



**AL MUSANNA COLLEGE OF TECHNOLOGY**  
**Educational Technology Center**  
**Short Term Courses – (AY2018 – 19)**

<b>Course Name : Internet of Things (IOT)</b>	
<b>Pre Requisite</b> : Basic skills in Programming and Electronics	Eligibility: Diploma, Advanced Diploma or Bachelor
<b>Introduction:</b> This course introduces the basics on learning Arduino IDE, interfacing with Arduino boards and utilizing various sensors and actuators.	
<b>Objectives: End of this course, you should be able to</b>	
<ul style="list-style-type: none"> <li>↗ Create your own program in Arduino</li> <li>↗ Interface Arduino boards with various sensors and actuators</li> <li>↗ Create your own IOT solutions</li> </ul>	
Topics	Methodologies
<p><b>1. Introduction</b></p> <ul style="list-style-type: none"> <li>✓ Explain the Arduino Software IDE</li> <li>✓ Introduction of the different Arduino Boards</li> <li>✓ Arduino Setup and Installation</li> <li>✓ Understanding Arduino Syntax</li> </ul>	<b>Theory/Practical</b>
<p><b>2. Arduino Basics</b></p> <ul style="list-style-type: none"> <li>✓ Sketches</li> <li>✓ Understanding and using variable</li> <li>✓ First Program (Blinking LED)</li> <li>✓ Analog and Digital with Serial Port Communications</li> </ul>	<b>Theory/Practical</b>
<p><b>3. Programming Basics and Controls</b></p> <ul style="list-style-type: none"> <li>✓ Conditional Statements</li> <li>✓ Loops</li> <li>✓ Arrays</li> </ul>	<b>Theory/Practical</b>
<p><b>4. Sensor and Actuators</b></p> <ul style="list-style-type: none"> <li>✓ Analog and Digital Input/output</li> </ul>	<b>Theory/Practical</b>

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| <ul style="list-style-type: none"><li>✓ Interfacing Different Sensors to the Microcontroller</li><li>✓ Interfacing Different Actuators to the Microcontroller</li></ul> |  |
| <b>Software &amp; Hardware Tools:</b> Arduino software and boards. Sensors and Actuators  |  |