

Course Title: Science Communication: Advanced
Credits: 2

Course Objectives:

- To familiarize students with various public engagement/outreach activities.
- To train students to use different tools and techniques for communicating science to different stakeholders.
- To help students practice science communication in the digital age.
- To train students how to tell dynamic and engaging stories about science.

Unit 1: Effective Science Communication

- Public engagement/outreach/participation
- Accessing primary information
- Talking about science
- Interviewing scientists
- Reading research papers
- Simplification and dejargonisation
- Popular science writing (press releases, news stories and articles)
- Preparing radio and TV programmes
- Visualisation and infographics

Unit 2: Science Communication in Digital Age

- Digital media, AI and science communication
- Citizen science and its impact on research.
- Online science communication and social media
- Influencers and public perceptions of science.
- Viral science, misinformation and disinformation
- Fake news and infodemic
- Writing science for web
- Communicating science during crisis (e.g., pandemics, risk, uncertainty)
- Ethical issues in science communication

Unit-III: Telling Dynamic and Engaging Stories

- Importance of showing science in action
- Connecting with the audience
- Using engaging narratives and storytelling
- Elements of a dynamic science story
- Humanizing science with anecdotes
- Journey of discovery and scientific enquiry

Suggested Readings:

- Blum, D., Knudson, M., & Henig, R. M. (Eds.). (2006). A field guide for science writers: The official guide of the National Association of Science Writers. Oxford University Press.
- Bucchi, M. & Trench, B. (Eds.). (2014). *Routledge handbook of public communication of science and technology* (2nd Ed.). New York, NY: Routledge.
- Cairo, A. (2013). The functional art: An introduction to information graphics and visualization. New Riders.

- Hanganu-Bresch, C. et al. (2022), The Routledge Handbook of Scientific Communication, Routledge.
- Hayes, R., & Scott, P. (2013). Communicating science: A practical guide for engineers and physical scientists. CRC Press.
- Holliman, R. et al. (2009), Practising Science Communication in the Information Age, Oxford University Press.
- Jamieson, K. H., Kahan, D., & Scheufele, D. A. (Eds.). (2017). *The Oxford handbook of the science of science communication*. Oxford University Press.
- National Academies of Sciences, Engineering, and Medicine. (2017). *Communicating science effectively: A research agenda*. The National Academies Press: Washington, DC.
- Olson, R. (2009). Don't be such a scientist: Talking substance in an age of style. Island Press.
- Patairiya, M. (2007), Vigyan Patrakarita (Hindi), Vani Prakashan.
- Rajput, A.S.D. (2018), Handbook of Science Journalism, Vigyan Prasar.
- Russell, N. (2010). Communicating science: Professional, popular, literary. Cambridge University Press.
- Wilson, A. (1998), Handbook of Science Communication, Routledge.