Idaho State University | Albion Center for Professional Development

# The Art of Science: Methods for Scientific Drawing in Public Education

## Course Syllabus

### Course Description

This course will take you on a journey through the fascinating history of scientific illustration, where art and science intersect to create something truly powerful. By uncovering how these two fields have worked hand in hand over the centuries, you'll walk away with practical tools to bring cross-curricular opportunities into your teaching, making learning more dynamic, engaging, and impactful for your students.

Through carefully curated articles, videos, and case studies, you'll not only gain foundational knowledge but also develop a deeper understanding of how information is conveyed through both artistic and scientific lenses. We'll show you how art and science outside the classroom share a symbiotic relationship that can be modeled to enrich any educational program, offering new ways to spark your students' curiosity.

This course will wrap up by tackling the big question: Why does this all matter? You'll explore how integrating art and science can help students become more culturally aware and prepare them to positively impact the world—building a future where biodiversity thrives and equity is the standard.

Join us and discover how the power of scientific illustration can not only captivate but also educate, setting your students up for success in today's rapidly changing world.

### Course Objectives

At the end of this course you should be able to:

1. Analyze the ways in which the visual arts have contributed to scientific communication and evaluate how science has inspired visual artists, identifying key examples that demonstrate this relationship.
2. Identify techniques used by artists to make scientific concepts visually accessible to scientists and the public, discussing how these visuals contribute to public understanding of science.
3. Recognize key goals for scientific illustration in botany and entomology, and describe their role in enhancing public engagement and learning within these fields.
4. Identify goals for scientific illustration in ornithology and ichthyology, and explain how these visuals can enrich understanding in these disciplines.
5. Explain goals for scientific illustration in representing Earth's geological history, fossil records, and weather patterns, and describe how these visuals function as educational tools.

6. Describe how scientific illustrations are used in astronomy and microscopy to simplify complex concepts and support public learning.
7. Identify features of scientific illustrations in human anatomy and explain how they support understanding in both scientific and artistic contexts.
8. Utilize scientific illustrations to raise awareness of biodiversity, global warming, and equity in science, designing activities that promote diversity and inclusivity in the scientific community.

## Modules

- Module 1: Art and Science: A Symbiotic Relationship, Quiz 1
- Module 2: Techniques for Scientific Drawing: The connection between seeing and making, Quiz 2
- Module 3: Scientific Illustration of Plants and Bugs: The biological Sciences of Botany and Entomology, Quiz 3
- Module 4: Scientific Illustration of Birds and Fish: The Biological Sciences of Ornithology and Ichthyology, Quiz 4
- Module 5: Scientific Illustration of the Earth and Sky: The Earth Sciences of Geology, Paleontology, and Meteorology, Quiz 5
- Module 6: Scientific Illustration of the Very Big and the Very Small: The Sciences of Astronomy and Microscopy, Quiz 6
- Module 7: The Scientific Illustration of Anatomy: The Biological Science of Anatomy, Quiz 7
- Module 8: Art and Science: A Continuing Symbiosis, Quiz 8

## Grading:

Each quiz must be passed at an 80% or higher (three attempts allowed).

## Format

This is a self-paced, asynchronous (no required live meetings) course. Throughout the PD course, you will find it helpful to take notes along the way to assist with the quizzes. Within each module, you will find reflection assessments that are not graded but will help in your journey through the course.