

# Science Communication Course

## Elective in the UNU-IAS Masters in Sustainability

### 23 October to 7 November 2019

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**Rationale for the Course:** Science communication covers a spectrum of concerns from the factual dissemination of scientific research to new models of public engagement. This course is designed for graduate students (natural and social scientists) who are concerned about how best to effectively transmit their scientific knowledge and research outcomes.

The course adopts the 4P approach developed at MIT Media Lab – Play, Passion, Peers, and Projects. It offers students the opportunity to play games that will help them reflect upon why it is important to creatively communicate scientific knowledge. Students will also learn how it is possible to talk passionately about their research in comprehensible ways (without dumbing down).

Students are encouraged to participate in peer collaborations and projects designed to enhance their competencies and will experiment with the design of media communication strategies that frame their research concerns to resonate with their target audiences. The course provides valuable insights (drawn from practical/professional experience) on the representation, framing and expression of research across a range of media within different cultural contexts. We will examine the ways in which worldviews, beliefs and practices are represented (and at times ignored) when communicating research outcomes.

#### Learning Outcomes

At the end of this course students will be able to:

- Link worldviews, beliefs and practices to such underlying discourses on environment and nature.
- Analyse a representation of the environment in terms of underlying worldviews, beliefs and practices.
- Use contemporary media strategies to promote a representation of the environment and/or nature.
- Demonstrate how cultural forms are used for social and political ends in relation to environmental issues.
- Describe how cultural dialogues on the environment can lead to change in environmental sustainability.
- Describe and apply strategies for effective media engagement in the communication of environmental social and political action.
- Develop a sophisticated understanding of the role of communication in science.
- Constructively and critically analyse popular science communication in a variety of real-world settings.

### **Competences**

- Students will learn to speak clearly and vividly about their science and why it matters, in terms non-scientists can understand.
- Students will develop the ability to communicate their science for a public audience without “dumbing down” their message.

### **Course Requirements**

The course will comprise 6 days of lectures and activities over three weeks. Students are required to attend and participate actively in the classes.

Assignments will involve reading, listening to or viewing relevant sources before class, strategy development and presentations. It is crucial that pre-class assignments/readings are completed, as this will be essential for effective participation in the relevant class discussions.

This is a communications intensive course. The emphasis is on being able to argue, inform, persuade, explain, convince, and so on.

### **Assignments and Assessment**

Assignments	Percentages	Breakdown
Attendance at and active participation in class	20%	1% for each lecture and for the completion of five worksheets.
Pecha-Kucha Presentation: Assessed speaking assignments and presentations	20%	Joint presentation by the students in pairs.
Research Interviews	20%	Video recorded student interviews
Media strategy development and group presentation.	40%	Preparation for and participation in discussions. Video recorded group presentations

### Details of Assignments

Assignment		Weighting
1:	Participation and Engagement – Assessed through-out the course and requires completion of worksheets. It is important that you understand why we place emphasis participation and engagement. Participation focuses on your involvement with whole-of-class and group activities. Your work in discussions with the class and in groups allows your course coordinator to witness your approach to participation; the extent to which you suggest ideas, listen, support your colleagues and contribute.	20%
2:	Pecha-kucha Presentation - Students will prepare and present a Pecha-Kucha presentation (20 slides, 20 seconds each slide). For best results and marks, it is highly recommended that students prepare and rehearse. The goal is to resonate with the audience (other students) and to grab their attention, using various devices such as metaphors, pacing, stories and references that connect.	20% The following criteria will be applied to assess each presentation: (1) Is the idea supported by research/evidence? (2) Does the presentation impart new insights/knowledge? (3) Are the presenters clear, engaging and easy to understand? (4) Do the

		visuals enhance the presentation? (5) Did the presenters successfully use devices to represent/reframe the issue?
4:	Student interviews – You will work in pairs to conduct 5 minute interviews about your individual research topics. These interviews will be recorded, and with your permission upload to the UNU-IAS YouTube Channel.	20%
3:	Media Strategy and Group Presentation Development of a Media/Communications Strategy around an environmental issue and related research. Group presentation of the media strategy (15 minutes for each group). The presentations will be video recorded.	40% <i>Breaks down as follows;</i> 6% research 6% background/context 6% target audience 6% evidenced discussion 6% visual design

### Developing a Media Communications Strategy

This assignment provides an opportunity for students to apply key ideas from this course in a professional context. Students will work in groups based on a common environmental interest. The purpose is multifold. Students are expected to consider a range of concerns that have emerged, or been discussed, in the course. How is an issue framed, both tacitly and intentionally? How do we manage and create that framing? How are decisions made about what to communicate using what metaphors, images or media? Students are expected to draw on ideas from the course and their wider reading to build a case for the decisions their group makes.

