEXcode-IQ** • **4.2: Looks category** • **4.3: Sound category** • **4.4: Drivetrain category**	5
Ch5: I am a robotics engineer • **5.1: Articulated IEX1** • **5.2: Allie robot**	2
Graduation project	1

Note: each lecture is one and a half hour.

Learning Objectives:

By the end of this course, student will be able to:

1. **Knowledge and Understanding**

A. Realize and perceive a range of basic concepts and skills of robots designing.

B. Realize and perceive a range of programmatic skills about what is known as “blockly programming”, which is the first step to teach under-aged students programming.

C. Understand a lot about a group of electronic devices such as motors, sensors, …etc.

2. **Skills and capabilities:**

A. Design functioning VEX-IQ robots then program them.

B. Do creative thinking to solve technical problems, as well daily problems.

C. Enrol in advanced courses related to robotics and engineering.

Supportive Online Resources:

- IPEDU platform