Miami Dade College

Course Description

ISC1949 | Interdisciplinary Science Co-Op Work Experience 1 | 3.00 credits

In this Interdisciplinary Science Co-Op Work Experience 1 provides students with a comprehensive, immersive opportunity to apply scientific knowledge across multiple disciplines in professional research, technological, or industrial settings. Students will engage in hands-on work experiences that integrate principles from various scientific domains, including biology, chemistry, physics, and environmental sciences, while developing critical professional skills and expanding their understanding of interdisciplinary scientific approaches.

Course Competencies

Competency 1: The student will demonstrate proficiency in interdisciplinary scientific practices by:

1. Applying theoretical concepts from multiple scientific disciplines to real-world scenarios
2. Integrating principles from biology, chemistry, physics, and environmental sciences in problem-solving
3. Analyzing complex scientific data using interdisciplinary approaches
4. Synthesizing information from various scientific domains to develop comprehensive solutions
5. Collaborating with professionals from diverse scientific backgrounds
6. Adapting scientific methodologies to address multifaceted research questions
7. valuating the effectiveness of interdisciplinary approaches in scientific research

Competency 2: The student will develop essential professional skills in a scientific workplace by:

1. Communicating complex scientific ideas effectively to both technical and non-technical audiences
2. Managing time and resources efficiently in a professional research environment
3. Demonstrating ethical conduct and responsible behavior in scientific practices
4. Utilizing advanced scientific equipment and technologies proficiently
5. Implementing safety protocols and procedures in laboratory and field settings
6. Engaging in constructive feedback and continuous improvement processes
7. Exhibiting adaptability and resilience when facing scientific challenges
8. Demonstrating leadership skills in collaborative research projects

Competency 3: The student will enhance their understanding of scientific career pathways by:

1. Exploring various roles and responsibilities within scientific professions
2. Networking with professionals across different scientific disciplines
3. Identifying potential career opportunities in interdisciplinary scientific fields
4. Reflecting on personal strengths and areas for improvement in scientific practice
5. Developing a professional portfolio showcasing interdisciplinary scientific experiences
6. Articulating the value of interdisciplinary approaches in addressing global scientific challenges
7. Assessing the impact of emerging technologies on future scientific career landscapes
8. Formulating long-term career goals aligned with interdisciplinary scientific interests

Learning Outcomes

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning