

PHIL 2600: ETHICS IN SCIENCE

“SCIENCE TELLS US HOW TO HEAL AND HOW TO KILL; IT REDUCES THE DEATH RATE IN RETAIL AND THEN KILLS US WHOLESALE IN WAR; BUT ONLY WISDOM---DESIRE COORDINATED IN THE LIGHT OF ALL EXPERIENCES—CAN TELL US WHEN TO HEAL AND WHEN TO KILL.”
--- WILL DURANT, THE STORY OF PHILOSOPHY

INSTRUCTOR

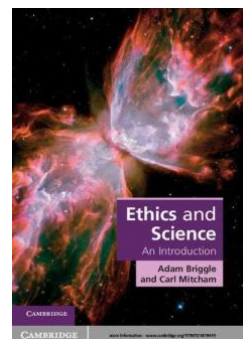
- Bernardo R. Vargas, Ph.D. Candidate in Philosophy, MA in Philosophy
- Pronouns: He/His/Él
- Office Hours: Via Zoom or in-person appointment
- Email: bernardo.vargas@unt.edu
 - **Due to the high volume of students, I will only respond to emails to communicate with you more efficiently. Please do not message me on Canvas, as I will not see it.**
 - I will respond to emails Monday through Friday before 5 PM. Feel free to send a friendly reminder if I don't respond within 24 hours of a workday.
 - **Please format your message in the following email format (Use ChatGPT for professional email guidelines if you are unfamiliar.):**
 1. Salutation: “Hi Prof. Vargas, ...
 2. Introduction: This is Maria from PHIL 2600-X...
 3. Body: I am reaching out to ask if...
 4. Closing: Thanks! — Maria”

CLASS SCHEDULE

- Tue-Thurs 11:00 AM to 12:20 PM
- **Room:** Wh 117

READING MATERIAL:

- [Required] Briggie, Adam and Mitcham, Carl. *Ethics in Science: An Introduction*. Cambridge: Cambridge University Press, 2012.
- Any readings outside of this text will be made available through Canvas as a PDF.
- Note: Although the PDFs will be provided, I highly recommend beginning to grow your library by purchasing the full text of each book for further.



OTHER REQUIRED MATERIAL:

- Scantrons
- Pencils
- Notebook paper (needs to be able to tear loose so you can submit it at times)

COURSE OVERVIEW

Human beings are constructing a new world through science and technology. Just consider the rapid changes in medicine, information, transportation, artificial intelligence, materials, energy, food, etc. In all these cases, we confront questions at the intersection of truth and power, knowledge and justice. The kind of world we create will be decided not simply by the expanding knowledge of science or the increasing powers of technology. It will depend more significantly on our visions about good and bad and right and wrong. In other words, we must think simultaneously of *ethics* in *science*.

This course aspires to make you more informed and astute in the conversations that shape our lives at the intersection of science and ethics. The class is divided into six modules. We will address various philosophical, scientific, and ethical questions: What is ethics? What is science? What is the relationship between ethics and science? What do scientists *do*, and what do scientists *assume* in their quest for scientific inquiry and knowledge? What makes an inquiry ethical? What are ethical dilemmas in the age of science? And what the social and personal responsibilities of inquirers and practitioners are.

LEARNING OBJECTIVES

By the end of this course, you will be able to:

- Define and classify basic concepts in ethics (moral philosophy) and science.
- Identify and categorize the most important issues at the intersection of ethics and science.
- Understand, interpret, analyze, and assess those issues.
- Develop improved reading and critical thinking skills as well as open-minded and respectful dialogue skills.

CLASS PARTICIPATION:

Philosophy is a field of study that requires constant engagement with our peers. Students are expected to participate and voice their understanding of the course readings and their assessments of the arguments. Students are expected to come to class having read the material and prepared to discuss the readings. Students should engage with the material as much as possible.

CLASSROOM ETIQUETTE:

Students are expected to show respect to the instructor and their fellow classmates. Although we may not always agree on ethics and philosophy, disagreement should never invite disrespect or hostility.

