UTSC Department of Physical and Environmental Sciences

PSCD-11H3 Communicating Science: Film, Media, Journalism, and Society

2021 Outline

Course Instructor: Roberto Verdecchia
Office: Bb Collaborate
Office hours: Thurs 4:00 to 6:00
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Lecture time: Thursday 7pm to 9pm
Location: Online synchronous

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Overview

The realities behind the making of science documentaries and journalism.

Course Description

When it comes to science, the medias play a key role in the global transfer of information. Potentially they are a vital bridge, mediating the gap between scientists and non-scientists, and enhancing the understanding of pressing environmental, social, and ethical questions. But the perennial problems of communication between specialists and the rest of us are complicated in our times by a highly polarized climate of scepticism towards institutions, perceived elites, and “fake news”.

How can an understanding of complex issues in science be successfully communicated to a wider audience? How can we recognize “bad science” even when it is being communicated brilliantly? How can we help others to do the same?

These are just a few of the related challenges, all of which have important implications for the well being of our society. Finding answers to these questions is both more vital and more difficult than ever.

This course will use traditional (print, radio, film, TV) and new media (including blogs, Instagram and Twitter) to explore the role of science and scientists in society, and the role of the medias in conveying issues. Students will have opportunities to engage with filmmakers, TV and radio producers, journalists, bloggers, and academics in order to understand their approaches, choices, and the real-world forces and constraints within which they work.

Instructor
Lecturer Roberto Verdecchia is an award-winning director and writer of television documentaries. He has been an independent producer for many years and has a long-running history with CBC's The Nature of Things, having started his career there over 25 years ago. He will be joined by occasional guests involved in the making of the works being explored.

Objectives
In this course, students will explore practical and theoretical issues around the role the various medias play in communicating developments in the sciences, and their implications in our daily lives. Our interest is learning how to communicate science more effectively, but also how to recognize "bad science," no matter how enticing the packaging.

My specific objective in this course is to provide you with a look "back stage" at the challenges and choices involved in the production of science journalism for a general audience. This simple objective raises many questions, not least among them: what are the influences at play in the making of a science, nature, or environmental documentary? What about a vlog or radio broadcast? How are complex situations distilled into narratives for a visual medium like film, short articles for your mobile, or memes for Instagram? What is lost or gained in the quest to both tell the truth and tell a good story? How are decisions made in the contest between accuracy and simplifying? Given limited broadcast hours and the demand for ratings, how do broadcasters decide what subjects get covered?

Each session of Communicating Science will focus on a particular theme (nature, medicine, mathematics, etc.) or particular medium. During that class we will deconstruct a specific documentary film, program, website, etc. in order to illustrate and explore the topic. In each session, the question asked will be how scientific information has been 'pictured' for that media. Specific excerpts or programs will be screened during class to illustrate issues and demonstrate editorial decisions.

Learning Outcomes
Upon completion of this course, you will be better able to:
- understand the relationships between scientific and mass media communications
- explain and better analyse the role of media in communicating science
- understand the differences in how science is communicated through various media, i.e., documentary films, news, peer reviewed publications, popular science magazines, science blogs, etc.
- develop and articulate a scientific idea in documentary form
- develop a critical appreciation of the role of media (particularly documentaries) in science communication

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MARKING SCHEME

In addition to class participation (which includes in-class discussion of our chosen film/media for that week as well as assigned postings to our Discussion board), students will be asked to complete two written assignments, give a short group presentation, and write a final exam.

Assignment 1 (Due February 11 at the start of class) – 25%
An analysis and critique of a science documentary focusing on:
-the variety of ways that science is incorporated into the film.
-the elements of the storytelling that affect, enhance and hinder the strength of the science behind the subject matter.
-the influence of the film's style, characters, and scenes as they impact the effectiveness of the science.
Your paper should be 6-8 pages (1500-2000 words), double-spaced, excluding title page, reference list, etc. and must be submitted through Turnitin

