IPS*3000
Fall 2018

Science Communication

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Meeting times: Tuesdays and Thursdays 2:30 to 5:20 pm ANNU 204
Fridays 2:30 to 5:20 pm MACK 238
see the semester schedule below for more details
– we will not be meeting every week for 9 hours

Course Description:
IPS*3000 is designed to provide students with an opportunity to further hone their communication skills, both in writing and speaking, to diverse audiences. In this course, students will undertake independent study of the scientific literature and learn how to communicate scientific research effectively using the most appropriate modality. Through a number of formative writing and presenting assessments, students will work towards the summative group project at the end of the course, which will be shared with the physics community through an open house event.

Course-Specific Learning Outcomes:
1. Discuss and debate the effectiveness of selected examples of science reporting in a variety of media.
2. Critically analyse peer-reviewed journal articles in a focused area of interest in order to disseminate to a non-technical audience.
3. Design and deliver oral presentations in a focused area of interest, tailored to a specific audience.
4. Propose a novel science-based story tailored to a specific audience through a written pitch.
5. Create a feature-length science-based story in a focused area of interest for a specific audience intended for print media.
6. Integrate communication skills for non-technical audiences through collaborative construction and delivery of a science communications group project.

Evaluation:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation</td>
<td>20%</td>
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<tr>
<td>Speaking assignments</td>
<td>25%</td>
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<tr>
<td>Writing assignments</td>
<td>20%</td>
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<tr>
<td>Final Project</td>
<td>35%</td>
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The participation mark will be determined based on the individual’s degree of involvement in discussions during class time, as well as through asking questions and providing constructive
feedback for classmates. Students who are unable to attend a regularly scheduled session for medical or other reasons should inform the instructor in advance. **Unexplained extended absences and/or failure to participate actively in class meetings will affect your overall grade in the course.**

Assignments will be set weekly. These assignments will include reading, viewing, or listening to relevant materials for our in-class discussions, writing assignments, presentations, as well as work related to your group project. Multiple opportunities to practice writing and presenting will be provided to ensure skill development. It is critical that you complete all such assignments, particularly those related to preparing for in-class discussions. Your participation mark depends strongly on your informed participation in discussions, for which preparation is key. The schedule for the semester is included below; please refer to this schedule regularly and consult Courselink for updates throughout the semester. Late submissions of assignments will be penalized 10% per day for a maximum of 5 days overdue. After 5 days, the assignment will be given zero unless academic consideration has been granted (see below).

### Speaking Assignments (25% of final mark)
You will complete 3 presentation assignments during the semester. More details will be provided as the semester progresses.
1) Informal 3 minute presentations of your chosen topic – 5%
2) Media interviews – 10%
3) Classroom visits – 10%
The due dates are provided in the table below.

### Writing Assignments (20% of final mark)
You will complete 2 writing assignments during the semester.
1) Written pitch to a media outlet – 5%
2) Full work-up of pitched story – 15%
The due dates are provided in the table below.

### Group Project (35% of final mark)
Students will work in groups to develop a science communications project that showcases the writing and presenting skills they have developed during the course. In discussion with the course instructor, each group will propose and develop their own project to present to the physics community at the end of the semester at our open house event. Examples of appropriate group projects include (but are not limited to): designing and creating short physics-related YouTube-style videos (animated, live-action, lightboard, whiteboard …), developing hands-on, low cost, activity kits for a particular physical science topic in the K-12 curriculum, or writing and producing physics-themed podcasts.

