

THE NATIONAL EDUCATION NE

**Challenge 2025** 



Who Can Join?

# **High School & Vocational Students**

For more details: Visit the National Education Digital Platform

Registration Deadline: Friday, March 7, 2025







## **Overview:**

The **RoboPreneur Challenge** empowers Lebanese students aged 15-17 to develop innovative solutions for real-world problems through physical computing, coding, and entrepreneurship. The competition integrates the UN Sustainable Development Goals (SDGs) while fostering critical thinking, technical skills, and creative problem-solving abilities.

### **Competition Objectives:**

- 1. Inspire students to use STEAM and coding skills to address real-world challenges.
- 2. Promote open-source technology, encouraging the use of open-source software, hardware, and data.
- 3. Build leadership and technical capabilities that will prepare students for future technological advancements.
- 4. Foster innovation aligned with SDGs and community development.
- 5. Encourage creativity and resourcefulness by implementing cost-effective and sustainable solutions.

#### **Training & Competition Timeline**

Phase		Event/Session			Date	Ti	ime	Location
Phase 1: Discovery & Proj Selection	ject	Briefing Online Session			March 7	5:00 pr 7:00pm	ท- เ	Zoom Meeting
Phase 2: Technical and Entrepreneurship/Design Training		Training Session 1: Learning Fundamentals			March 15	9:00 ar 2:00pm	ท- า	Badaro Campus
		Training Session 2: Development & Prototyping			March 22	9:00 ar 2:00pm	ท- า	Badaro Campus
		Training Session 3: Solution Building & Pitching		April 5	9:00 ar 2:00pm	ท- เ	Badaro Campus	
Phase 3: Competition & Final Pitch		Final Pitch & Award Ceremony		April 25	10:00 a 1:00pm	am- I	Damour Campus	
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## **Competition Structure:**

Phase 1: Discovery & Project Selection

Date: Friday, March 7, 2025

<sup>()</sup> Time: 5:00 pm-7:00 pm

Location: Zoom Meeting

**Registration Link:** <u>https://www.cognitoforms.com/MUBS1/RobopreneurChallenge2025RegistrationForm</u>

## Introduction to Technology & Innovation (2-Hour Online Session)

- Interactive demonstrations of robotics, IoT, and wearable technology applications.
- Overview of SDGs and how technology can be leveraged to address them.
- Introduction to the Arduino platform and open-source software tools open-source platforms and their importance in innovation.
- Showcase of how to turn STEAM projects into scalable solutions.
- Highlight the importance of using technology to solve real-world problems.
- Discuss how students will ideate, design, and develop solutions that align with SDGs.
- Provide an overview of the entrepreneurship process: identifying problems, creating impactful solutions, and planning for scalability.

## Track Exploration

## 1. Software Development Track

- Creating solutions through games, apps, and interactive programs
- Software Tools: (MIT App Inventor, Python, OpenScad)

## 2. Physical Computing Track

- Building interactive devices and smart solutions
- Tools: micro:bit, Arduino, cardboard, and other accessible materials
- Focusing on hands-on electronics and budget-conscious solutions

## **Team Formation**

- Guidance on forming balanced teams
- Introduction to mentors
- Overview of project expectations
- Q&A session

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## Phase 2: Technical and Entrepreneurship Training Workshops (Over 3 Saturdays):

#### A. Software Track Learning Path:

- Learn coding through platforms like MIT App Inventor and Python.
- Explore design by coding (3D construction using open-source programs).
- Apply programming skills to create interactive projects.

#### **Training Session 1: Coding Foundations**

- Date: Saturday, March 15, 2025
- ( Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Understanding programming concepts
  - Basic programming logic and structure
  - Creating interactive stories and games using platforms like MIT App Inventor or Python
  - Simple project development

#### **Training Session 2: Advanced Programming**

- Date: Saturday, March 22, 2025
- (b) Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Variables, loops, and conditions
  - User interaction and feedback
  - Basic animation and game mechanics
  - Project planning and prototyping

#### **Training Session 3: Solution Building**

- Date: Saturday, April 5, 2025
- (b) Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Testing and debugging strategies
  - SDG integration in software
  - Students presenting their projects to the group
  - Feedback session and discussion of lessons learned

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## B. Physical Computing Track Learning Path:

#### **Training Session 1: Introduction to Arduino**

- E Date: Saturday, March 15, 2025
- ( Time: 9:00 am-2:00 pm
- Location: Badaro Campus

Session 1: Overview of Arduino and its Components

- Introduction to the Arduino board and its features
- Basic programming concepts using Arduino

#### Session 2: Hands-on Activities

- Understanding circuits and components.
- Simple projects using LEDs, buttons, and basic sensors

#### **Training Session 2: Project Development**

Date: Saturday, March 22, 2025

- ( **Time: 9:00 am-2:00 pm**
- ✓ Location: Badaro Campus

#### Session 3: Project Planning

- Introduction to project brainstorming and design
- Discussing project ideas and feasibility within the budget

#### Session 4: Prototyping

- Building prototypes with accessible materials like cardboard
- Guidance on circuit design and coding

#### **Training Session 3: Solution Development and Project Completion**

- Date: Saturday, April 5, 2025
- Time: 9:00 am-2:00 pm
- Location: Badaro Campus

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#### Session 5: Creating Interactive Devices

- Completing projects, troubleshooting issues, and refining designs
- Building solutions for real problems
- SDG integration in hardware

#### **Session 6: Presentations**

- Students presenting their projects to the group
- Feedback session and discussion of lessons learned

#### Entrepreneurship Track (All Teams):

#### **Training Session 1: Innovation & Design Thinking**

Date: Saturday, March 15, 2025

- (b) Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Understanding social problems
  - Understanding your users
  - SDG impact mapping
  - Brainstorming solutions and innovative ideas

#### **Training Session 2: Business Model Canvas**

- E Date: Saturday, March 22, 2025
- ( Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Introduction to basic market research
  - Mapping out a simple business model
  - Planning resources and assessing project feasibility
  - Impact assessment

#### **Training Session 3: Pitching**

E Date: Saturday, April 5, 2025

( **Time: 9:00 am-2:00 pm** 

Location: Badaro Campus

- Developing a compelling story and refining the business plan.
- Practicing pitching and creating impactful presentations

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#### Graphic Design Track (All Teams):

#### **Training Session 1: Introduction to Adobe Illustrator**

Date: Saturday, March 15, 2025

- ( ) Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Learning basic Illustrator tools to create logos, icons, and illustrations
  - Applying designs for your project documentation and presentations

## Training Session 2: PowerPoint for Effective Storytelling

- Date: Saturday, March 22, 2025
- (b) Time: 9:00 am-2:00 pm
- - Learning slide design principles and creating structured presentations
  - Integrating Illustrator-designed visuals into PowerPoint

## Training Session 3: Pitching and Crafting the Final Pitch Deck

- Date: Saturday, April 5, 2025
- <sup>()</sup> Time: 9:00 am-2:00 pm
- Location: Badaro Campus
  - Developing a compelling story and refining the business plan
  - Practicing pitching and creating impactful presentations

## Phase 3: Competition & Final Pitch

- Date: Friday, April 25, 2025
- <sup>()</sup> Time: 10:00 am-1:00 pm
- Location: Damour Campus

#### **Project Requirements:**

- 1. Software Development Category:
  - Working software prototype
  - Source code documentation

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- SDG impact analysis
- Simple business model
- Well-designed presentation slides (using PowerPoint or similar tools)
- 2. Physical Computing Category:
  - Working hardware prototype
  - Technical documentation
  - SDG impact analysis
  - Business model
  - Well-designed presentation slides (using PowerPoint or similar tools)

## **Evaluation Criteria:**

## • Technical Innovation (40%)

- Solution functionality
- o Implementation quality
- Technical documentation
- SDG Impact (20%)
  - SDG alignment
  - Problem-solution fit
  - Potential reach
  - Business Viability (20%)
    - Problem Identification
    - Business model clarity
    - Presentation quality
- Design Quality (20%)
  - Creativity and innovation in design
  - Visual clarity and aesthetics
  - o Effective communication of ideas and SDG impact through design

## Project Structure & Eligibility:

- Team Size: 3-5 students
- Age Range: 15-17 years
- Support: Two mentors per team (MUBS mentor + School/Institute mentor)
- Registration Fees: \$150 per Team

## **Prizes & Recognition**

- Top teams advance to the National Competition
- Chance to represent Lebanon in regional events
- Special awards for creativity and impact
- Certificates for all participants

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