

**University of Calgary**  
**Department of Communication, Media and Film**

**Science, Technology and Society STAS 327 L01**  
**Science in Society**

**Winter 2017**

**Jan. 10 – Tues. to. April 11 – Tues. (excluding Feb. 21 & 23)**

**Lectures,**  
**TR 09:30-10:45**

**Instructor:** Cooper H Langford  
**Office:** SA 258A  
**Office Phone:** 403 220 3228  
**E-Mail:** chlangfo@ucalgary.ca  
**Office Hours:** Tues. Thurs. 11:00 – 1:00

**Course Description**

Science matters! Science has altered the ways in which we understand the world around us from our kinship with animals to the origins of the universe. Moreover, from genetically modified crops, to nuclear power, to cloning, to nanotechnology, the products of science and technology have dramatically transformed how we eat, care for one another, communicate and fight. Yet, in spite of its centrality to our lives, science is ill understood. It is often mythologized, romanticized or demonized in the public imaginary, granting it a status that exceeds its capabilities. Popular images of science, and of scientists, do not necessarily fit with the ways in which science operates. In fact, science is not a monolith and static, it is more accurate to say that there are many sciences that advance (at times radically) new ideas and practices. Moreover, science, as a knowledge, institution and practice, is a social process and changes as our society evolves. The aim of this course is to encourage critical thinking about science by introducing key themes, theories and scholars within the broad field of science, technology and society studies. By the end of the course, students will have familiarity with the ways in which science is analyzed and conceptualized from positivist to constructivist perspectives. We will draw on a range of disciplines with the aim to foster critical thinking and communication skills. Science has profoundly affected deeply rooted cultural convictions and assumptions.

**Additional Information**

I am glad to meet students outside posted office hours. Send an email suggesting to times that are convenient and I will confirm an appointment.

**Objectives of the Course**

The overarching goal of this course is to promote nuanced, contextualized understandings of the relationship among science, technology and society. Throughout the course, students will be asked to:

Define, compare and explain theoretical perspectives.

Apply perspectives covered in class to contemporary issues.  
Construct cogent arguments about the relationship between science and society.  
Communicate effectively in both written and oral formats

### **Textbooks and Readings**

Sismondo, S. 2010. *An introduction to science and technology studies*, 2nd Ed. Wiley-Blackwell Publishing.

Supplemental readings will be posted (with links provided as necessary) on D2L. Library resources will be required for term projects.

### **Internet and electronic communication device information**

Laptop use should be for course related work. Cell phone use should be limited to the occasional use of the Top Hat response system. You should subscribe if you do not already do so ([www.tophat.com](http://www.tophat.com)). The university has a site license and there will be no charge to you.

### **Assignments and Evaluation**

One-to-two-page in class exercises (3 - 6 short individual or group assignments that are to be written during a class) on advance announced dates and participation (as judged by contributions in class, Top Hat records, and discussion contributions on D2L) - 10%

Group research project 1-2 page prospectus 5%. (Due approx...Feb. 07th)

Group Research Project concerning a contemporary area of controversy involving scientific judgments leads to a written report of approx. 4 pages per team member

(25%), and a 20 min. oral or poster presentation (10%) scheduled in the last two weeks. Total essay plus presentation marks equal 35%. Preferred presentation date request is due: Mar. 7th. Final written report is due on the last day of the class for the term.

Groups should be 3 to 6 members. Each report should append a paragraph or more from each member outlining their individual contributions to the project.

Weight	Course components	Due
05%	Project proposal as part of participation mark	Feb 7
10%	3 - 6 short in class written team assignments – 1-2 pages.	announced
25%	Term Test 1 60 mins	Feb 16
25%	Term Test 2 60 mins	Mar 28
35%	Team project	Apr 11

### **Registrar-scheduled Final Examination: No**

All assignments and exams must be completed or a course grade of F may be assigned at the discretion of the instructor.

**Submission of Assignments:** Please hand in your essays directly to your instructor if possible. If it is not possible to do so, a daytime drop box is available in SS320; a date stamp is provided for your use. A night drop box is also available for after-hours submission. Assignments will be removed the following morning, stamped with the previous day's date, and placed in the instructor's mailbox.

