Categories and Level of Competition

*There will be (3) **Categories** in this competition:*

A. **RoboTalks**: Functional robots or prototypes

B. **Mobots Race**

C. **Sumo Bots**

List of Competition:

Competition	Robot per team	Max players per team	Category
RoboTalks	prototype/actual project	5 members	K12 to College Students
Mobot Race	1 Robot	1-3 members	K12 to College Students
SumoBot	1 Robot	1-3 members	K12 to College Students

Submission of Entry

The deadline for the submission of entry forms is on **December 9, 2024.**

Qualified Participants

A. The Global Conference on Robotics and Artificial Intelligence Technologies competitions are **open to all Schools at any level**

B. The contestants are required to wear their school uniforms, while coaches are required to wear formal attire.

C. Each team must designate a team leader who will be the main point of contact during the competition.

D. All team members must be present during the competition and registration.

Competition Proper and General Mechanic

A. Participating Teams must check in at the registration booth at least 30 minutes before the competition. The contest will start exactly at **1:30 PM** on **December 10, 2024**. Late Participants will be disqualified or forfeited from the competition.

B. Only registered participants are allowed to participate in the competition area.

C. Coaches and other spectators must stay in the audience area.

D. Coaches are not allowed to help the participants at the game during the competition.

E. Sumobot Game Format: Round Robin will be used during the elimination. Knockout will be used during the semi-finals and finals.

F. Sportsmanship conduct is expected from players

G. Any misconduct, insults, foul language, or intentional action to harm the opponents or robot shall be disqualified.

RoboTalks

1:30 PM December 10, 2024

Overview: A showcase competition where entrants develop and demonstrate creative solutions for industries related to at least one of the 17 Sustainable Development Goals. Entrants present comprehensive project posters, emphasizing how their concepts address practical obstacles and extend the frontiers of automation and technology.

Theme:	17 SDG
Robot per team:	1 robot/prototype
Max Members per team:	1-5 members

Eligibility: The competition is open to individuals and teams from educational institutions, organizations, and industry professionals. Each team can consist of **1 to 5 members**, including:

- **Team Leader:** Responsible for coordinating the project and presentations.
- **Team Members:** Collaborate on the project development and presentation.
- **Coach (optional):** A mentor or advisor who can guide the team throughout the competition.

Theme description

1. United Nations Sustainable Development Goals

Criteria for Project Evaluation

1. **Defining the problem and solution (30%)**
    a. Identify the problem and its significance to the community.
    b. Presenters present their solutions effectively
2. **Testing the Robot/Device (30%)**
    a. **Test plan (20%)**
        i. Detail out how the robot works.
    b. **Robot Demonstration (10%)**
        i. The robot must function properly. Technical problems during the actual contest will be up to the judges to decide how to grade it.

3. **Presentation (20%)**
    a. **Video Presentation**
        i. Participants must send a YouTube video link (3-5 minutes duration) containing criteria 1 and 2
        ii. The deadline should be one (1) day before the competition

Video Quality Guidelines

- **Visual Quality:** Ensure good lighting and clarity in video capture
- **Audio Quality:** Use clear audio with minimal background noise
- **Presentation Style:** Engage the audience with confidence and enthusiasm.
- **Visual Aids:** Use slides, diagrams, or demonstrations within the video to enhance understanding.

4. **Questions and Answers (20%)**
    a. Judges will provide questions for each team after the presentation for 5 minutes. Participants will answer the questions.

Project Poster:

Each team must create a poster that includes the following:

- **Title of the Project**
- **Description of the Problem:** Clearly articulate the specific issue or challenge the project aims to address.
- **Unique Solution:** Explain how the project offers a distinctive approach to solving the identified problem.
- **Technologies/Methodologies (Optional):** Detail any relevant technologies, engineering principles, or methodologies used in the design and development of the project.

Posters should be visually engaging and easy to understand, incorporating diagrams, images, or graphs where applicable.
Posters must also be submitted in digital format (PDF or JPEG) by **December 9, 2024,** via email to **gcrait@lorma.edu**.
The poster size should be **594mm x 841 mm or 23.4in x 33.1 in (A1 size)** for print presentation.

General Rules:

1. All submissions must be original work; any form of plagiarism will lead to disqualification.
2. Posters must be submitted by the deadline; late submissions will not be accepted.