Assignment 2 (Due March 18 at the start of class) – 25%
Students will be asked to produce a thoughtful and credible proposal for their own science film on a subject of their choosing.
-They will be asked to write up a formal treatment of 6-8 pages (1500-2000 words, double-spaced, excluding title page, reference list, etc.) for a film that they might theoretically propose to a broadcaster.
-This must include clear explanations of subject matter, theme, thesis, explication of how the story will unfold (i.e. key scenes and how they interconnect), scientific groundwork for the story, methods of illustrating the story, elements of film-making employed, scientific experts if any, scenes, characters, locations, graphics, and other didactic elements, with an eye to addressing the demand for both entertainment and engagement value, and scientific integrity.
-The purpose of the "pitch" is to sell a project. That takes a good telling of a good story, it takes creativity and an eye for what your buyer (the broadcaster) needs for a

compelling, entertaining and understandable presentation of the science, in a form suitable for their audience.
- This assignment must be submitted through Turnitin

Assignment 3 - In-Class Group Presentation (Apr 1 and Apr 9) – 10%
- students will work in groups of three and be asked to explain a scientific theme or issue at three different levels of complexity: for a 7-8 year old, for a high school student, and then for a university peer.
- the *entire* group presentation should take about 5 minutes
- the group will receive a mark for the presentation as a whole, based on the clarity and creativity expressed for each appropriate level, including the use of analogies and other devices as discussed throughout the course
- presentations will take place over the course of two weeks

Grade Distribution Summary (percentage of total)	
Assignments (2 @ 25% each)	50
In-class presentation	10
Participation (includes discussion, posting, attendance)	20
Final Exam	20
Total Grade Possible	100

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LECTURE SCHEDULE

Subject to change, especially depending on guest availability.

Week 1: Thursday January 14
Topic: Communicating Science
Objectives: understanding the course and its basic goal: the real-world factors that shape how science is communicated to a wider audience.
Screening: *Bees, LHC, Genetic Revolution, Feynman and others.*

Week 2: January 21
Topic: Learning to Look at Science Films
Objective: Understanding the elements that go into visually translating and communicating scientific ideas.
Screening: *The Code*

Week 3: January 28
* *Introduction of Assignment 1*
Topic: How do you make a movie? The Nature film.
Objective: Analysing documentary tropes.
Screening: *Mommy Wildest*

Week 4: Feb 4
Topic: Accuracy and Entertainment
Objectives: Learning to analyse (cont.). Appreciating the balance between content and entertainment.
Screening: *The Great Wild Indoors*

Week 5: February 11
Assignment 1 due at the start of class
Topic: Crafting science communication.
Objectives: Turning ideas into stories.
Screening: Kids vs Screens

> Reading Week: February 18 <

Week 6: February 25
Topic: Bad Science / Scientists vs the Media
Objectives: Examining problems in the science-media relationship, and within the institutions of science
Guest: director to discuss making of 'Kids vs Screens'; tbc

Week 7: Mar 4
Topic: Science as News
Objectives: To explore the particular demands of reporting on scientific discoveries, especially in print/web form.
Guest: journalist Wendy Glauser (tbc)
Screening: *Wired* videos: Explaining ___ in Different Ways

Week 8: March 11
Topic: Science Writing
Objectives: To learn how to craft a good story in written form. Analysing science news
Guest: tbd

Week 9: March 18
Assignment 2 due at the start of class
Topic: In Your Ear – Radio and Podcasts
Objectives: Appreciating the advantages and challenges of science communication in audio form
Guest: tbd

Week 10: March 25
Topic: Science? Like!
Objective: Investigating the impact of social media on how science is communicated and absorbed.
Guest: tbc

Week 11: Apr 1
**** In-class presentations of Assignment 3, part 1/2***
First instalment of the in-class presentations for Assignment 3.

Week 12: April 8
**** In-class presentations of Assignment 3, part 2/2***
Topic: Documentary as Activism – the environmental film
Objectives: Analysing the persuasive approach: films that want to change the world
Screening: Ice on Fire (excerpts)

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Assignments

Your first paper should be between 1500 to 2000 words (6-8 pages), double-spaced, excluding title page, reference list, and any figures or tables you wish to include. Your second paper should be between 1500 to 2000 words (6-8 pages), double-spaced excluding title page, reference list and any figures, photos, illustrations, etc. that you wish to include.

Use the APA reference format.

The use of section headings is strongly suggested.