- **No headphones will be allowed without ODA permission (Participation grade deduction may occur).**

GRADE ASSESSMENT:

Your performance in the Ethics in Science course will be assessed using various dimensions, each contributing to your final grade as follows:

Attendance & Class Participation	20%
Weekly Evaluation: Quizzes	20%
Mid-Term Exam	20%
Final Exam	20%
Final Presentation: Ethics in Action Project	20%
<ul style="list-style-type: none"> Select a topic and receive approval deadline Group Rules 	(5%)
<ul style="list-style-type: none"> “Get involved!” plan deadline 	(5%)
<ul style="list-style-type: none"> Presentation/”Get Involved” assessment 	(10%)

The final grade distribution is as follows:

100 – 90%	A
89 – 80%	B
79 – 70%	C
69 – 60%	D
60% >	F

1. **Attendance & Class Participation:** Attendance will be taken every class session.
 - **Students are allowed three unexcused absences.** After three unexcused absences, students will lose 5% of their attendance grade for every additional absence. UNT policy defines an excused absence as an absence due to a university-sponsored event, passing of a family member, religious holiday, or documented illness. Documentation is required.
 - **Your quiz grade will be your verification of attendance in the class. If you arrive late for the quiz and have an excused absence (professor’s discretion), you will be assigned a make-up assignment.**
 - **If you arrive 10 minutes late, you will receive a deduction on your daily participation grade.**
2. **Quiz/Assignment: Each quiz will be taken at the beginning of class with a time limit of 10 minutes.** None of the quizzes/assignments are exhaustive; they ensure that students keep pace with the course, complete the assigned readings, and pay attention to the lectures. Quizzes are multiple-choice and true/false questions taken directly from the readings and lectures.
 - a. **Important details**
 - i. **Scantrons & Pencils: All of the quizzes will be graded on Scantrons. Please purchase a pencil and sufficient Scantrons for the 24 quizzes.**
 - ii. **Your worst grade will be dropped.**

- iii. **Your quiz grade will be your verification of attendance in the class. If you arrive late for the quiz and have an excused absence (professor's discretion), you will be assigned a make-up assignment.**

3. **Mid-Term Exam:**

- a. The exam will also be graded on Scantrons.

- 4. **Final Exam:** The final exam will cover the assigned content, readings, and lectures since the mid-term, and the essay portion will consist of questions regarding your project.
- 5. **Class Group Presentation:** Students will give a 10-12 mins presentation on an ethical problem followed by a friendly Questions and Answers portion. This presentation will be in groups of 2-4 students. More information regarding the format of the presentation and the exact requirements will come before the mid-term. See the next section for more details.

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6. **ETHICS IN ACTION PROJECT:**

- 1. **Pick a topic:** Students will select an ethical issue or case study where ethics and science intersect in their prospectus career or major. The professor must approve this topic (If you decide to change your topic, the professor must also approve (contact in person or via email)). **The professor may require a particular text to include outside the class reading list in your analysis.** If you have trouble selecting your topic, make an appointment during office hours. Here are some examples (Ask ChatGTP!):
 - a. Artificial Intelligence in X field
 - b. Manufacturing and Ethics
 - c. Engineering and Ethics
 - d. Ethics and more-than-human species
 - e. Race and Science, Environmental Justice
 - f. Climate Change
 - g. Bioethics: Medical racism
- 2. **Get involved!** After students have selected the ethical and scientific issue they want to explore, you or your team will become involved in the advocacy for such issues. You must be able to articulate how

this part of the project is part of “advocacy.” Advocacy can vary in multiple ways, such as (but not limited to):

- Volunteering
- Creating awareness:
 - Social Media Post
 - Posters
 - Zines
- Interviews
- Art (Painting, music, sculptures, posters, etc.)
- Creating an app
- Creating an event
- Activism material

3. **10-Minute Presentation Grading (100 points total):** Students will then present a 10-minute presentation clearly answering the following questions:
1. What is the issue? Explain. 10 pts.
 2. What are the ethical components, dilemmas, or phenomena at play here? 20 pts.
 3. What are the scientific components, complications, or phenomena at play here? 20 pts.
 4. How did your readings and peer-reviewed outside resources inform your understanding? 20 pts.
 5. How did you intervene or advocate for this cause? 20 pts.
 6. Quality of Presentation (visual, content, communication) 10 pts.

The presentation will be followed by a 10-minute friendly Q&A with their peers and the professor.

4. **Other Requirements**
- a. **Students must relate their analysis to two readings from our assigned readings and one peer-reviewed outside resource.**
 - b. **Students' groups will consist of __ students (TBA). Groups must submit a Group Rules document found in Canvas, which they agree upon and submit to the professor for approval.**