3. Teams must adhere to the presentation time limits; failure to comply may result in point deductions.
4. Coaches are not permitted to assist in the competition, including during poster explanations or presentations.
5. Judges' decisions are final.

Competition Day:

- Teams must arrive and set up their posters at the designated venue by **1:00 pm** on **December 10, 2024**.
- Each team will have an opportunity to present their project to the judges for 5 minutes followed by a 5-minute Q&A session.
- The video presentation will be played during each team's allotted time, serving as their official presentation for the competition.
- **Coaches are not allowed to assist during the competition,** including during the presentation or explanation of the project.

Deductions:

Points may be deducted for the following:

- **Late Submissions:** 10% of total points for each day late.
- **Failure to Adhere to Presentation Time Limits:** 5% deduction for exceeding the allocated presentation time.
- **Plagiarism or Misrepresentation:** Disqualification from the competition.

Mobot Race (Line Following)

1:30 PM December 10, 2024

Overview

The Mobot Race is a speed competition where robots (mobots) must autonomously follow a designated line on the track and complete the course in the shortest time possible. The focus is on precision, speed, and stability as the robots navigate the race track.

Robot per team:	1 Robot
Max Players:	3 players per team
Robot Control:	Fully Autonomous
Game Format:	Multi-Round Elimination

Eligibility: The competition is open to individuals and teams from educational institutions. Each team can consist of **1 to 3 members**, including:

- **Team Leader:** Responsible for coordinating the Robot
- **Team Members:** Collaborate on the development
- **Coach (optional):** A mentor or advisor who can guide the team throughout the competition.

General Rules

1. The race track will be approximately **3** meters long and **3** meters wide.
2. Robots must be fully autonomous and controlled by onboard systems.
3. No external control (remote control or external guidance) is allowed during the race.
4. Robots must pass a pre-race technical inspection.
5. Teams must adhere to the time limits for setup and race completion.
6. Robots that go out of bounds must restart from the point where they exited the track and a penalty will be imposed.
7. Judges' decisions regarding penalties, deductions, and race outcomes are final.

Robot Specifications

1. Any microcontrollers, type, or brand of wheeled robot is allowed
2. Robots can be pre-built or built-onsite
3. No restrictions on the number and type of sensors

4. Robots should have an independent power supply. Only battery-powered is allowed
5. Maximum size of robots
    a. 20cm x 20cm Width.
    b. No height limit
    c. 1 kg max weight

Robot Restrictions

1. Expanding robots are not allowed
2. External remote controls of any sort is not allowed
3. The robot shall not damage the race track in any way, deliberate or not
4. Robots will need to protect their sensors and if necessary from any outside interferences.

Playing Field

1. The size of the playing field will be 3x3 meters;
2. Black lines: approximately 25mm to 30mm in width. Consists of straight and broken lines.
3. Black Zone or Interruption Zone.
4. Checkpoint.

Robot Preparation

1. All participants must be designated at the arena when the game begins
2. Only one robot per team is allowed for the ENTIRE game
3. Participants will be given 3 minutes to practice and prepare.
4. A clear signal (verbal announcement) will indicate the start of the preparation period, and another signal will be used to stop practicing and ready their robots.
5. Participants must cease all adjustments and position their robots at the designated starting point upon the final signal.

Game proper

1. Start of the game

1.1. The player must place the whole body of the robot behind the starting line

1.2. After the signal of the referee, the player presses the start button of the robot. The referee then starts the timer.

1.3. The robot must move immediately and start tracing the line

1.4. The game ends if all wheels of the robot move out of the centerline

2. Scoring

2.1. The score will be based on the time the robot reaches the finish line.

2.2. The timer stops and records when any part of the robot reaches the finish line.

Each player will be given 2 runs. The best run time among the 2 runs will be their final score.

