WRO2023
- Future Innovators:

Training Program Overview

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Updated: May 27, 2023

Phnom Penh, Cambodia

About this document

- Aim to prepare high school students to participate in the **World Robotics Olympiad (WRO)**, Category: **Future Innovators.**
- Provide a year-long curriculum covering robotics fundamentals, project ideation, design, programming, testing, documentation, and presentation skills.
- Focus on the national and international round preparations, fostering critical thinking, problem solving and team collaboration.

Information about WRO2023

The Cambodia round is organized by STEM-EOC

Learn more:

- Guideline: http://bitly.ws/CCjW
- Visit STEMEOC Website: https://stemcambodia.ngo/wrokh23/
- Visit WRO Website : https://bit.ly/3GaplSK
- Telegram - WRO Official Channel : https://t.me/+YDkeniiTo_pkMWRl
- Telegram-WRO Discussion Channel: https://t.me/+2m7sSaCXA7dkNDY1

Timeline & Schedule

Overview

1. Introduction to Robotics and the WRO Competition (January)
2. Team Formation and Project Ideation (January-February)
3. Research and Planning (February-March)
4. Design and Prototyping (March-April)
5. Programming and Testing (April-May)
6. Documentation and Presentation (May-June)
7. Finalize and Refine (July)
8. National Round Preparation (August)
9. International Round Preparation (September-October)
10. Competition Wrap-Up and Reflection (November)

1. Introduction to Robotics and the WRO Competition

When? → **January**

- Explain the basics of robotics and its applications.
- Introduce the WRO competition and its categories.
- Discuss the Future Innovator category and its objectives.

2. Team Formation and Project Ideation

When? → **January - February**

- Facilitate the formation of teams with 2-3 members each.
- Discuss the importance of teamwork and collaboration.
- Brainstorm project ideas that align with the competition theme.
- Encourage students to research and present their ideas to the class.

3. Research and Planning

When? → **February - March**

- Assist teams in conducting in-depth research on their chosen project idea.
- Guide them in developing a detailed project plan, including timelines and milestones.
- Teach them how to break down complex tasks into manageable parts.

4. Design and Prototyping

When? → **March - April**

- Teach the principles of robot design and engineering.
- Introduce programming concepts and languages suitable for the competition.
- Guide teams in designing their robot's structure, mechanisms, and components.
- Encourage prototyping and iterative improvements.

5. Programming and Testing

When? → **April - May**

- Provide training on programming techniques specific to robotics.
- Teach students how to use programming tools and software.
- Assist teams in coding and debugging their robot's behavior.
- Encourage frequent testing and debugging sessions to refine performance.

6. Documentation and Presentation

When? → **May - June**

- Emphasize the importance of clear documentation and record-keeping.
- Guide teams in creating a detailed engineering notebook.
- Teach effective presentation skills and public speaking.
- Conduct mock presentations to improve their communication abilities.

7. Finalize and Refine

When? → **July**

- Help teams review and refine their projects based on feedback.
- Provide guidance on troubleshooting and optimizing the robot.
- Conduct practice sessions to improve presentations.

8. National Round Participation

When? → **August - September**

- Familiarization with national round rules.
- Continue conduct mock presentation.
- Help teams in refining their presentation
- Participate in the national round

9. International Round Preparation

When? → **September - November**

- If any team qualifies for the international round, provide additional support.
- Discuss the international competition's rules and expectations.
- Assist teams in refining their presentations and addressing any weaknesses.
- Participate in the international round

10. Competition Wrap-Up and Reflection

When? → **December**

- Celebrate the achievements of all participating teams.
- Encourage teams to reflect on their experiences and lessons learned.
- Provide feedback and suggestions for further improvement.

Final Remark

- Integrate documentation (**point 6**) throughout the development (**point 3, 4, and 5**) to ensure comprehensive records at each stage.
- Adapt plan accordingly for unforeseen challenges

Acknowledgement

This document has been generated with the help of ChatGPT, an AI language model developed by OpenAI.

Model: **ChatGPT 3.5**

Prompt Used

Setting

You are a robotics teacher for grades 10-12 in high school.

#Context

Your goal is to prepare students for the WRO robotics competition in the Future Innovator category. The competition rules are released in January, with the national round taking place in August and the international round in November.

Command

You need to create a year-long training program that covers idea initiation, development, testing, and competition preparation. I can assist you in creating a comprehensive course and lesson plan to achieve these objectives.

Change Logs

Date	Contents	Authors
May 26, 2023	Document created	Morokot Sakal

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