Please include your name and ID number on all assignments, and be prepared to provide picture ID to pick up assignments or look at marked final exams in SS 320. Personal

information is collected in accordance with the *Freedom of Information and Protection of Privacy (FOIP) Act*. For more information, see <http://www.ucalgary.ca/secretariat/privacy>

**Note:** It is the student's responsibility to keep a copy of each submitted assignment and to ensure that the proper version is submitted (particularly in courses requiring electronic submission). Including a version date in your file name may be useful.

### **Policy for Late Assignments**

Assignments submitted after the deadline may be penalized with the loss of a grade (e.g.: A- to B+) for each day late.

### **Student Accommodations:**

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit [www.ucalgary.ca/access/](http://www.ucalgary.ca/access/).

Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

- Students seeking accommodation for transient illnesses (e.g., the flu) should contact their instructors. Whenever possible, students should advise their instructors in advance if they will be missing quizzes, presentations, in-class assignments, or group meetings.
- When accommodations are granted, they may take forms other than make-up tests or assignments. For example, the weight of a missed grade may be added to another assignment or test.
- For information on Deferrals of Final Exams and Term Work, see sections G.6 and G.7 of the *University Calendar* at <http://www.ucalgary.ca/pubs/calendar/current/g-6.html> and <http://www.ucalgary.ca/pubs/calendar/current/g-7.html>

### **Writing Skills Statement**

Department policy directs that all written assignments (including, to a lesser extent, written exam responses) will be assessed at least partly on writing skills. Writing skills include not only surface correctness (grammar, punctuation, sentence structure, etc) but also general clarity and organization. Sources used in research papers must be properly documented. If you need help with your writing, you may use the Writing Centre. Visit the website for more details: <http://www.ucalgary.ca/ssc/writing-support>

### **Grading & Grade Scale of the Department of Communication, Media and Film**

Work in this course will be graded in the letter grade or 4-point scale (2.7, 3.0, 3.3) rather than percentages. Sometimes you may receive grade points between letter grades. 3.5 is the mathematical mid-point between a B+ (3.3) and an A- (3.7) and 3.15 is the mid-point between a B (3.0) and a B+ (3.3), etc.. Only in the case of short answer questions on exam papers will the percentages given below guide assignment of the grade point value. Otherwise, all assignments and exam essays are graded on the 'letter grade' scale. Final grades are reported as letter grades.

The following chart outlines the grade scale percentage equivalents used in the Department of Communication, Media and Film.

Grade Point Value	Description	Grade	Dept of CMF grade scale equivalents*	Letter grade % equivalent for calculations* **
<b>4.00</b>	Outstanding	<b>A+</b>	96 - 100%	98.0%
<b>4.00</b>	Excellent—superior performance, showing comprehensive understanding of subject matter.	<b>A</b>	90 - 95.99%	93.0%
<b>3.70</b>		<b>A -</b>	85 - 89.99%	87.5%
<b>3.30</b>		<b>B+</b>	80 - 84.99%	82.5%
<b>3.00</b>	Good--clearly above average performance with knowledge of subject matter generally complete.	<b>B</b>	75 - 79.99%	77.5%
<b>2.70</b>		<b>B-</b>	70 - 74.99%	72.5%
<b>2.30</b>		<b>C+</b>	65 - 69.99%	67.5%
<b>2.00</b>	Satisfactory—basic understanding of the subject matter.	<b>C</b>	60 - 64.99%	62.5%
<b>1.70</b>		<b>C-</b>	55 - 59.99%	57.5%
<b>1.30</b>	Minimal pass—marginal performance; generally insufficient preparation for subsequent courses in the same subject	<b>D+</b>	53 - 54.99%	54.0%
<b>1.00</b>		<b>D</b>	50 - 52.99%	51.5%
<b>0.00</b>	Fail – unsatisfactory performance or failure to meet course requirements.	<b>F</b>	0- 49.99%	0%

\* If percentages are used to calculate final grades, then grades falling within these ranges will be translated to the corresponding letter grades.