Deduction/Penalties

1. **Line Deviation**:
   - **Minor Deviation**: If any robot wheel crosses the centerline but the robot corrects its path and continues within 3 seconds, a 3-second penalty is added to the time.
   - **Major Deviation**: If all robot wheels move off the centerline for more than 3 seconds, a 5-second penalty is applied.
2. **Out of Bounds**:
   - If the robot exited the track a 10-second penalty is applied and the robot must be placed back at the point where it exited the track to resume the race.
3. **Robot Malfunction**:
   - **Stalling**: If the robot halts for more than 10 seconds on the track and does not automatically resume movement, the run is invalidated.
   - **Manual Interference**: If the team manually resets or intervenes to move the robot during the race, a 20-second penalty is added, or the referee invalidates the run if necessary.
4. **Premature Start**:
   - If the robot starts moving before the referee's signal, the team receives a 5-second penalty, and the robot must be reset at the starting line for a new attempt within the round.
5. **Robot Exceeding Size or Weight**:
   - If the robot exceeds the specified size or weight limit upon inspection and cannot be adjusted before the start, a 10-second penalty will apply for each run with the oversized robot.
6. **Track Damage**:
   - **Minor Damage (e.g., skid marks):** A warning is issued on the first offense. Further damage leads to a 10-second penalty for each occurrence.
   - **Major Damage (e.g., tearing track materials):** Immediate disqualification of the team if intentional damage is detected.

7. **Delay in Starting**:
    - If the team delays the start beyond 10 seconds after the referee's signal, a 5-second penalty is added to the run.
8. **Failure to Adhere to Safety Standards**:
    - If the robot's sensors are inadequately protected, resulting in interference with other teams or the environment, the team will be penalized with a 10-second addition to their best run time.
9. **Exceeded Practice Time**:
    - If the team exceeds the designated 3-minute practice and setup time, a 5-second penalty is added to their best run time.

Additional Notes

- **Final Decisions**: Judges' decisions regarding all penalties and scoring are final and cannot be contested.
- **Warnings**: Teams are given one warning for minor infractions before penalties are applied.
- **Forfeit:** Teams may forfeit their run if their robot is unable to finish the track. A forfeited run will be considered invalid.

Sumo Bot

1:30 PM December 10, 2024

Overview: It is a head-to-head robotics competition where teams compete by building and battling with other robots in an arena. The goal is to disable, knock out, or push the opponent's robot outside a circle arena using innovation, control, and strategy.

Robot per team:	1 Sumobot
Max Players:	3 players per team
Robot Control:	Remote Controlled
Game Format:	Group Stage Round Robin

Eligibility: The competition is open to individuals and teams from educational institutions. Each team can consist of **1 to 3 members,** including:

- **Team Leader:** Responsible for coordinating the Robot
- **Team Members:** Collaborate on the development
- **Coach (optional):** A mentor or advisor who can guide the team throughout the competition.

General Rules

1. The playing field will be 120 cm in diameter.
2. Robots must be fully remote-controlled
3. No Weaponry that causes **uncontrolled projectiles** or **chemical hazards** is allowed
4. Teams must adhere to the time limits for each battle.

Robot Dimension and Specifications

1. Any microcontrollers, type, or brand of wheeled robot is allowed.
2. Robots can be pre-built or built-on-site
3. Robots must also adhere to size(*20cmx20cm*), weight(*max 1 kg*), and power limits as per competition guidelines. Changing the size of the mobot during the drive in order to exceed them is forbidden.
4. Robots must protect their sensors and electronics from any outside interference.

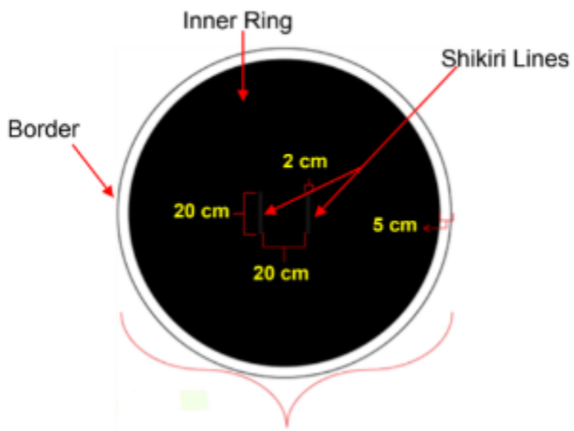
Robot Restrictions

1. Jamming devices such as IR LEDs intended to saturate the opponent's IR sensors are not allowed
2. Reflective materials to disrupt IR distance sensors or IR lice tracking sensors are not allowed.

3. Robots shall not throw any liquid or powder or other substances to the opposing robot.
4. Robots shall not use fire or any flammable device as a weapon
5. Using Magnets is not allowed.
6. Robots shall not use projectile weapons or saw blades
7. Robots shall not cause any danger or damage to the arena and surroundings in any way whatsoever

Sumo ring

1. **Ring diameter:** 120cm
2. The surface of the Sumo ring is painted black (inner ring) and white (border).
3. Shikiri lines consist of two painted parallel lines that are not visible to the sensors. It will be placed at the center of the ring.



Game Proper

1. Robot Quarantine

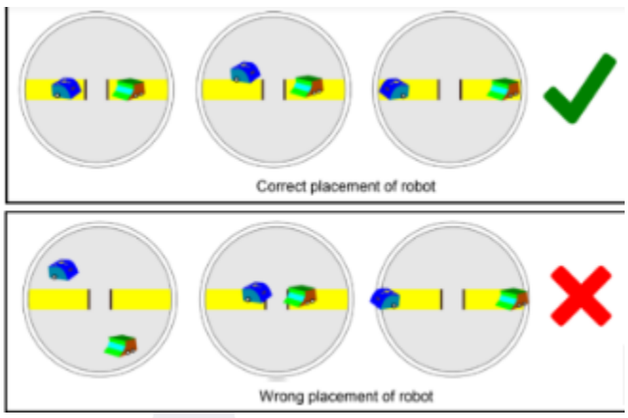
1.1. Before the game starts, robots must be submitted for quarantine; checking of weight, size, and robot inspection

1.2. Robots must be programmed and must have batteries before submitting for quarantine

1.3. After the quarantine, students can no longer make modifications to the program and parts of the robot.

2. Placement of the robot

2.1. At the start of the game, two players will be instructed to place their robot on the sumo ring. The decision of placing the robot first will be decided via the toss of coin for the first round.



2.2. The first player places its robot first, then the second player places its robot. Adjusting the position of the robot after placement is NOT allowed.

3. Start of the match

1. At the start of the game, both robots will be placed on the sumo ring
2. After the signal of the referee (whistle), both players must control the robot immediately
3. Once the match starts, no modifications such as changing batteries, programming, and repair shall be allowed.
4. There will be **3 rounds** for each match, and players will be given 1 minute to repair for each round. **NOTE: the robot can be repaired. However, changing batteries, adding parts, and programming the robot are not allowed.**
5. When a player touches any part of the playing field or any robot in the game, directly or indirectly during a match, the other robot wins the point
6. If there is a draw after the match, a 4th round will be played. If there is still no winner, the lighter robot wins the point.
7. A game is considered a draw if: both robots are in deadlock position for 5 seconds, when a round has finished and nothing earns a point.

4. Scoring

1. A point is a reward given to the winner of a round
2. When a robot falls off outside the ring, the robot that remains in the ring wins the point.(This is valid even if NO CONTACT is made between robots)
3. If the robot flips, spins around, or does not move in the same location for 5 seconds, the other robot wins the point
4. When a part of the robot falls off or separates from the body while in the ring, the other robot wins a point. (except for spacers, nuts, and screws)

Deductions

- **Failure to Comply with Weight/Size Limits**: Disqualification
- **Failure to adhere to safety rules**: Disqualification
- **Late Arrival for Battle**: Forfeiture of the Match
- **Unauthorized Assistance from Coach**: 10% deduction
- **Time Violations in Repair Periods**: 5% deduction for every extra minute used

Awards and Certificates

A. Awarding will be held on the day of the competition
B. All contestants are required to be there to receive their awards
C. All contestants and coaches will receive Certificates of Participation and Certificates of
D. Appearance, while winners will receive the following:

1. **Grand Prize:**
    - Plaque
    - Cash prize
        i. RoboTalks - ₱ 2, 500
        ii. MobotRace - ₱ 2, 000
        iii. SumoBot - ₱ 2, 000
    - Feature on the event website and social media
2. **1st Runner Ups:**
    - Certificate
    - Cash prize
        i. RoboTalks - ₱ 2, 000
        ii. MobotRace - ₱ 1, 500
        iii. SumoBot - ₱ 1, 500
    - Feature on the event website and social media
3. **2nd Runner Ups:**
    - Certificate
    - Cash prize
        i. RoboTalks - ₱ 1, 500
        ii. MobotRace - ₱ 1, 000
        iii. SumoBot - ₱ 1, 000
    - Feature on the event website and social media
4. **Special Awards:**
    - Best Innovation (RoboTalks)
    - Best Robot Performance (Sumobot)
    - Best Line Tracing Execution (Mobot Race)
    - People's Choice Award (voted by attendees)
    - Certificate for each special award
    - Feature on the event website and social media