



Tier-0 Robotics

Session No	Course Contents
Session 1	Zoom & MakeCode: Your First Steps Kickstart your coding journey with an introduction to MakeCode and Micro:bit! Get familiar with the platform, explore the basics of block coding, and start your first exciting project.
Session 2	Creative LED Patterns with MakeCode Discover the magic of coding LEDs with MakeCode! Learn how to create LED patterns while building foundational programming skills.
Session 3	Press and Play Make your Micro:bit interactive! Learn how to use button inputs to control actions and bring your Micro:bit to life.
Session 4	Crafting Fun Sounds with Micro:bit Explore the world of sound! Use coding blocks to create playful sounds and melodies, turning your Micro:bit into a mini music machine..
Session 5	Rock, Paper, Scissors: Coding Logic Learn how to use logic blocks to code a Rock, Paper, Scissors game that you can play with friends.
Session 6	Coin Toss Learn about randomness and decision-making in programming while building a digital coin toss.
Session 7	Dice Game Turn your Micro:bit into a digital dice roller! Discover how to generate random numbers and use them in your games.
Session 8	Display and Play! Master the Micro:bit LED display by designing creative visuals that respond to different inputs.

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Session 9	Show and Tell Mock Practice presenting your projects with confidence! Share what you've learned and showcase your creativity.
Session 10	Show n Tell Event 1 It's time to shine! Present your coding creations to friends and family and celebrate your journey in the world of coding.
Session 11	Unboxing Kit Get hands-on with your Micro:bit kit! Explore its components and learn how each piece works to create exciting projects.
Session 12	The Mystery of the Night Lights Solve a glowing mystery using light sensors and coding! Micro:bit will respond to changes in level of light.
Session 13	The Mystery of the Night Lights-Part 2 Continue your night light adventure by adding more interactivity and improving your project with smart coding techniques.
Session 14	Leo's Adventure: Learning AND Conditions Learn how to use AND logic to control your Micro:bit's responses. Create a code for Leo's adventure with decision-making.
Session 15	Leo's Adventure: Learning OR Conditions Expand your logic skills by using OR conditions to enhance interactivity in your coding project.
Session 16	Glow and Learn: Controlling LEDs (25 lights) Take LED coding to the next level! Learn to control LEDs (25 lights) of micro:bit at once using blocks of Makecode platform.
Session 17	Micro:bit LED Animation: Fun with Logic and Music Combine logic and music to animate your Micro:bit! Create light patterns synchronized with sound effects..

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Session 18	Path plotter Turn your Micro:bit into a digital path drawer! Learn how to track movements and create simple patterns.
Session 19	Code Light Trails Bring light trails to life with code! Experiment with creative LED effects that follow patterns and sequences.
Session 20	Loops-Makecode Unlock the power of loops! Learn how to repeat actions in your code to create efficient and exciting project.
Session 21	Show and Tell Event 2 Show off your coding skills! Present your creative projects and explain how they work.
Session 22	Code, Revise, Repeat Review everything you've learned so far! Strengthen your coding concepts and prepare for upcoming challenges.
Session 23	Meet the MLB Board! Explore new hardware! Get introduced to the MLB board and discover how it works with MakeCode.
Session 24	Mix, Blink and Learn Experiment with different Micro:bit functions! Combine sensors, lights, and buttons to build fun, interactive projects.
Session 25	On or Off? Let's Switch! Discover how slide switches work! Learn how to control your Micro:bit with simple switches.
Session 26	Slide Switches as INPUT Understand how ON/OFF states trigger actions in your code and create interactive projects that respond to switch positions on micro:bit