Grading:
Evaluation of Assignment 1 takes into account quality of the writing, organization and structure, as well as research and content. You will be graded on the quality of your work and your ability to meet the desired learning targets. The marking scheme will consider:
- how well the student is able to address the issue (20%)
- the critique of the science (i.e., how well does the student analyse the media and its message, what was missing or poorly communicated) (40%)
- originality of observation (20%)
- grammar and style (20%)

Evaluation of Assignment 2 takes into account the quality of the writing, organization and structure, as well as research and content. You will be graded on the quality of your

work and your ability to meet the desired learning targets. The marking scheme will consider whether within the 6-8 pages you:
- Clearly explain the topic, and the reason it will be of interest to the public. Have you made clear why it will be compelling viewing, as well its importance to the viewer? (20%)
- Most importantly, have you given an explanation suitable for the targeted recipient of your pitch, the broadcaster? (20%)
- Does the pitch cover: your program idea, and its suitability for the broadcaster's needs and format. Does it explain it in a clear and concise fashion your story idea and how it unfolds in those four acts? How you will simplify the science while still managing to present it with integrity and accuracy? How will the science be visualized? The locations where it will be filmed. Who are your experts? Any special photography or equipment (e.g. for underwater scenes, microphotography, super-high speed, etc. (40%)
- Grammar and style. (20%)

Your assignments must have the title of your assignment, your name, course number, the date and your student number.

Evaluation of the In-class Group Assignment takes into account the quality of the verbal presentation, its timing, organization and structure, as well as the research and level-specific content. You will be graded as a group on the quality of your work and your ability to meet the desired learning targets.

Due Dates: It is your responsibility to consult the Lecture Schedule for all the Assignment due dates. The instructor will not assume the responsibility of reminding you that an assignment is due or that the exam is being given.

Grade Posting: All grades will be posted on Quercus. You have 7 days after a grade has been posted to dispute an entry. Your grade may be revised up or down based on the review. After the 7-day period, the grade stands as entered.

Late assignments: The late penalty is as follows:
5% a day, assignments more than 8 days -- 100%

Please make sure to submit your assignments by the due time to avoid a late penalty.

Handing in Assignments: You are responsible for submitting your work through Quercus.

Regarding Use of Turnitin: *"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".*

Lost or misplaced assignments: It is your responsibility to keep a photocopy of your work, and to make more than one digital copy of your work. Excuses are not accepted in the case of lost or misplaced work.

Class Attendance and Participation:
Students are required to attend class as discussion is essential to this course.

Absences: If you need to miss a practical test for any legitimate reason, you must submit appropriate documentation within three business days of your absence. If the reason for your absence is medical, an official UTSC medical note must be completed by a doctor who examined you while you were ill/injured (i.e. not after the fact). The medical note can be downloaded here: Verification of Illness or Injury. Note that conditions ranked as mild or negligible will not be considered a valid excuse.

Missed term work: If a legitimate reason prevents you from submitting a piece of term work by its posted deadline, you must submit appropriate documentation within three business days of your absence. If the reason is medical, an official UTSC medical note must completed by a doctor who examined you while you were ill/injured (i.e. not after the fact). The medical note can be downloaded here: Verification of Illness or Injury. Note that conditions ranked as mild or negligible will not be considered a valid excuse.

Extensions: Requests for an extension on an assignment must be tendered in writing in advance of the due date. In instances of illness, an official UTSC medical note must be completed by a physician (see above). Other notes are not acceptable. Extensions are granted at the discretion of the Professor (and the TAs), and may be granted for other significant emergencies.

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Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:
_ Using someone else's ideas or words without appropriate acknowledgement.
_ Submitting your own work in more than one course without the permission of the instructor.
_ Making up sources or facts.
_ Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:
_ Using or possessing unauthorized aids.
_ Looking at someone else's answers during an exam or test.
_ Misrepresenting your identity.

In academic work:
_ Falsifying institutional documents or grades.
_ Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see Academic Integrity – University of Toronto).

For reasons of privacy, as well as protection of copyright, unauthorized video or audio recording in classrooms is prohibited. This is outlined in the Provost's guidelines on Appropriate Use of Information and Communication Technology. Note, however, that these guidelines include the provision that students may obtain consent to record lectures and, "in the case of private use by students with disabilities, the instructor's consent must not be unreasonably withheld."

Accessibility & Services

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodation, please feel free to approach me and/or the Access Ability Services Office as soon as possible. I will work with you and Access Ability Services to ensure you can achieve your learning goals in this course. Inquiries are confidential. The UTSC Access Ability Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca

Students are encouraged to review the information regarding all services available on campus but I would especially like to point out the resources available through the Writing Centre for any writing help you may require, or the UT Centre for Teaching and Learning's English Language Development Support.