

STEM in Daily Life

Course Name: STEM in Daily Life

Course Duration: 8 hours

Course Overview:

The **STEM in Daily Life** course introduces participants to the practical applications of Science, Technology, Engineering, and Mathematics (STEM) in solving real-world problems. Through hands-on mini-projects, students will explore how simple technologies can be used creatively to improve everyday life and address social challenges. The course emphasizes innovation, critical thinking, and making a positive social impact using STEM principles.

Pre-requisites:

- Basic understanding of STEM concepts
- Interest in solving real-world problems with technology
- No advanced technical skills required

Who Can Take This Course:

- High school and college students
- Young innovators interested in using STEM to solve problems
- Aspiring social entrepreneurs
- Individuals looking for creative ways to apply STEM in their daily life

Applicable Careers Include:

- Product designer
- Social entrepreneur
- Engineer (various fields)
- Data scientist
- Innovator in tech for social good

Course Syllabus:

1. Introduction to STEM and its Impact on Daily Life (1 hour)

- a. Overview of STEM and its real-world applications
- b. Importance of using STEM for social good
- c. How simple technologies can solve everyday challenges

2. Understanding Problem-Solving through STEM (1 hour)

- a. The problem-solving process in STEM
- b. Identifying real-life problems and brainstorming solutions
- c. Introduction to creative thinking in STEM

3. Mini-Project 1: Smart Waste Management (2 hours)

- a. Design a simple device to monitor or reduce waste in a community
- b. Explore sensors and basic electronics to track waste levels
- c. Learn about IoT and its applications in waste management

4. Mini-Project 2: Water Purification and Conservation (2 hours)

- a. Build a low-cost water filtration system
- b. Understand the principles of water conservation and sustainable use
- c. Hands-on project with creative approaches to water quality and access

5. Mini-Project 3: Solar-Powered Solutions for Rural Areas (2 hours)

- a. Create a simple solar-powered device for rural or off-grid areas
- b. Learn about renewable energy sources and their impact on society
- c. Design solutions that can bring affordable and sustainable power to underserved communities

6. Presenting Your Solution and Social Impact (30 minutes)

- a. How to present your project effectively
- b. Communicating the social impact of your solution
- c. Tips for pitching creative solutions to a wider audience

7. Wrap-up and Future Opportunities (30 minutes)

- a. Recap of key learnings
- b. How to take your ideas to the next level
- c. Opportunities to get involved in STEM for social good initiatives

Further Opportunities after Completing the Course:

- **STEM Innovation Competitions:** Join competitions where you can pitch your projects to potential investors and collaborators.
- **Internship and Volunteering Opportunities:** Work with organizations focused on using technology for social impact.
- **Advanced STEM Workshops:** Explore deeper technical concepts in renewable energy, IoT, and sustainable engineering.

- **Mentorship and Networking:** Connect with experts in STEM fields for mentorship on turning your projects into real-world solutions.