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Session 27	Using Slide Switches with OR Take your projects further with OR conditions, making your Micro:bit respond to multiple switch inputs.
Session 28	Introduction to Potentiometer Discover how a potentiometer works and learn to read its values using your Micro:bit. Use it to control LEDs, sounds, or animations based on how you turn the knob.
Session 29	Introduction to Potentiometer-2 Learn how to read analog values, map them to different ranges, and use them to control brightness, display bar graphs, and send data through the serial monitor.
Session 30	Exploring Light-Dependent Resistor Continue exploring the exciting world of hardware and coding by adding more sensors to your projects.
Session 31	Show and Tell Event-3 Share your latest coding creations and inspire your peers with your interactive projects.
Session 32	Servo Integration with MLB Board Learn how to connect and control a servo motor using the MLB board and MakeCode.
Session 33	Revision Session Revisit key concepts from previous sessions. Strengthen understanding through hands-on practice, clear explanations, and Q&A to boost confidence for future projects
Session 34	PacRun Code your own Pacman-style game! Bring characters to life using MakeCode blocks.
Session 35	PacRun(Part-2) Complete your Pacman game by adding interactive features and refining gameplay mechanics.

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Session 36	Snap the dot Create a game using moving LED dots on the Micro:bit display. Learn how to detect sprite positions, use buttons to score points, play sounds, and end the game if timing is off.
Session 37	Show and Tell Mock Practice explaining your projects, walk through your code, and receive helpful feedback. Build presentation skills and prepare for the final Show and Tell event.
Session 38	Mole Mania: Whack and Win! Code your own reaction game where moles randomly appear on the left or right side of the screen. Use buttons A and B to "whack" the correct mole in time.
Session 39	Show n Tell Event 4 Showcase your best project from the course! Share your journey and coding achievements.
Session 40	Welcome to the Game- Energy Guardians Begin the Energy Guardians adventure! Unbox the new kit, explore each component, and understand how the parts will power upcoming projects.
Session 41	Connecting multiple components Explore how to control components (Soil moisture sensor, micro:bit etc.) using the Micro:bit! Learn to send digital signals through pins, make devices blink with timed pauses, and understand the basics of power control.
Session 42	Sensor Heroes: Save the town! Use sensors to read real-time data and make smart decisions with code. Build the foundation for responsive, real-world projects that can monitor and protect a virtual town!

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Session 43	Prioritizing Plant health Help plants thrive with the power of code! Use a moisture sensor to monitor soil conditions and give visual feedback through icons, messages, and LED graphs.
Session 44	Planting the seeds Simulate planting crops by setting ideal moisture levels for each plant. Use buttons to check real-time soil readings and get feedback on whether more water is needed.
Session 45	Traffic Light Pole Implementation Learn how to display different moisture levels that represented red, yellow, and green lights. Use buttons to change light states manually and understand how coding logic can manage real-life traffic flow.
Session 46	Integrating traffic light pole and soil moisture sensor Learn how to integrate a soil moisture sensor with a traffic light-style LED system. Use moisture readings to trigger red, yellow, or green lights, giving visual feedback on soil health.
Session 47	Integrating Light Sensing Use the Micro:bit's built-in light sensor to track brightness and visualize it with bar graphs. Then take it further—combine light and moisture readings to trigger actions like audio playback and data logging.
Session 48	Get Inspired: Energy Guardians' Journey Combine soil moisture and light sensing to create a smart feedback system that responds with lights, sounds, and messages.
Session 49	The Final Test The Energy Guardians will review and test all sensors—light, moisture, and more—to ensure they're working perfectly. Then, hand over the tools to the farmers of MoonGarden to monitor plant health and keep the city green.

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Session 50	Smart Environmental Feedback: Light and Sound Integration Review and refine key concepts with a focus on using light and sound to give smart environmental feedback.
Session 51	Show and tell-Mock Step into the spotlight for a practice run! Present projects, explain how sensors and code work together, and demonstrate real-time functionality.
Session 52	Show and Tell Event-5 Celebrate innovation and creativity! Present final projects to peers, mentors, and guests. Demonstrate how coding, sensors, and real-world thinking came together to solve problems and monitor the environment.

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