### Proposed Schedule for the Semester

<table>
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<tr>
<th>Week</th>
<th>In-Class Sessions</th>
<th>Assignments/Deadlines</th>
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<tbody>
<tr>
<td>1 (Sept 8 to 12)</td>
<td>Introductions, course structure, general discussion of the goals of science communication; talking informally about science</td>
<td>See Courselink for pre-class readings</td>
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<tr>
<td>Date</td>
<td>Event Description</td>
<td>Notes</td>
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<tr>
<td>Sept 15 to 19</td>
<td>Improv for Scientists - speak more spontaneously about research - pay closer attention to audience</td>
<td>It’s improv – no preparation required this week! (You should be planning for next week’s presentations though.)</td>
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<td>Sept 22 to 26</td>
<td>Presenting exercise #1: Informal 3 minute presentations of your chosen topic for your specified target audience (we will meet Tuesday, Thursday &amp; Friday this week)</td>
<td>This exercise is worth 5% of your final grade.</td>
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<td>Sept 29 to Oct 3</td>
<td>Discussion – tips for effective interviewing (i.e. being the interviewer) - tips for communicating with media representatives (i.e. begin the interviewee)</td>
<td>See Courselink for readings/viewings *special guest lecturer this week!</td>
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<td>Oct 6 to 10</td>
<td>Presenting exercise #2: Media interviews (we will meet Tuesday, Thursday &amp; Friday this week)</td>
<td>This exercise is worth 10% of your final grade.</td>
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<td>Oct 13 to 17</td>
<td>Discussion: - writing with clarity for different scenarios</td>
<td>See Courselink for readings *special guest lecturer this week! Group Project Proposal Due – Friday Oct 17</td>
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<td>Oct 20 to 24</td>
<td>Presenting exercise #3 (we will meet Tuesday, Thursday &amp; Friday this week)</td>
<td>This exercise is worth 10% of your final grade.</td>
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<td>Oct 27 to 31</td>
<td>No class meetings this week – work on group project and your first writing assignment</td>
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<td>Nov 3 to 7</td>
<td>Discussion – Personalizing the impersonal – Painting pictures with words (writing for radio, podcasts, etc.)</td>
<td>See Courselink for readings/audio clips Writing assignment #1 due (Friday Nov 7) – pitch to Science Borealis This exercise is worth 5% of your final grade.</td>
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<td>Nov 10 to 14</td>
<td>Discussion – science in print media</td>
<td>See Courselink for readings</td>
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<td>Nov 17 to 21</td>
<td>No class meetings this week – work on finalizing your group project &amp; your second writing assignment</td>
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<td>Nov 24 to 28</td>
<td>Group Project Open House! (Tuesday will be a practice session, Thursday will be the main event)</td>
<td>Writing assignment #2 due (Friday Nov 28) – full story for Science Borealis This exercise is worth 15% of your final grade.</td>
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Weeks 1, 2, 4, 6, 9, 10, we will only meet on Tuesday & Thursday. We will not meet on Fridays during those weeks.
This schedule is tentative and subject to change. Consult Courselink regularly to remain up to date with the course activities and deadlines/due dates.

Readings/Viewings:
Trust Me, I’m a Scientist – Daniel T. Willingham, May 5, 2011, Scientific American
https://www.scientificamerican.com/article/trust-me-im-a-scientist/


Neil deGrasse Tyson & Richard Dawkins discussing the importance of style as well as content, November 22, 2006. Originally recorded November 5-7, 2006 at Beyond Belief: Science, Reason, Religion and Survival, La Jolla, CA.
http://www.youtube.com/watch?v=_2xGlwQfik.

Six Principles of Sticky Ideas – Dan Heath, 2008 World Creativity Forum, excerpt
https://www.youtube.com/watch?v=NUF1GUaOV38

Words, Words, Words, blog post by 4 gravitons (aka Matt von Hippel, post doc at PI) Dec 9, 2016
https://4gravitons.wordpress.com/category/science-communication/

Nine Ways Scientists Demonstrate They Don’t Understand Journalism, Ananyo Bhattacharya, Jan 17, 2012, The Guardian
https://www.theguardian.com/science/blog/2012/jan/17/scientists-journalism

See Courselink for a pdf copy of the essay for discussion.

(This is not a complete list – Courselink will be updated regularly with your pre-class preparation materials)

Academic Consideration
If you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for academic consideration:
http://www.uoguelph.ca/registrar/calendars/undergraduate/current/index.shtml

Academic Misconduct
The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.
University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar: http://www.uoguelph.ca/registrar/calendars/undergraduate/current/index.shtml

A helpful resource in understanding academic misconduct and plagiarism can be found at: plagiarism.org

**Turnitin**
In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing academic misconduct. In this course, you may screen your own assignments through Turnitin as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.

**Recording of Materials**
Presentations that are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

**Accessibility**
The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS) as soon as possible.
E-mail Communication
As per university regulations, all students are required to check their uoguelph.ca e-mail account regularly. E-mail is the official route of communication between the University and its students.

Course Evaluation Information
The Department of Physics requires student assessment of all courses taught by the Department. These assessments provide essential feedback to faculty on their teaching by identifying both strengths and possible areas of improvement. In addition, annual student assessment of teaching provides part of the information used by the Department Tenure and Promotion Committee in evaluating the faculty member's contribution in the area of teaching.

The Department's teaching evaluation questionnaire invites student response both through numerically quantifiable data and written student comments. In conformity with University of Guelph Faculty Policy, the Department Tenure and Promotions Committee only considers comments signed by students (choosing "I agree" in question 14). Your instructor will see all signed and unsigned comments after final grades are submitted. Written student comments may also be used in support of a nomination for internal and external teaching awards.

NOTE: No information will be passed on to the instructor until after the final grades have been submitted.

Drop date
The last date to drop one-semester courses without academic penalty is Oct 31, 2018. For regulations and procedures for Dropping Courses, see the current Academic Calendar:

http://www.uoguelph.ca/registrar/calendars/undergraduate/current/index.shtml