7. EXTRA CREDIT: Five-minute presentation (“Explain it like I’m five).”

- In each class, students may give a five-minute explanation related to the assigned reading for that day. This time limit is strict, so stay within five minutes. The goal is to explain the reading clearly as if you're teaching a friend or family member who knows nothing about ethics and science.
 - A successful presentation will be graded on the following:
 - Abiding by the time limit.
 - Display a succinct and basic understanding and summary of the reading’s main terminology and argument. You must address one of the following (if applicable)
 - What do the main terms mean?
 - What is the main argument?
 - How is this important and/or relevant to today’s issues?
 - **Students must contact Prof. Vargas before the class begins (via a confirmed received email or in person). Only two students can present in each class, following a first-come, first-served policy.**
 - **Students are encouraged to use art and media, but it must not extend beyond 1 minute. Utilizing these to explain a concept better is highly encouraged! For example, songs, movies, commercials, poetry, paintings/drawings, photography, TikTok, Instagram Reels, YouTube Reels, etc.**
- Students can earn two extra points in all exams. Each student may present up to 2 times per exam (**a possible four extra points can be earned per each exam**)

8. LATE WORK

- **Each day an assignment is turned in late, there will be a 15-point deduction.**

Course Schedule:

This schedule is subject to change. Any changes will be announced in-class or on **Canvas. It is your responsibility to obtain the amended schedule provided by instructor.*

(NOTE: The reading assigned for each day is discussed *that day* and should be read before the class meets):

WEEK	DATE	MODULES & TOPICS	EVALUATIONS
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Module 1 (M1): Introduction to Ethics in Science
What Is Philosophy? What Is Philosopher? What Does It Mean to *Do* Philosophy?

WEEK 1	TUES 1/14	Intro. To Course & Syllabus Review		QUIZ 1
		<p>AGENDA:</p> <ul style="list-style-type: none">• Introductions• Quiz 1: No prior reading necessary• Syllabus Overview• Intro to Plato & Aristotle• How to read philosophy & succeed in class <p>HOMEWORK DUE FOR NEXT CLASS</p> <p>Read</p> <p><input type="checkbox"/> Syllabus (part of the next quiz)</p> <p><input type="checkbox"/> Durant, <i>The Story of Phil.</i>, “To The Reader,” 1-14 (14pgs)</p> <p>Watch</p> <p><input type="checkbox"/> <u>Socrates and the Fall of Athens Documentary</u> (30 minutes, 15 min at x2 speed).</p> <p><input type="checkbox"/> Cornel West, “<u>Examined Life</u>” Video (14 minutes)</p>		
		<p>IDEAS FOR EXTRA CREDIT: FIVE-MINUTE ANALYSIS:</p> <ul style="list-style-type: none">• Lyrical Analysis: <u>John Meyer – Something’s Missing</u>• Or pick your own art		
	TR 1/16	What is Philosophy? According to Will Durant’s and Cornell West’s Perspective		QUIZ 2
		<p>AGENDA:</p> <ul style="list-style-type: none">• Quiz 2• Review• Lecture/Discussion <p>HOMEWORK DUE FOR NEXT CLASS</p> <p>Read</p> <p><input type="checkbox"/> Plato, <i>Phaedo</i> (all)</p> <p>Watch</p> <p><input type="checkbox"/> <u>Socrates and the Fall of Athens Documentary</u> (30 minutes, 15 min at x2 speed).</p> <p>Resources</p> <ul style="list-style-type: none">• You can find audiobook versions of Plato’s writing on YouTube to follow along as you read.• <u>SparkNotes</u> summaries will help with understanding the general ideas		
		<p>IDEAS FOR EXTRA CREDIT INSPIRATION: FIVE-MINUTE ANALYSIS (UP TO TWO PEOPLE):</p> <ul style="list-style-type: none">• Lyrical Analysis: <u>David Penn, Roland Clark – The Power</u>		

WEEK 2	TUES 1/21	What is Philosophy? According to the Greeks	
		AGENDA: <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> <i>On the Distinctive Value of Mexican American Philosophy: Beginning with the Concerns and Intuitions of Mexican Americans</i> by Lori Gallegos de Castillo and Francisco Gallegos	QUIZ 3
	TR 1/23	What is Philosophy? Mexican American Perspective	
		AGENDA: <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion: HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> Brian Burkhardt, <i>Indigenizing Philosophy through the Land</i> , Introduction	QUIZ 4

