



Science Communication Online Programme

SCOPE is divided into 8 modules. Each module was designed by a science-communication expert with input from a team of online-learning professionals. Each module contains videos recorded by a professional actor and science communication trainer, working from a script written by an expert in that field. The modules were developed and designed for graduate students in all STEM disciplines, regardless of location, to help them prepare for thesis defense, conference talks, poster sessions, working with the media, public outreach events, etc. Students are actively engaged throughout the modules, not just sitting and watching. There are videos to watch, writing exercises to upload, and peer-feedback to provide. Throughout the course, students will build a community of cohort participants from a variety of fields and demographics. The details of each module and its developer is below:

Introductions – Jonathan Diehl with Sadie Witkowski, Project Coordinator and Team Leader

This module introduces the course and the technical details needed to upload written work, slides, and video recordings. It sets parameters for establishing a sense of community among participants and provides guidelines for engaging in peer feedback.

Audience Awareness and Analysis - Kevin Grazier

All communication must begin with the audience. Writers and orators need to know to take a different approach depending upon who that audience is and what they already know about the topic. Students will learn the power of emotion and stories to impart information and aid retention. They'll learn to do a quick audience assessment to determine if storytelling is appropriate and, if so, what duration and what level.

Speaking and Writing Without Jargon - Mónica Feliú-Mójer

The vocabulary utilized when talking with collaborators and peers is not appropriate for all audiences. Thoughtful analysis is needed to avoid leaving a large percentage of the audience unable to grasp the message. Participants will be able to describe what jargon is, identify it in their own communications, and find alternative words, phrases or expressions to explain the same concepts in simpler and more accessible ways. Students will use metaphors and analogies, narrative and stories, and imagery to avoid jargon and connect effectively with their audiences.

From the Lab to the Layperson - Jenny Cutraro

Not only is it important to identify and connect with your audience, it is important to understand the various writing styles that are important in science, from constructing abstracts and writing journal articles to press releases and news stories. Students will learn to evaluate what makes a scientific finding newsworthy and how the research results find their way from the lab to the general public.

Taking a Rhetorical Approach - *Barbara Shwom*

Having a clear message, establishing credibility, building a logical argument, and employing emotion when appropriate are all essential in learning to speak and write persuasively. In this module students will create a rhetorical strategy for communicating their own research, integrating techniques such as establishing credibility and building a logical argument.

Scientific Storytelling - *Paula Croxson (The Story Collider)*

People connect with stories. In this module students learn to identify the basic elements that make up a story, looking for examples of successful and unsuccessful strategies. They will develop individual story elements and learn to incorporate storytelling into writing and talks for a scientific audience.

Communicating Visually - *Janet Iwasa, Shraddha Nayak, and Grace Hsu*

Complex research requires the use of visuals to convey information. This module will introduce the effective use of visuals for posters and slide design, including the basics of graphic design. Students will learn when and why to use visualizations, the types of visualizations used to communicate scientific research, including model and data figures.

Skillful Presentations and Stage Presence - *Carolyn Hall*

No matter how well written the script or outline for a presentation, preparation is key. This module will introduce tricks of the trade from theatre, to build confidence and relax before giving a talk. Students will evaluate what makes a scientific talk memorable, regarding both content and presence. They'll discover ways to overcome a "mistake" and build confidence in their expertise. Students analyze different angles from which to approach talking about their science with specific goals in mind.

Students who actively participate in all course modules and complete all challenges and assignments will:

- increase their confidence and comfort in speaking about their research to people outside of their area of expertise.
- improve their ability to utilize visuals effectively to convey their message.
- learn to employ a variety of techniques to speak and write persuasively.
- develop their ability to adapt writing styles and content in an effort to improve communications with different audiences.
- earn a micro-badge in Science Communication to add to their LinkedIn profile.

To participate in SCOPE, complete the registration link on our information page:

<https://ciera.northwestern.edu/programs/scope/>

Questions? Send them to SCOPE@northwestern.edu



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