

Organisers



Southeast Asian
Ministers of Education
Organization



MEXT

MINISTRY OF EDUCATION,
CULTURE, SPORTS,
SCIENCE AND TECHNOLOGY-JAPAN

In partnership with



2024 SEAMEO-Japan ESD Award

Theme: Promoting Lifelong STEM Learning through Community Engagement

SUBMISSION FORM

PART I: DETAILS OF YOUR SCHOOL

1. Name of your school: **SMA UNGGULAN CT ARSA FOUNDATIO SUKOHARJO**
2. Full address: **Jenderal Sudirman Street, Bendosari, Sukoharjo, Central Java**
3. Postcode: **57521**
4. Country: **Indonesia**
5. School's telephone number: **+62 271 5992206**
6. School's Email Address sma.ctf.skh@gmail.com
7. School website: <https://www.smauctarsaskh.sch.id>
8. Approximate number of teachers participated in this programme: **10 teachers**
9. Approximate number of students participated in this programme **240 students**

PART II: INFORMATION ABOUT THE SCHOOL'S PROGRAMME

1. Title of the school's programme

STEM ARSA MENDUNIA (STEM ARSA GOES WORLDWIDE)

2. Summary of the programme

STEM-based learning (Science, Technology, Engineering, and Mathematics) is not exclusively owned by science and mathematics subjects. Both curricular and extracurricular, can also freely adopt STEM or STEAM (Science, Technology, Engineering, Art, and Mathematics). Integrating STEM into subjects is not only important but also has become a necessity in the world of education. This integration raises awareness of the importance of realizing the Sustainable Development Goals (SDGs) for a better, cleaner, and more responsible world. STEM learning is implemented through school programs supported by all parties, including the entire school community, stakeholders, as well as the involvement of the community and parents. The government and private sectors also play a role in helping to implement STEM in education through facilities and programs. Schools serve as a crucial platform in realizing the SDGs through the application of STEM programs both inside and outside the classroom. School programs can take the form of routine activities carried out through classroom learning, extracurricular activities, or other school events. The involvement of teachers and students is essential to achieving the goals of learning, which is to produce high-quality and competitive students.

3. Objectives/goals of the school's programme

The goals of this program is to develop students with STEM-based skills to support the continuation of their studies to higher levels of education and to provide insight into the importance of the Sustainable Development Goals (SDGs) for education and a better future.

4. Period of the time when the programme has been started

This programme runs from August 2023 until present.

5. Activities (strategies/activities of implementation, and brief information of each activity)

A. Preparation:

- Development of the school's organizational structure, establish a core team responsible for implementing STEM in the school. Ensure representation from various fields such as science, technology, mathematics, and arts.
- Integrate STEM principles into the existing curriculum. Identify subjects that can be connected to STEM and develop relevant learning materials. Compilation of STEM-based competitions

B. Implementation:

- Organize training sessions for teachers to familiarize them with STEM concepts and enable them to apply these in teaching
- Encourage teachers to create STEM-oriented projects and activities
- Conduct recruitment and selection of students who show interest and talent in STEM fields to be developed as top talents.
- Talent mentoring process and competition participation, by register students to participate in STEM competitions at the local, national, and international levels. School provides the necessary support, such as technical guidance, resources, and time for competition preparation.

C. Monitoring:

- Conduct regular evaluations of the STEM program implementation in the school then use the evaluation results to further develop the program and improve any aspects that may still need work.
- Establish partnerships with external parties such as universities, and communities to gain support and resources.

6. Teaching and learning approaches/strategies that the school has integrated into the programme

Firstly, school will conduct teacher training in STEM involves a strategic approach that begins with assessing the specific needs of educators and setting clear training objectives. A comprehensive curriculum should be developed, focusing on core STEM concepts, hands-on activities, and methods for integrating STEM across different subjects. Engaging experts and mentors can provide teachers with valuable insights and ongoing support. Interactive workshops by doing P5 Project that emphasize collaborative learning, project-based activities, and model lessons are crucial for practical understanding. At last, School will have continuous monitoring and adaptation of the training program based on feedback and new trends are essential to maintain its relevance and impact on classroom practices.

7. Engagement with the community and sharing of school practices to the community

Through competitions, the school establishes relationships with various related agencies, such as the Sukoharjo Regency Government, the Department of Transportation (Dinas Perhubungan), and the Regional Development Planning and Research Agency (BAPPERIDA). School also establishes a community of practice where teachers can share experiences, challenges, and successes in implementing STEM such as MGMP (Subject Teachers Forum).

8. Monitoring and evaluation mechanisms

- Regularly conduct evaluations on STEM through P5 Project once each semester.
- Establish partnerships with external with universities, and communities to gain support (scholarship, etc) and resources.

9. Measurable achievement of the school's programme to students, teachers, parents, and wider community

Students participation and performance in STEM competitions, the implementation of project-based learning, and the overall growth in awareness and understanding of STEM and its relevance to future careers and study continuations.

Some of the Students had achieved in STEM Competition:

1. University of Sidney with Pradita Dirgantara Science Writing Competition 2023, 2nd Winner International Level.
2. Lomba Peneliti Belia (Junior Science Project Competitions) 2023, Science Category, silver medals in National Level.
3. Lomba Peneliti Belia (Junior Science Project Competitions) 2023, Geography Category, gold medals in Province Level.
4. Lomba Peneliti Belia (Junior Science Project Competitions) 2023, Physics Category, silver and bronze medals in Province Level.
5. FUTURISME Engineering Innovation 2023, gold, silver medals in National Level.
6. KRENOVA Subosukawonosraten (Innovation & Creativity Competition) 2023 & 2024 got 1st and favorite winner.
7. Samsung Solve for Tomorrow 2024, two teams as Semifinalists (on going Competition).

10. Plan for future

- Partnerships with universities, schools and companies to support School programme
- Join more competition to gain more students to achieve

11. Interrelationship of the school's programme with other Sustainable Development Goals (SDGs) (Please refer to page 2 in the Information Note or <https://sustainabledevelopment.un.org/sdgs>)

SDGs point 4, 6, 7, 13

- The program enhances educational quality by integrating innovative teaching methods and interdisciplinary learning, equipping students with essential skills for the future (SDGs number 4).
- Through projects and activities focused on environmental issues, the STEM program helps raise awareness of climate change and encourages students to develop solutions that contribute to sustainable practices (SDGs number 6,7,13).

12. Link(s) to the information of school's programme in social media platforms such as facebook, website, youtube

- <https://www.instagram.com/smau.ctarsafsukoharjo/>
- https://youtu.be/uy60VW8mht4?si=rF8CKOZ5f6uP_fk0

13. Photos related to the activity/programme (Maximum of five (5) photos with captions in English)



STUDENT'S STEM PROJECT



PREPARING FOR COMPETITION



WINNING THE COMPETITION



STUDY CONTINUATION, STUDENTS GOES TO ABROAD UNIVERSITY SUCH AS UNIVERSITY OF TORONTO, UNIVERSITY OF SYDNEY AND WAGENINGEN UNIVERSITY