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WEEK 3	T 1/28	M1: What is Philosophy? Indigenous Perspectives	
		AGENDA: <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion HOMEWORK DUE FOR NEXT CLASS Read <ul style="list-style-type: none"> <input type="checkbox"/> Angela Potochnik et. al, <i>Recipes for Science</i>, Intro (pgs.1-4) <input type="checkbox"/> Angela Potochnik et. al, <i>Recipes for Science</i>, Ch. 1 “What is Science?” <input type="checkbox"/> PROJECT: TEAM RULES DUE BY NEXT CLASS Watch <ul style="list-style-type: none"> <input type="checkbox"/> <u>Philosophy of Science Part 1</u> 	QUIZ 5
	Module 2 (M2): Ethical Frameworks and Scientific Inquiry		
	TR 1/30	DUE: <ul style="list-style-type: none"> <input type="checkbox"/> PROJECT: TEAM RULES DUE AGENDA: <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion: HOMEWORK DUE FOR NEXT CLASS Read <ul style="list-style-type: none"> <input type="checkbox"/> Adam Briggie and Carl Mitcham, <i>Ethics and Science</i>, Ch. 1 Watch <ul style="list-style-type: none"> <input type="checkbox"/> <u>Philosophy of Science Part 2 (36:45 min)</u> 	QUIZ 6

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WEEK 4	T 2/4	Ethics & Science	
		<p>AGENDA:</p> <ul style="list-style-type: none"> • Quiz • Review • Workshop Day: Finalize topic with Prof. Vargas & Begin researching action <p>HOMEWORK DUE FOR NEXT CLASS</p> <p>Read</p> <p><input type="checkbox"/> Adam Briggie and Carl Mitcham, <i>Ethics and Science</i>, Ch. 2, 23-46</p> <p>Watch</p> <p><input type="checkbox"/> <u>Philosophy of Science Part 3</u></p> <p><input type="checkbox"/> PROJECT: TOPIC CONFIRMATION IS DUE TOMORROW</p>	<p>QUIZ 7</p>
	TR 2/6	Ethical Concepts & Theories	
		<p>Due:</p> <ul style="list-style-type: none"> ○ PROJECT: TOPIC CONFIRMATION IS DUE <p>AGENDA:</p> <ul style="list-style-type: none"> • Quiz • Review: Adam Briggie and Carl Mitcham Ch. 2 (Virtue Ethics) • Workshop Day: Finalize topic with Prof. Vargas & Begin researching action <p>HOMEWORK DUE FOR NEXT CLASS</p> <p>Read</p> <p><input type="checkbox"/> Adam Briggie and Carl Mitcham, <i>Ethics and Science</i>, Ch. 2, 41-65</p>	<p>QUIZ 8</p>

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WEEK 5		Ethical Concepts & Theories	
	T 2/11	AGENDA: <ul style="list-style-type: none"> • Quiz • Project Workshop Day: Develop A Plan For “Get Involved” Section Of The Ethics In Action Project <ul style="list-style-type: none"> ○ Meet with Prof. Vargas to discuss <ul style="list-style-type: none"> ▪ Identified An Action/Organization to Work With ▪ When Will You “Get Involved”? • Review: pg. 41-65 (Deontology, Consequentialist theories, etc.) • Workshop Day: Finalize topic with Prof. Vargas & Begin researching action HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> Adam Briggie and Carl Mitcham, Ethics and Science, Ch. 3	QUIZ 9
		Science And Its Norms	
	TR 2/13	Deadline: <input type="checkbox"/> Submit “Get Involved” Plan for Approval By 11:59 Pm AGENDA: <ul style="list-style-type: none"> • Quiz 9 • Discuss: Ch 3 HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> Adam Briggie and Carl Mitcham, Ethics and Science, Ch. 4	QUIZ 10

Module 3: Research Ethics

Week 6		Research Ethics I: Responsible Conduct	
	T 2/18	Agenda <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion: HOMEWORK DUE FOR NEXT CLASS <input type="checkbox"/> Adam Briggie and Carl Mitcham, Ethics and Science, Ch. 5	QUIZ 11
		Research Ethics II Science Involving Humans	
	TR 2/20	Agenda <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion: HOMEWORK DUE FOR NEXT CLASS <input type="checkbox"/> Adam Briggie and Carl Mitcham, Ethics and Science, Ch. 6	QUIZ 12

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Week 7		Research Ethics Iii: Science Involving Animals	
	T 2/25	AGENDA <ul style="list-style-type: none"> • Quiz • Review Lecture/Discussion: HOMEWORK DUE FOR NEXT CLASS <input type="checkbox"/> Adam Briggie and Carl Mitcham, Ethics and Science, Ch. 8	QUIZ 13
		Science, Ethics, and Public Policy: From Ethics to Politics And Policy	
	TR 2/27	AGENDA <ul style="list-style-type: none"> • Quiz • Review • Lecture/Discussion: • PROJECT CHECK-IN HOMEWORK DUE FOR NEXT CLASS	QUIZ 14

