



F E E L IT

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## Course Name: IoT+ Python Programming

### Course Schedule

Days	Duration	Hours	chapter	Chapter name	Topics
Day 1	10 A.M to 11 A.M	1	1	Beginning Python	Introduction, Learning Programming with python, Python Interactive shell
	11 A.M to 12 P.M	2	2	values and Variables	Integers and String Values, Variables and Assignment Identifiers, Floating-point Numbers, Control code with strings, User input Controlling print function, String formatting
	12 P.M to 1 P.M	3	3	Expression and Arithmetic	Expression, Mixed Type Expression Operator precedence and Associativity Formatting Expressions, Comments Errors, Arithmetic Examples
	2 P.M to 3 P.M	4	4	Conditional Execution	Boolean Expressions If, elif, else statement Nested Conditionals
	3 P.M to 4 P.M	5	4	Conditional Execution	Multi-way Decision Statements Multi-way versus Sequential conditionals Logic complexity
	4 P.M to 6 P.M	6,7	Activity		
Day 2	10 A.M to 11 A.M	8	5	Iteration	While statement Loops vs Infinite Loops For Statement
	11 A.M to 12 P.M	9	5	Iteration	Nested Loops, Break, Continue Statement
	12 P.M to 1 P.M	10	6	Using Functions	Functions and Modules, Bult-in Functions eval and exec Functions, Turtle Graphics,
	2 P.M to 3 P.M	11	6	Using Functions	Using functions, Writing Functions, More on Functions
	3 P.M to 4 P.M	12	7	Objects	Using Objects, String Objects File Objects, Fraction Objects Turtle graphic Objects, Graphics with tkinter Objects Garbage Collections
	4 P.M to 6 P.M	13,14	Activity		
Day 3	10 A.M to 11 A.M	15	8	Lists	Using Lists, List traversal, Building Lists List Bounds, Slicing List Element Removal, List and Functions List methods
	11 A.M to 12 P.M	16	9	Tuples, Dictionaries, and Sets	Tuples, Arbitrary Arguments Lists Dictionaries, Counting, Grouping with Dictionaries Sets, Set quantification with all and any Enumerating the elements of a Data structure
	12 P.M to 1 P.M	17	10	Handling Exceptions	Common Standard Exceptions, Handling Multiple Exceptions, The catch-all Handler Catching Exception Objects, Exception Handling Scope Raising Exceptions, The try statements optional else Block Finally block,
	2 P.M to 3 P.M	18	11	Custom types	Circle Objects, Restricting Access to Members Rational Numbers, Bank Account Objects Stopwatch Objects, Traffic Light Objects Automated testing, Class variables
	3 P.M to 4 P.M	19	12	Class Design: Composition and inheritance	Composition, Class Inheritance Composition vs Inheritance, Multiple Inheritance Unit Testing, Custom Exceptions
	4 P.M to 6 P.M	20,21	Activity		



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Day 4	10 A.M to 11 A.M	22	13	Introduction	IoT Introduction, IoT Hardware, Applications,
	11 A.M to 12 P.M	23	14	Introduction to Electronics	Basics of Electronics, Breadboard connection, Applications
	12 P.M to 1 P.M	24	15	Raspberry Hardware	Hardware Connection, OS Installation, Features,
	2 P.M to 3 P.M	25	16	Communication Technology	Communication Protocol, Wireless Technology, Wireless Devices
	3 P.M to 4 P.M	26	17	Hands on with LED	Blinking Led, Switch with LED, Push Button Controlling LED
	4 P.M to 6 P.M	27,28	Activity		
Day 5	10 A.M to 11 A.M	29	17	Hands on - Sensor Interfacing	Motion Detection Using PIR sensor, Measuring Distance Using Ultrasonic sensor,
	11 A.M to 12 P.M	30	17	Hands on -Sensor Interfacing	Controlling Light Intensity Using Light sensor,
	12 P.M to 1 P.M	31	17	Hands on -Sensor Interfacing	Measuring Temperature, Humidity Using Temperature Sensor
	2 P.M to 3 P.M	32	17	Hands on -IoT Implementation	Smart home IoT Implementation
	3 P.M to 4 P.M	33	17	Hands on -IoT Implementation	Data Logging Using Cloud platform
	4 P.M to 6 P.M	34,35	Activity		