

THEORY & PRACTICE IN THE BIOLOGICAL SCIENCES: PANDEMIC EDITION

Professor Marta L. Wayne

Spring 2021

Meeting Time: Thursdays, Periods 5-6, 11:45 AM - 1:40 PM in 211 Bartram Hall or via zoom

Office Hours: Tuesdays 2:00-2:50 PM on zoom or by appointment in case of a conflict.

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COURSE DESCRIPTION

This course is intended to introduce students to historical and philosophical perspectives on the doing of biology, becoming a biologist, and to a range of issues that highlight the complex relationship between biology and society. The goals of the course are three-fold: first, we will explore how biological theories are actively made by scientists whose individual and social values can shape their science and how that science can then shape individual and social values. Second, we will explore the practice of science, and how that practice in turn can shape the kind of science that is done. Third, we will examine the interplay of biology and society through some well-known controversies in the biological sciences that include the “race” for the double helix. Additional readings will allow us to explore the role of gender, race and class in science. The course then moves on to more specific topics that concern traditional bioethicists: medical ethics, environmental ethics, and policy. The course will use the COVID-19 pandemic and topics of health equity as a focal point.

STRUCTURE OF COURSE AND EVALUATION

This is a two-credit seminar that places heavy emphasis on reading and discussion of assigned material. Students are expected to have completed assigned readings on the date assigned and to bring their insights to the class discussion. Evaluation is based on class participation (including attendance) for a total of 20% of the grade. The remaining 80% is based on class assignments called reaction/response papers. You must do four out of the five possible response papers. These will be given grades of check plus, check, check minus or “U” (or unsatisfactory). Students are strongly encouraged to rewrite their papers immediately after class discussion if they find their views have changed or if they wish to improve their grades. Rewrites must be submitted within one week after the discussion. There is no final exam.

BOOKS

1. Stephen J. Gould, *The Mismeasure of Man*, revised and expanded edition, 1996.
2. James. D. Watson, *The Double Helix*, Norton Critical Edition, 1996.
3. Rebecca Skloot, *The Immortal Life of Henrietta Lacks*, 2010.
4. Eileen Crist, *Abundant Earth: Toward an Ecological Civilization*, 2019.

GUIDELINES FOR ASSIGNMENTS AND REACTION PAPERS

You are required to write four class assignments out of the possible five designated on your syllabus. The goal of the assignment is to encourage students to engage critically the issues raised by the readings assigned, and to come to class prepared to engage in class discussion. I suspect that there will be some similarities in points of view, but each paper will (I hope) reflect

the opinions of each reader and author. I cannot therefore give you a fixed set of standards or any formula for writing papers, though I can help refine the goals of the assignment and offer the following as guidelines.

Length: Each paper should be a minimum of 2 double-spaced typewritten pages (regular font or 12 point, with 1" margins). You may extend the length of your paper to no longer than 3 pages.

Structure: This paper is not a review of the readings or any of the books assigned. Do not attempt to write a full-fledged description of the books. Somewhere in the text, you should, however, summarize the "point" of the book. In other words, try to interpret the book in about one paragraph. This could be in your introduction. Your response or reaction to the texts should form the main body of the essay. Feel free to ask critical questions in these essays or point to any shortcomings in the readings or books. Keep in mind, however, that "critical" does not necessarily mean a negative assessment, but a rigorous and thoughtful analysis that brings into relief the issues raised by a particular subject.

Style: Please feel free to use the "I" personal form if you so wish; but try to avoid overpersonalized responses. The essay should maintain a scholarly tone, but should also avoid pedantic, pretentious academic-eze. Do not overuse the passive voice; this is not a laboratory write-up, but a critical essay.

Suggestions for reading the texts: Please do not engage the readings as you would of standard textbooks in psychology, chemistry, biology, or astronomy. Jot down notes only when necessary; you do not need to highlight the text, although some notation or highlighting may help. Pay close attention to what the author is trying to achieve by reading the background material if it is included (e.g. preface, foreword, introduction etc.). Familiarize yourself with the author by doing additional research if necessary in the library (you may use any of the biographical sources in the science library or on the internet).

Directions:

1. There is no need for a formal title page for this course (save resources where you can), but you must have your name and a title somewhere on the front page.
2. Always number pages.
3. Include a word count on the last page.
4. Include a bibliography or reference section if you have relied on additional sources. The formatting is flexible. Be judicious with your reliance on the internet as it is not peer-refereed information.

Grading Policy

Letter Grade	Range:	
A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

Minimum grade cutoffs are listed in the table. Final scores will be rounded to one decimal place but will NOT be rounded beyond that (e.g., 89.92% will be rounded to 89.9%, not 90%). Being on the borderline of the next highest grade can be frustrating, so please put in the work you need to make sure you earn the grade you want!

Grade Curve Policy: This course will not be curved.

Extra Credit: Extra credit assignments may be offered at the instructor's discretion; if extra credit is offered, it will be open to all students and will be clearly announced on the course website (i.e. please do not ask). No individualized extra credit will be offered.

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

A Note on Our HyFlex Class This Semester

This course consists of two sections, an online and a face-to-face, which are *simultaneous*, i.e., they occur at the same meeting days and times. This means that some students in our class, and the instructor, will be participating from the assigned classroom, while others will be participating remotely (e.g., via Zoom) from their preferred location.