Week 8		Revisiting Key Ethical Theories	
	T 3/4	AGENDA: <ul style="list-style-type: none"> ○ Quiz ○ MIDTERM REVIEW HOMEWORK DUE FOR NEXT CLASS <input type="checkbox"/> Bring Scantron <input type="checkbox"/> Bring Blue Book <input type="checkbox"/> Pencils <input type="checkbox"/> You may fill one 3X4 notecard with handwritten notes to help you in the exam.	QUIZ 15
	TR 3/6	MIDTERM EXAM (Midpoint of the semester)	

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Week 9 SPRING BREAK: NO CLASS	T 3/11	HOMEWORK DUE FOR NEXT CLASS <input type="checkbox"/> Charles Mills, Blackness Visible, “ <i>But What Are You Really?</i> ” <i>The Metaphysics of Race</i> ” <input type="checkbox"/> Dorothy Roberts, Fatal Invention, “ <i>Invention of Race</i> pgs. 3-12” (skim)
	TR 3/13	

MODULE 4: The Role of Science in Society:

Week 10	T 3/18	Philosophy Of Race, Race, and Science AGENDA: <ul style="list-style-type: none"> Lecture/Discussion: <ul style="list-style-type: none"> "<i>Mills and Roberts on the Metaphysics and Invention of Race: Unpacking Social Constructs and Lived Realities</i>" Quiz Review HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> Naomi Zacks, Philosophy of Race, <i>Social Construction and Racial Identities</i> <input type="checkbox"/> Roberts, <i>Invention of Race</i> - pgs. 13-25 (12) (skim)	QUIZ 16
	TR 3/20	Philosophy Of Race, Race, and Science AGENDA: <ul style="list-style-type: none"> Lecture/Discussion: <ul style="list-style-type: none"> "Zack and Roberts on the Social Construction of Race and Racial Identity: Philosophical and Historical Perspectives" Quiz Review HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> Laura Pulido, <i>Rethinking Environmental Racism</i> Watch <input type="checkbox"/> <u>Environmental Racism: Last Week Tonight with John Oliver</u> <input type="checkbox"/> <u>The Bath Riots of El Paso, TX</u>	QUIZ 17

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Week 11		Contemporary Ethical Issues in Science: Philosophy Of Race, Science, and the Environment	
	T 3/25	AGENDA: <ul style="list-style-type: none"> Lecture/Discussion: <ul style="list-style-type: none"> “Pulido and the Bath Riots: Rethinking Environmental Racism and Historical Resistance” Quiz Review HOMEWORK DUE FOR NEXT CLASS Read <input type="checkbox"/> W.E.B. Du Bois “ <i>Of Our Spiritual Strivings</i> ,” <i>Souls of Black Folk</i> , <input type="checkbox"/> <u>Manifesto El Paso Massacre</u>	QUIZ 18
		Race & Environmental Racism	
	TR 3/27	AGENDA: <ul style="list-style-type: none"> Lecture/Discussion: <ul style="list-style-type: none"> Du Bois and the El Paso Manifesto: Race, Identity, and the Legacy of Violence Quiz Review HOMEWORK DUE FOR NEXT CLASS <ul style="list-style-type: none"> No homework 	QUIZ 19

Final Presentations

Week 12		Presentations	
	T 4/1	Last project workshop day	Quiz 20
		Presentations	
	TR 4/3	CLASS PRESENTATIONS BEGIN: Groups: 1. _____ 2. _____	QUIZ 21:

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Week 13	T 4/8	Presentations	
		CLASS PRESENTATIONS BEGIN: Groups: 3. _____ 4. _____	QUIZ 22
	TR 4/10	Presentations	
		CLASS PRESENTATIONS BEGIN: 5. _____ 6. _____	QUIZ 23

Week 14	T 4/15	Presentations	
		CLASS PRESENTATIONS BEGIN: 7. _____ 8. _____	QUIZ 23: LAST WEEK'S PRESENTATION CONTENT
	TR 4/17	Presentations	
		CLASS PRESENTATIONS BEGIN: 9. _____ 10. _____	QUIZ 24: LAST WEEK'S PRESENTATION CONTENT
Week 14	T 4/15	Presentations	
		CLASS PRESENTATIONS BEGIN: 1. _____ 2. _____	QUIZ 23: LAST WEEK'S PRESENTATION CONTENT
	TR 4/17	Presentations	
		CLASS PRESENTATIONS BEGIN: 3. _____ 4. _____	QUIZ 24: LAST WEEK'S PRESENTATION CONTENT

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Week 16	T 4/29	Final Exam Review
	TR 5/1	FINAL EXAM Time: Same as regular class schedule Location: Same as regular classroom