

**Biology 490: Science and Society**

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Office Hours: Thur/Fri 10:00 – 12:30 or by appointment

Meeting time and location: Thur/Fri 9:00 – 9:50 in TNR 461

**Course Description:** This senior seminar focuses on the historical and contemporary relationships between science and society with an emphasis on biology and related fields. Meetings will consist primarily of in-class discussions of reading/writing assignments and some videos related to course content. Many discussions will be student-led. As a Communication in the Major course, emphasis will be placed on both written and oral communication as they pertain to the scientific field of biology.

**Course Learning Outcomes:** After taking this course, students will be able to:

- 1) Critically analyze and discuss a number of historical and contemporary scientific controversies in the context of public opinion and policy.
- 2) Locate, interpret, and synthesize scientific and popular-press media to explore course-relevant topics, and share related information with others via both written and oral communication.
- 3) Critically evaluate and provide meaningful feedback on the written work and oral presentations of others.

**Texts:** All reading material will be made available to you in the form of pdf documents on D2L.

**Attendance and participation:** This is an advanced course on a complex topic and we are a small group. The course relies heavily on interactions among participants; therefore, on-time attendance is required. Each meeting is worth up to 5 points for attendance (see grading, below). If you are late to class, you will lose 1 of these points for each 3-minute block of time. The course includes quite a bit of reading and some videos and we will (more or less) use this material to guide our discussions. I expect that you will read all course documents and watch all videos before coming to class and that you will be prepared to engage in dynamic discussions with each other about this material. Your final course grade will also be influenced by your participation in these discussions (see grading, below). If you are consistently quiet, unengaged, and/or unprepared for discussion you will not fare well in this regard. You must earn these points!

**Questions/opinions about reading assignments:** The majority of our meetings include one or more associated reading and/or video assignments. To encourage you to engage with this material before coming to class I would like for you to come up with at least one question or opinion about each assignment (after you read/watch it). Record these in a single electronic document (e.g., .docx, .pdf, etc.), save the file using your name as the filename, and submit it to the dropbox folder associated with that particular meeting by 8:30 AM (i.e., 30 minutes before we meet). The questions/opinions associated with each assignment are worth up to 2 points each.

For example, on 1/27 we will be discussing 3 different reading assignments. Within dropbox you will find a folder called "1/27". Within that folder you should submit a single document that contains at least one question or opinion for each of those three reading assignments. Since there are three distinct assignments for 1/27 the document will be worth up to 6 points.

Note that there are 80 points total available for this particular course requirement; however, there will almost certainly be more than 80 points-worth of reading/video assignments (exact number will depend on how many different assignments are chosen by your peers when it's their turn to lead discussion). Therefore, you can probably skip a few assignments here and there and it won't affect your grade (but I still expect you to read/watch the material!!!).

**Written work:** There are two distinct writing assignments in this class. One is the production/revision of your curriculum vitae or resume and a cover letter or personal statement to go along with it. These materials will be tailored specifically for either a real job/position to which you want to apply or a mock job/position that I provide (whichever you prefer).

The other will represent the most substantial investment of your time and energy in this course, namely the production of an ~8 page research/review paper focused on a topic of your choice (related in some way to course content). You should start thinking about potential topics for this paper right away. I will ask that you meet with me (one-on-one) for a few minutes to discuss your idea(s) before spring break, though you are welcome and encouraged to do so earlier. A complete rough draft (two hard copies) of your paper will be due no later than March 31<sup>st</sup>. The rough draft will be evaluated and critiqued by me as well as one of your classmates. The final draft of your paper will be due (electronically via dropbox) no later than the last day of classes (May 12<sup>th</sup>).

**Presentation:** You will also share your research/review topic with the class in the form of an oral presentation near the end of the semester. Presentations will be 10-12 minutes long with a few additional minutes for questions from the audience. You are encouraged to use visual aids (e.g., powerpoint slides).

**Student-led discussions:** Each of you (working within a pair of two students) will be asked to take responsibility for one of our meetings this semester. This means you will need to choose an interesting topic (not already covered by myself or others) and relevant media to provide background information for the class and inspiration for discussion. You will then lead the class through a discussion of your chosen topic. I advise you to identify a partner and start thinking of potential topics now. I will ask that you talk with me before settling on a topic and choosing reading/video materials (and I will want to approve the materials before you share them with the class). A signup sheet will be available.