The assumption is that the group has been asked by a client (government agency, local council, environmental NGO, business) to develop a proposal for a communications/media strategy related to a key environmental issue. An example of a UNU project developed for the Japanese Ministry of Environment for a video documentary about the Fukushima nuclear accident will be shared. Here are some options to consider:

- A strategy for raising the media profile of an environmental/sustainability issue.
- Engage with an agency to identify and investigate their media needs (generally or on a specific issue/campaign).

- Engage with a media advertising agency to promote and environmental cause or to raise awareness of a particular product.
- Develop a campaign to raise awareness of the corporate social responsibilities related to the environment of a trans-national corporation.
- Evaluate and design a media strategy/campaign for a political organisation or party.
- Evaluate and design a media strategy/campaign for a specific current issue.
- Develop and design a media strategy for community engagement in a particular region or with a particular demographic.

Students are required to consider (but are not limited to) the needs of a client, the likely target audience, the objective of the message/communication, their professional views and expertise, as individuals and as a team. In addition to all these students should consider demographic factors in the community(s) – how to reach them, why that way, and how do you determine this? All of this must be done using verified evidence to underpin choices and considerations. How do you go about investigating what is the best medium or message for an environmental or sustainability concern?

The output for assignment will be a proposal for a media communications strategy to the client. This is essentially a 15-minute presentation designed to get groups to clarify their objective(s) and processes, and the evidence base they are drawing on.

### Course Schedule

<b>Week 1: October 23 (Wednesday)</b>	<b>October 24 (Thursday)</b>
9.30-11.00 Lecture: Course Introduction: Why be a Science Communicator?	9.30-11.00 Lecture: Resonate with Your Audience
11.00-12.30 Activity: Thing from the Future Game	11.00-12.30 Activity: More than Research Game
14.00-15.30 Lecture: Understanding Issue Representation and Framing	14.00-15.30 Peer collaboration: Students work in pairs to prepare their Pecha-Kucha Presentations – 20 slides x 20 Seconds
<b>Week 2: November 6 (Wed)</b>	<b>November 7 (Thursday)</b>
9.30-11.00 Student Pecha-Kucha Presentations	9.30-10.45 Lecture: Seeing is believing – Harnessing the power of visual messaging

11.00.12.30 Lecture: Scientists Need Artists - Leveraging Design in Your Work	11.00.12.30 Students interviews – video recorded
14.00.15.30 Peer Collaboration: Students prepare for interviews	14.00-15.30 Students interviews – video recorded
<b>Week 3: November 13 (Wednesday)</b>	<b>November 14 (Thursday)</b>
09.30.11.00 Lecture: Development of a media campaign	9.30-11.00 Lecture: On The Record: Communicating with the Media (presentation from a journalist)
11.00.12.30 Peer collaboration: Students Work on a Media Strategy – Presentation	11.00.12.30 Students present Media Strategy – video recorded
14.00-15.30 Peer collaboration: Students Work on a Media Strategy – Presentation	14.00-15.30 Students present Media Strategy – video recorded Wrap-up/Feedback

### Required Readings

Webb, J. 2009, Understanding representation, Sage: London. Introduction: the terms of representation pp 1-18.

Lakoff, G. 2004, Framing 101: How to Take Back Public Discourse, excerpt from Don't think of an Elephant: Know your values and frame the debate, published by Chelsea Green, Vermont, USA.

Baron, N. (2010) Escape from the Ivory Tower – A guide to making your science matter, Island Press, Washington.

Duarte, N. (2010) Resonate: Present Visual Stories That Transform Audience, John Wiley and Sons.

Duarte, N. (2008) Slide:ology: The Art and Science of Creating Great Presentations, O'Reilly Media.

Olson, R. (2009) Don't be such a Scientist – Talking substance in an age of style, Island Press, Washington.



Reynolds, G. (2011) Presentation Zen: Simple Ideas on Presentation Design and Delivery, New Riders.