UNU-IAS, RMIT Science Communication Course

Elective in the Masters in Sustainability

Date: 30 October - 9 November 2017

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Rationale for the Course:

Science communication is a contentious topic that covers a spectrum of issues from factual dissemination of scientific research to new models of public engagement.

We live in a time when public understanding of complex problems is of unprecedented value for our individual and collective welfare. But we also recognize that the proportion of decisions made - by individuals and by society - based on the effective use of scientific information is shockingly small.

The evidence for this conclusion is reflected in the awful decisions people make, and consequences they suffer as a result, in their personal health, welfare, environment and finances.

It is reflected in the failure of governmental institutions to utilize the best available scientific evidence that bears on societal safety, security, and prosperity. It is also reflected in the inability of citizens and their political representatives to even agree on what that evidence is or what it signifies for the policy tradeoffs acting on it necessarily entails.

This course is designed for graduate students (natural and social scientists) who are concerned about how best to effective transmit their scientific knowledge and research outputs to their target audience, however defined – policy-makers, journalists, the public.

The course provides an overview of the representation, framing and expression of environmental concerns across a range of media within different global contexts. We will examine ways in which worldviews, beliefs and practices are manifested in public policy, legislative responses and the practical solutions pursued. Applying insights gained during this course, we will experiment with the development of media strategies designed to frame and represent environmental concerns and to influence target audiences.

We will consider how it is possible to avoid speaking in technical jargon when addressing the public or about how we can communicate complex research outcomes in comprehensible ways. We will also reflect upon how to make presentations that resonate with our audience

rather than slides that look like a cut and paste from a journal article or dissertation with walls of text.

This course offers student/researchers the opportunity to reflect on why it is important to communicate scientific knowledge, to gain awareness on the best ways to achieve this and to understand the issues and ethical dilemmas that define the process of science communication in relation to the media.

This course seeks to develop student abilities to communicate their science effectively in a variety of real-world contexts. It covers strategies for dealing with complex research topics, and addresses challenges in communicating about topics such as climate change, urban biodiversity, energy security, and so on.

The assignments in this course build competencies focusing on speaking, presenting and writing, understanding the use of social media and the importance of the web as a communications platform.

Learning Outcomes

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

- Describe several discourses on environment and nature that are currently in global circulation.
- 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 environment/or nature.
- Demonstrate how cultural forms are used for social and political ends in relation to environmental issues.
- Describe how cultural dialogues of 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

- You will learn to speak clearly and vividly about your work and why it matters, in terms non-scientists can understand.

- You will develop your ability to write about science for a public audience without "dumbing down" your material.
- You will learn how to use blogs, Twitter and other forms of social media for two-way communication with different segments of the public. Includes hands-on instruction, tailored to your experience.
- You will practice communicating with key audiences, such as fellow scientists, journalists and public officials.

Course Requirements

The course will comprise 8 days of lectures and activities over two weeks. You are required to attend and participate actively in the classes.

Assignments will involve reading, listening to or viewing relevant sources before class, written composition, strategy development and presenting. It is crucial that you complete pre-class assignments, as this will be essential for effective participation in the relevant class discussions.

This is a communications intensive course. Given how important revision is to composition, many assignments will be revised. The emphasis is on writing: the writing process, from pre-writing through drafting, revising, and editing; and the rhetorical dimensions of writing: the audience for whom one is writing, and the purpose for which one is writing—to argue, inform, persuade, explain, convince, and so on.

Assignments and Assessment

Assignments	Percentages	Breakdown
Attendance at and active participation in class	15%	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.
Assessed writing assignment	25%	Article for The Conversation.
Media strategy development	30%	Preparation for and participation in discussions.
Presentation of the media strategy	10%	Video recorded group presentation.

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	15%

	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.	
2:	Presentation - Students will prepare and present in pairs a Pecha-Kucha presentation (20 slides, 20 seconds each slide - approximately 7 minutes). For best results and marks, it is highly recommended that you 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. 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?	20%
3:	Article for The Conversation - Written assignment of approximately 800 words. A detailed assignment handout will be provided. In case you are unfamiliar with The Conversation, it is an independent source of news and views, sourced from the academic and research community and delivered direct to the public. It reaches, on average, around 3 million readers each month and provides an excellent opportunity for academics to share their research outcomes and to inform public debate around the issues of today	25% *Breaks down as follows:* *6% research* *6% issue identification* *6% analysis* *7% structure and writing*
4:	Media Strategy Development of a Media/Communications Strategy around an environmental issue and related research. For more information see below	*30%* *Breaks down as follows;* *6% research* *6% background/context* *6% target audience* *6% evidenced discussion* *6% visual design*
5:	Group presentation of the media strategy (15 minutes for each group). The presentations will be video recorded.	10%

Developing a Media Communications Strategy

This assignment provides an opportunity for you to apply key ideas from this course in a professional context. You will work in groups of 4 based on a common environmental interest. The purpose is multifold. You 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? You are expected to draw on ideas from the course and your wider reading to build a case for the decisions your group makes.