**Grading:** The total number of points possible in this course is 440. Point values (and due dates, if relevant) are listed here:

Activity	# Points possible	Due Date for associated assignment
Questions/opinions (2 pts. per assignment)	80	8:30 AM day of the associated meeting
CV/res. & cover letter/pers. statement	20	3/3
Research topic meeting	10	Before spring break
Research/review paper rough draft	30	3/31
Peer evaluation	20	4/14
Research/review paper final draft	30	5/12
Research/review paper presentation	40	
Leading class discussion	20	
Attendance (5 points per meeting)	150	
Participation	40	

Your final grade in this course will be based on the percentage of all possible points that you earn throughout the semester. To determine your final grade the following metric will be used:

≥ 94%	90-93%	87-89%	84-86%	80-83%	77-79%	74-76%	70-73%	67-69%	60-66%	≤ 59%
A	A-	B+	B	B-	C+	C	C-	D+	D	F

**Late policy:** Because there is so much collaboration in this class, assignments must be turned in on time. Assignments lose 20% of their value for each day they are late.

**Biology comprehensive exam:** Satisfactory completion of this course requires the completion of the Biology Department's comprehensive exam. Scores are used to compare class averages among various populations of biology majors to assess general student learning as an outcome of completing our department's biology curriculum. Scores will not be made available to you or your instructor and will have no bearing on grades. However, your 490 grade will be withheld until the exam is taken. The exam will be offered in TNR 170 from 6-7 PM on Wed May 3<sup>rd</sup> and Thur May 4<sup>th</sup>. You do not need to sign up ahead of time; just show up on one of those two evenings.

**Students with disabilities:** I will be happy to help you if you need special accommodations to succeed in this course. Please visit the UWSP Student Disability and Assistive Technology Center (located in LRC 609) to document your needs and then contact me so that appropriate arrangements can be made. More information can be found here: <http://www.uwsp.edu/disability/Pages/default.aspx>

**Academic integrity:** It is your responsibility to be aware of your rights and responsibilities as a UWSP student. Please take the time to read and understand the information found here (and let me know of any questions): <http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf>

**Plagiarism:** It is your responsibility to be aware of the definition(s) of the word plagiarism, and take care to avoid committing plagiarism in your written work. Your written work must reflect your own thoughts and ideas expressed in your own words. In addition, you must always cite your sources of information and provide a bibliography for any written work you produce. Please take the time to read and understand the information found here (and let me know of any questions): <http://library.uwsp.edu/guides/vrd/plagiarism.htm>

**Meeting schedule:** Note that I reserve the right to change this schedule, with due notice, as we progress through the semester.

Date	Topic	Assignment(s) and/or items due
1/26	Course introduction.	
1/27	Why do people doubt science? Public/scientists' views on science and society.	Read Mooney 2001, Achenbach 2015, and (skim) Funk and Rainie 2015a.
2/2	Evolutionary theory and society I.	Read Carroll 2009a and 2009b.
2/3	Evolutionary theory and society II.	Read Cain 2001 and Quammen 2004 and (skim) Dawkins/Wright video.
2/9	Climate change I.	Read AAAS 2014 and watch Puttnam video.
2/10	Climate change II.	Read Kahan et al. 2012 and (skim) Cook et al. 2013.
2/16	CVs/resumes & cover letters/personal statements. Format of research/review paper. Finding and using relevant literature.	Read Hofmann 2013. <b>CV/resume &amp; cover letter/personal statement assigned.</b> <b>Research/review paper assigned.</b>

<b>Date</b>	<b>Topic</b>	<b>Assignment(s) and/or items due</b>
2/17	Population control.	Read Malthus (excerpt) 1798, Hernandez and Qin 2015, and Bradshaw and Brook 2014.
2/23	Food I.	Read Freedman 2013 and Jones 2015.
2/24	Food II.	Read Tuomisto and de Mattos 2011 and watch BBC video.
3/2	Medical testing/research on animals.	Read Botting and Morrison 1997, Barnard and Kaufman 1997, and (skim) Funk and Rainie 2015b.
3/3	Vaccines.	Read Haberman 2015 and Taylor et al. 2014. <b><i>CV/resume &amp; cover letter/personal statement due.</i></b>
3/9	Medical marijuana.	Read Carroll 2015 and Whiting et al. 2015 and watch Cannabis video.
3/10	Race.	Read Bamshad and Olson 2003.
3/16	Human sexuality I.	Read Driscoll 2008 and Waal 2006.
3/17	Human sexuality II.	Read Rikowski and Grammer 1999 and Wilson and Daly 2004.
3/23	Spring break.	
3/24	Spring break.	
3/30	TBD...	TBD...
3/31	TBD...	TBD... <b><i>Research/review paper rough draft due.</i></b>
4/6	TBD...	TBD... <b><i>Peer evaluation assigned.</i></b>
4/7	TBD...	TBD...
4/13	TBD...	TBD...
4/14	TBD...	TBD... <b><i>Peer evaluation due.</i></b>
4/20	TBD...	TBD...
4/21	TBD...	TBD...
4/27	TBD...	TBD...
4/28	Student presentations.	
5/4	Student presentations.	
5/5	Student presentations.	
5/11	Student presentations.	
5/12	Student presentations (if needed).	<b><i>Final draft research/review paper due.</i></b>