As this is a new format for us, we want to ensure that you are aware of the following:

- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations. Since our rooms hold significantly fewer students than normal, the number of students *in* the classroom will be quite small.
- Students who have signed up for the *in-person* section are expected to attend class on every scheduled meeting day and time, as indicated in the course syllabus. Likewise, students who signed up for the *online* section are expected to attend class virtually on every scheduled meeting day and time, as indicated in the course syllabus.
- Students who have signed up for the in-person section but would prefer to attend a specific session remotely are free to do so, but they must notify the instructor in

advance.

- In-person students (and faculty) are required to wear approved face coverings at all times during class and within buildings, and to maintain physical distancing of at least six feet at all times. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- Face-to-face students and instructors are expected to clean their spaces (desks, chairs, podium) at the end of every class period. Sanitizing supplies are available in the classroom.
- Technology in the classrooms has been updated, but is still insufficient to allow communication between face-to-face and virtual students. The instructor will be the only one able to communicate with both populations, but will have to do so while remaining behind the podium (due to microphone placement). The instructor will have to repeat any questions or comments from face-to-face students for the benefit of the virtual students.
- If face-to-face students wish to join the Zoom call from the classroom, they will have to provide their own computers and, crucially, headsets, in order to avoid interference from the various microphones.
- Instructors will make every effort to incorporate both cohorts of students simultaneously, although this will require a lot of trial and error and a great deal of patience on all our parts.

This will be a different experience for all of us, and we are doing our best to comply with university mandates while still fulfilling the goals and objectives of our courses and providing you with the best possible educational experience. We appreciate your understanding.

Policy on Zoom Presence

- *Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.*
- *The participation portion of your grade for this class will be calculated on the basis of your attendance and your participation in class activities. Normally you will satisfy this requirement through your participation through video and audio presence on Zoom. However, you may also*

satisfy this requirement through written comments in chat and discussion assignments in Canvas.

Tentative Schedule

Date	General Topic	Reading	Response paper?
1/14	Introduction to Course: syllabus review, expectations, and a little COVID	none	n
1/21	Discussion of Gould: can science be objective?	“The Mismeasure of Man”, S. J. Gould 1996; introduction to revised edition through chapter 5	n
1/28	Discussion of Gould: can science be objective? Case study: is race biological/can we study race without racism?	“The Mismeasure of Man”, S. J. Gould 1996; chapter 6 through end (“Three Centuries’ Perspective on Race and Racism”).	y
2/4	The practice of research part 1: authorship and publication: case study on gender and science	Film: BBC Race for the Double Helix, https://vimeo.com/179934156	n
2/11	The practice of research part 2: gender and race in science	“The Immortal Life of Henrietta Lacks”, R. Skloot, parts 1 and 2	n
2/18	The practice of research part 3: intersectionality and equity in science	“The Immortal Life of Henrietta Lacks”, R. Skloot, part 3	y
2/25	Recharge Day: no class	none	n
3/4	The practice of research part 4: conflict of Interest: the autism/vaccination hoax	Guest: Dr. Cuc Tran	n
3/11	Synthesis: Equitable vaccination prioritization	NAS report: Framework for Equitable Allocation of COVID-19 Vaccine	y
3/18	The power of words	“Abundant Earth”, E. Crist	n
3/25	Valuing the environment	Guest: Dr. Jack Putz	n
4/1	Synthesis: zoonosis, globalization, pandemics	TBD	y
4/8	Case study: the university/community ecosystem	CDC MMWR report on in person classes and transmission	n
4/15	COVID-19 Wrapup	TBD	y

General Course Policies

Attendance and make-ups

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

If you are experiencing COVID-19 symptoms ([click here for guidance from the CDC on symptoms of coronavirus](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms](#). Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Refer to the above link for more information on the university’s

attendance policy.

Accommodations

Students who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/.

Academic Integrity

“UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Resources Available to Students

Health and Wellness

- *U Matter, We Care:* umatter@ufl.edu; 392-1575
- *Counseling and Wellness Center:* <http://www.counseling.ufl.edu/cwc/Default.aspx>; 392-1575
- *Sexual Assault Recovery Services (SARS):* Student Health Care Center; 392-1161
- *University Police Department:* <http://www.police.ufl.edu/>; 392-1111 (911 for emergencies)

Academic Resources

- *E-learning technical support:* Learningsupport@ufl.edu; <https://lss.at.ufl.edu/help.shtml>; 352-392-4357 (opt. 2)
- *Career Resource Center:* Reitz Union; <http://www.crc.ufl.edu/>; 392-1601
- *Library Support:* <http://cms.uflib.ufl.edu/ask>

- Teaching Center: Broward Hall; 392-2010 or 392-6420
- Writing Studio: 302 Tigert Hall; <http://writing.ufl.edu/writing-studio/>; 846-1138

Procedure for Conflict Resolution

Any classroom issues, disagreements or grade disputes should be discussed first between the instructor and the student. If the problem cannot be resolved, please contact the Undergraduate Coordinator or the Department Chair. Be prepared to provide documentation of the problem, as well as all graded materials for the semester. Issues that cannot be resolved departmentally will be referred to the University Ombuds Office (<http://www.ombuds.ufl.edu>; 392-1308) or the Dean of Students Office (<http://www.dso.ufl.edu>; 392-1261). For further information refer to https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf (for residential classes) or <http://www.distance.ufl.edu/student-complaintprocess> (for online classes).

Disclaimer

This syllabus represents the current plans and objectives; however, schedules, requirements, and assignments may change throughout the semester as the need arises. Such changes, communicated clearly, are not unusual and should be expected.