

SCIENCE DISCOVERY - INFORMAL STEM EDUCATION - MICRO-CREDENTIAL

This program helps informal STEM educators facilitate engaging hands-on learning experiences that develop STEM skills, interests and self-efficacy in settings outside of the formal classroom. In addition to STEM education training through Science Discovery, participants gain real-world teaching experience and reflect on their practice. Learners customize their development by choosing a focus area, such as student engagement or youth development.

Eligibility

- CU Boulder students (including degree-seeking and nondegree/ACCESS)
- CU Boulder employees
- Individuals trained by Science Discovery to serve as instructors and curriculum developers for informal education programs (typically CU students and employees, but also may include other community members, such as K–12 teachers).

Delivery Mode

In-person

Credit Status

Noncredit

Academic Level

- Graduate
- Undergraduate
- Professional

Time to Completion

12 hours

Fee

Yes

Requirements

- **Workshop:** Complete Science Discovery's in-person training (approximately 2 hours) for informal STEM education through summer or school & teacher programs.
- **Experience:** Complete at least 10 hours facilitating informal STEM learning experiences through Science Discovery.
- **Project:** Submit a lesson plan for an informal STEM learning experience with their notes for implementation using the PEAR DoS Planning Tool.
- **Assessment:** Submit a self-evaluation of core competencies and reflection on the lesson that they implemented and their overall development.

Criteria

Learners will prepare, implement, and reflect on their facilitation of STEM learning activities to meet the following objectives:

- **Features of the learning environment:** Cultivate an organized, structured and safe learning environment. Prepare the program space and materials are organized, accessible and appropriate for the learning experience.
- **Activity engagement:** Apply best practices such as self-directed and inquiry-based learning and hands-on activities to promote active learning. Promote equal access and participation among learners. Align activities to the STEM learning objectives.
- **STEM knowledge and practices:** Accurately present STEM material to build student understanding of STEM concepts. Create activities that allow students to explore STEM concepts in authentic ways, using scientific skills and practices.
- **Youth development in STEM:** Create space for youth voice and positive relationship building. Ensure that learning experiences are relevant by making connections between the STEM activities and their daily lives.

Skills

- Collaboration
- Communication
- Critical thinking
- Culturally relevant learning
- Experiential learning
- Hands-on learning
- Inquiry-based learning
- Lesson planning
- Organization
- Relationship building