\*\* These percentage equivalents will be used for calculating final grades unless an alternative method of final grade calculation is outlined above.

### **Plagiarism**

Using any source whatsoever without clearly documenting it is a serious academic offense. Consequences include failure on the assignment, failure in the course and possibly suspension or expulsion from the university.

You must document not only direct quotations but also paraphrases and ideas where they appear in your text. A reference list at the end is insufficient by itself. In-text citations must be provided, and readers must be able to tell exactly where your words and ideas end and other people's words and ideas begin. Wording taken directly from a source must be enclosed within quotation marks (or, for long quotations, presented in the format prescribed by the documentation style you are using). Paraphrased information must not follow the original wording and sentence structure with only slight word substitutions here and there. These requirements apply to all assignments and sources, including those in non-traditional formats such as Web pages or visual media.

For information on citation and documentation styles (including APA, Chicago, IEEE, MLA, and others), visit the links provided at <https://ucalgary.ca/ssc/resources/writing-support/436>. If you have questions about how to document sources, please consult your instructor or the Writing Centre (3<sup>rd</sup> Floor TFDL, <http://www.ucalgary.ca/ssc/writing-support>).

### Academic Misconduct

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

### Research Ethics

Whenever you perform research with human participants (e.g., surveys, interviews, or observations) as part of your university studies, you are responsible for following university research ethics guidelines. Your instructor must review and approve your research plans and supervise your research. For more information about your research ethics responsibilities, see <http://arts.ucalgary.ca/research/resources/ethics>

If your term project requires you to conduct (or act as participants in) research involving surveys, interviews, or observations of human subjects, you must inform the instructor at the time of submission of your proposal. You will require approval from the Faculty Research Ethics Committee

### Important information, services, and contacts for students

For information about . . .	Visit or contact . . .
<b>ARTS PROGRAM ADVISING (ASC)</b>	SS 102 403-220-3580 <a href="mailto:artsads@ucalgary.ca">artsads@ucalgary.ca</a>
<b>CAMPUS SECURITY</b>	<a href="http://www.ucalgary.ca/security/">http://www.ucalgary.ca/security/</a> <b>403-220-5333</b>
<ul style="list-style-type: none"> <li>• Calgary Police Service</li> <li>• Emergency Text Messaging</li> <li>• Emergency Evacuation &amp; Assembly</li> <li>• Safewalk Program</li> </ul>	<b>403-266-1234      Emergency: call 911</b> <a href="http://www.ucalgary.ca/emergencyplan/textmessage">http://www.ucalgary.ca/emergencyplan/textmessage</a> <a href="http://www.ucalgary.ca/emergencyplan/assemblypoints">http://www.ucalgary.ca/emergencyplan/assemblypoints</a> If you feel uncomfortable walking alone at any time, call Campus Security for an escort (220-5333). For more information, see <a href="http://www.ucalgary.ca/security/">http://www.ucalgary.ca/security/</a>
<b>DESIRE2LEARN (D2L) Support</b>	<a href="http://elearn.ucalgary.ca/desire2learn/home/students">http://elearn.ucalgary.ca/desire2learn/home/students</a>
<ul style="list-style-type: none"> <li>• IT help line</li> </ul>	403-220-5555 or <a href="mailto:itsupport@ucalgary.ca">itsupport@ucalgary.ca</a>
<b>STUDENT SUCCESS CENTRE</b>	<a href="http://ucalgary.ca/ssc">http://ucalgary.ca/ssc</a>
<ul style="list-style-type: none"> <li>• Writing Support Services</li> <li>• Student Services Mobile App</li> </ul>	<a href="http://www.ucalgary.ca/ssc/writing-support">http://www.ucalgary.ca/ssc/writing-support</a> <a href="http://ucalgary.ca/currentstudents">http://ucalgary.ca/currentstudents</a>
<b>STUDENTS' UNION CONTACTS</b>	
<ul style="list-style-type: none"> <li>• Faculty of Arts Reps</li> </ul>	<a href="https://www.su.ucalgary.ca/about/who-we-are/elected-officials/">https://www.su.ucalgary.ca/about/who-we-are/elected-officials/</a>

