Universities Robotics Competition 2024 – Rules & Regulations

I - Competition Theme:

Disaster Response:

- Build a robot capable of navigating and performing tasks in disaster-stricken areas, such as earthquake sites or areas affected by wildfires.

- Focus on features like obstacle avoidance, search and rescue operations, and communication in challenging conditions.

Competition Date: April 27

II - Organizer:

- Competition will be organized by the IEEE ROBOTICS CLUB (LAU)

III – Eligibility:

- The competition is open to undergraduate and graduate students currently enrolled in recognized Lebanese universities.

- Teams may consist of up to 4 members.

- Each team may have one advisor of their choice, who can be an undergraduate senior student, graduate student, or faculty member.

IV – Registration:

- Teams must register by **March 5th (deadline)**.

V – Competition Place:

- Lebanese American University (Byblos Campus)

VI – Sponsors:

- ElectroSLab
- Beirut Electro City
- Technica International
- Innovating Green Technology (IGT)
- Cube 3D Printing Experts (Cube 3DP)
- Berytech
- Dynamic Solutions
- EdTech Hub for Professional Development
- Robot Pi Shop

VII- Competition Rules:

1. Budget Limitation:

- Teams are required to adhere to a strict maximum budget of $500 for the design and construction of their disaster response robots. This limitation is in place to encourage cost-effective solutions and resourceful design. (Please note that the $500 budget is **not provided** by the competition organizers).

2. Functional Requirements:

- Robots must demonstrate effective navigation in simulated disaster environments, showcasing obstacle avoidance capabilities.
- Search and rescue operations should be a key focus, with robots tasked to locate and retrieve simulated victims within the competition area.
- Communication capabilities must be robust, enabling the robot to transmit data and receive instructions in challenging conditions.

Note: The specific functions required may vary depending on the problem the robot is designed to solve. Therefore, certain functions may hold more importance than others based on the robot's objectives and intended tasks.

3. Live Demonstration:

- Each team designs and implements their own disaster scenario live demonstration (Note: live demonstrations costs are **excluded** from the $500 budget allocation).

- Live demonstrations may include obstacles, terrain variations, or relevant hazards.

- Robots must function effectively in custom simulation or live demonstration.

4. Scoring System:

- Points awarded for obstacle navigation, search and rescue efficiency, and communication.

- Judges assess design, innovation, and cost-effectiveness.

Please note that more details regarding the scoring system will be provided as we approach the day of the competition.

5. Safety Measures (when applicable):

- Robots include safety features.

- Autonomous operation preferred, with an emergency stop.

6. Documentation and Presentation:

- Teams are required to submit detailed robot documentation.

- There will be a presentation session for teams to showcase the features and applications of their robots.

- Additionally, teams will have the opportunity for live demonstrations in simulated disaster scenarios to further exhibit their robot's capabilities.

Note: Please observe the distinction between the presentation session, which involves pitching the robot's features and applications, and the live demonstration, where the robot's performance in a disaster scenario will be showcased.

7. Team Collaboration:

- Encouraged; teams will be judged on teamwork and communication.

8. Post-Event Analysis:

- Teams submit analysis on lessons learned and improvements.

VIII – Misconduct and Cheating:

- If, during the competition or post-event analysis, it is discovered that a team's robot was created or significantly influenced by a professional or outside source not part of the team, the team will be subject to disqualification.

- Exceeding the budget limit of $500 may also lead to disqualification.

Evaluation Process:

- Judges reserve the right to inquire about specific design and construction details during the competition or in the post-event analysis.

- Teams must be prepared to answer questions regarding their robot's development process, including design choices, coding, and construction techniques.

Disqualification Criteria:

- If, based on the responses and evidence provided, the judges determine that a team has violated the rule against external professional influence or budget limit, the team will be disqualified from the competition.

Fair Play and Integrity:

- Emphasis is placed on fair play, integrity, and maintaining the spirit of the competition. Cheating undermines the core values of the event and compromises the integrity of the results.