The assumption is that you have 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. You will be provided with an example a UNU project developed for the Japanese Ministry of Environment for a video documentary about the Fukushima nuclear accident. Here are some options to consider:

- A strategy for raising the media profile of an environmental/sustainability issue of your choice.
- 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.

You are required to consider (but are not limited to) the needs of a client, the likely target audience you seek to engage, the objective of the message/communication, your professional views and expertise, as individuals and as a team. In addition to all these you should consider demographic factors in the community(s) you wish to engage – how to reach them, why that way, and how do you determine this? All of this must be done using verified evidence to underpin your 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 Powerpoint presentation designed to get groups to clarify their objective(s) and processes, and the evidence base they are drawing on.

Course Schedule

October 30 (Mon)	October 31 (Tuesday)	November 1 (Wed)	November 2 (Thurs)	November 3 (Friday)
9.30-11.00 Lecture 1: Course Introduction: How you Represent the Environment in Research and Communication	9.30-11.00 Lecture 4: Resonate with your audience	9.30-11.00 Lecture 5: Scientists Need Artists - Leveraging Design in Your Work	9.30-11.00 Student Presentations,	No Class
11.00.12.30 Lecture 2: Using the Web & Social Media to Share Your Research and Connect with Your Audience	11.00.12.30 Students work in pairs to prepare their Pecha-Kucha Presentations – 20 slides x 20 Seconds	11.00.12.30 Group work: Students work in pairs to prepare their Pecha-Kucha Presentations – 20 slides x 20 Seconds	11.00.12.30 Lecture 6: Writing Effectively about your Sustainability Issue	
14.00-15.30 Lecture 3: Introduction to Representation and Framing	14.00-15.30 Students work in pairs to prepare their Pecha-Kucha Presentations – 20 slides x 20 Seconds	14.00.15.30 Group work: Students rehearse their Pecha-Kucha Presentations – 20 slides x 20 Seconds	14.00.15.30 Group Work: Students begin drafting their articles for The Conversation/Our World.	
November 6 (Mon)	November 7 (Tues)	November 8 (Wed)	November 9 (Thurs)	November 10 (Friday)
9.30-11.00 Lecture 7: On The Record: Communicating with the Media. Video conference/Skype with editor from The Conversation	9.30-11.00 Lecture 9: Development of a media campaign	9.30-11.00 Group Work: Students Work on a Media Strategy – Presentation.	9.30-11.00 Lecture 10: Seeing is believing – Harnessing the power of Audio-visual messaging	No class
11.00.12.30 Reviewing student articles	11.00.12.30 Group Work: Students Work on a Media Strategy – Presentation	11.00.12.30 Group Work: Students Work on a Media Strategy – Presentation.	11.00.12.30 Students present Media Strategy – video recorded	
14.00-15.30 Lecture 8: Representations, Politics and Change – Practical example of the Clean Up Fukushima Project	14.00-15.30 Group Work: Students Work on a Media Strategy – Presentation	14.00-15.30 Group Work: Students Work on a Media Strategy – Presentation.	14.00-15.30 Students present Media Strategy – video recorded Wrap-up/Feedback	

Required Readings Before Course

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.

Shove, E. 2010, Beyond the ABC: climate change policy theories of social change, Environment and Planning A, 42, pp 1272-1285.

Coffey, B. 2015, Unpacking the politics of natural capital and economic metaphors in environmental policy discourse, Environmental Politics,

Final Chapter from Marshall, G. 2014, Don't Even Think About It - Why Our Brains are Wired to Ignore Climate Change, Bloomsbury.

Additional Readings

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

Bennett, D.J. and Jennings, R.C. (eds) (2011) Successful Science Communication – Telling it like it is, Cambridge University Press, Cambridge.

Bowater, L. and Yeoman, K. (eds) (2013) Science Communication – A Practical Guide for Scientists, Wiley-Blackwell, Oxford.

Bubela, T. et. al. (2009) Science Communication Reconsidered, Nature Biotechnology, Vol. 27, No.6., pp.54-518.

Donovan, J. (2012) How to Deliver a TED Talk – Secrets of the World's Most Inspiring Presentations.

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.