<ul style="list-style-type: none"> <li>• <b>Student Ombudsman</b></li> </ul>	<a href="http://www.ucalgary.ca/provost/students/ombuds">http://www.ucalgary.ca/provost/students/ombuds</a>
<p><b>SU WELLNESS CENTRE</b></p> <ul style="list-style-type: none"> <li>• <b>Counselling Services</b></li> <li>• <b>Health Services</b></li> <li>• <b>Distress centre 24/7 CRISIS LINE</b></li> <li>• <b>Online resources and tips</b></li> </ul>	<p><b>403-210-9355</b> (MSC 370), M-F, 9:00–4:30 pm</p> <p><a href="http://ucalgary.ca/wellnesscentre/counselling">http://ucalgary.ca/wellnesscentre/counselling</a></p> <p><a href="http://ucalgary.ca/wellnesscentre/health">http://ucalgary.ca/wellnesscentre/health</a></p> <p>403-266-HELP (4357)</p> <p><a href="http://ucalgary.ca/wellnesscentre/healthycampus">http://ucalgary.ca/wellnesscentre/healthycampus</a></p> <p>If you're concerned about a friend or your own well-being, it is important to seek help early. Call or visit the SU Wellness Centre or the 24-hour crisis line.</p>

### Tentative Schedule of Lecture Topics and Readings

Month	Tuesday	Thursday
January	10 <sup>th</sup> Introduction to the course An introductory science – society issue: risk Read: <i>W. Leiss Embracing risk, manipulating chance..</i> <a href="http://www.leiss.ca">www.leiss.ca</a> (Scan down the page to find,)	12 <sup>th</sup> Scientific/technical risk Read: <i>Mercer A. et al. (2011) Understanding solar radiation management, Environmental Research Letters 6 04406</i> <b>doi: 10.1088/1748-9326/6/4/044006</b>
	17 <sup>th</sup> Risk continued – Exercise 1 Read Ch. 16	19 <sup>th</sup> Experts and public participation Read: <i>Einsiedel, E, Public Understanding of Science(2007), v. 16 nr.1 p.5</i>
	24 <sup>th</sup> Public Understanding Read: Ch 15	26 <sup>th</sup> Technology and science Read: Ch 9
February	Jan. 31 <sup>st</sup> Ethics of technology <i>Feng, P. Science and Engineering Ethics (2000) 6, 202-220,</i> <a href="http://link.springer.com/article/10.1007/s11948-000-0049-4">http://link.springer.com/article/10.1007/s11948-000-0049-4</a> (accessed 2016 04 01) <i>Exercise 2 - based on Feng paper</i>	2 <sup>nd</sup> Traditional views of science Read Ch. 1
	7 <sup>th</sup> Functionalism Read: Ch 3	9 <sup>th</sup> Kuhn and 'revolutions and paradigms' Read: Ch 2
	14 <sup>th</sup> Ziman – CUDOS model	16 <sup>th</sup> Term Test 1

	21 <sup>st</sup> READING WEEK	23 <sup>RD</sup> READING WEEK
March	February 28 <sup>th</sup> Actor Network Theor Read: Ch. 8 Ch 13 and a reradng to come	2 <sup>nd</sup> Rhetoric and Conroversies Read: Ch 13 and p. 120 – 129. Exercise 3 Limits of models
	7 <sup>th</sup> Stratification and discrimination Read: Ch 4	9 <sup>th</sup> Sustainability Read: Lewis, Lovins, extracts
	14 <sup>th</sup> Sustainability 2 Read: Robinson	16 <sup>th</sup> Sustainability 3 - Political economy of knowledge
	21 <sup>st</sup> Political economy of knowledge 2 Exercise: 4 Sustainability	23rd Review for test
	28 <sup>th</sup> Term Test 2	30 <sup>th</sup> Presentations
April	4 <sup>th</sup> Presentations	6 <sup>th</sup> Presentations
	11 <sup>th</sup> Presentations	