

PHIL 3000 Cosmology and Culture

UCCS FALL 2018

Faculty Information:

Name: Dr. Dorothea Olkowski

Email: dolkowsk@uccs.edu

Office: Columbine 4001

Office Hours: By appointment

Name: Dr. Joseph Kuzma

Email: jkuzma@uccs.edu

Office: Columbine 4055

Office Hours: By appointment

Why are we here?

Welcome to PHIL 3000 - Cosmology and Culture! This course will examine how science and literature offer similar perspectives on the same complex and unfolding universe. Central to the course are readings inspired by science that provide students with models for creating their own poems, stories, and essays. For example, students might consider how Galileo's invention of the telescope influenced the images and themes of 16th century literature and poetry, or how Einstein's theory of relativity has influenced our understanding of global relations.

Course Outcomes

Upon completing the course, students will be able to:

- 1) Identify major theories of cosmology, from Aristotle to the present day.
- 2) Explain key scientific and astronomical concepts.
- 3) Apply techniques for cultural critique.
- 4) Analyze works of literature drawn from multiple cosmological contexts.
- 5) Evaluate the strengths and weaknesses of various worldviews.
- 6) Collaborate to create political, religious, scientific, and literary institutions.

Required Course Texts:

- Richard Dewitt, *Worldviews, An Introduction to the History and Philosophy of Science*, 2nd Edition. Hoboken: Wiley-Blackwell Publishing, 2010. (E-Textbook required, available through Amazon)
http://www.amazon.com/Worldviews-Introduction-History-Philosophy-Science-ebook/dp/B005D7EP60/ref=mt_kindle?_encoding=UTF8&me=
- American Institute of Physics Website
(<http://www.aip.org/history/cosmology/>)
- Selected Literary Texts Provided on Blackboard (see Schedule Below)

Graded Assessments:

1. 1+1 Assignments (25% of final grade): Multiple times over the course of the semester you may have the opportunity to complete a 1+1 assignment. After viewing the day's video-lecture and reading the assigned chapters from the textbook, we'd like to give you the opportunity to choose 2 slides (from different parts of the video-lecture) and tell us how each one relates to the day's course material. Please copy and paste your chosen slides into your response. For full-credit, your submissions should be one-page in length and should follow this format:

Slide #1: copy and pasted into the response.

- A full-paragraph exploration of the concepts, ideas, themes, formulae, or theories related to the slide.
- Supporting quotations from the textbook.
- Specific reference to any supplemental links provided for the day (such as AIP website, Youtube video, etc.)
- Commentary on how it relates to Dr. O.'s lecture

Slide #2: copy and pasted into the response.

- A full-paragraph exploration of the concepts, ideas, themes, formulae, or theories related to the slide.
- Supporting quotations from the textbook.
- Specific reference to any supplemental links provided for the day (such as AIP website, Youtube video, etc.)
- Commentary on how it relates to Dr. O.'s lecture

For full-credit, your posts should follow this format each time. Submit your work properly on Canvas. Do not submit your work in the “comments box” or as an external attachment. These submissions will not be graded.

2. Evaluate and Create, Know and Explore Assignments: (25% of final grade): Multiple times during the semester you will be given the opportunity to reflect thoughtfully on the day’s literary readings and to write a 1-page personal response, or to complete other tasks related to your reading (such as an intergalactic time-capsule, as specified). In most cases, this assignment will typically ask you to address the connection between a literary text and a specific era in the history of cosmology and its tools. To accomplish this task, you will need to visit the American

Institute of Physics website: (<http://www.aip.org/history/cosmology/>). For full-credit, you will need to reference the assigned reading, the video-lecture material, and the AIP website material. Make sure to read the specific instructions accompanying each prompt. Do not submit your work in the “comments box” or as an external attachment. These submissions will not be graded.

3. Essay (25% of final grade): At the beginning of Day 5, you will be assigned a specific area of focus for your two, end-of-semester assessments. Each student will have the opportunity to conduct special research into either one chapter from the *Worldviews* textbook, or one required reading from a literary text, as selected by the professors. In addition to the primary, required readings pertaining to your area of special focus, you should consult two secondary sources related to your topic.

Once your research is completed, you will embody a character based on your assigned area of focus. This area of focus may be scientific, philosophical, or literary in nature – and the character that you embody will be an actual person from the course reading materials in this area of focus. For instance, your character may be (among many other possibilities) Aristotle, Ptolemy, Newton, Copernicus, Dante in the *Paradiso*, or an inhabitant of Calvino’s city of Perinthia (among many other options).

The point of embodying and developing this character is two-fold. First, you will write your essay *from the perspective of your character*. This means that you will not simply be telling us what Copernicus (for example) believed and what his contributions to science were, you will be writing *as* Copernicus, in the first-person, defending your views and arguing for their importance. Feel free to anticipate potential criticisms of your view, and try to respond to them in a way that your character

might have been likely to do.

Alternately, you may write a short-story based on your character that prominently integrates philosophical themes, concepts, or worldviews. If you choose the short-story option, however, you must include a brief abstract at the beginning of your story detailing the philosophical or scientific ideas you are working with.

Please make sure to follow all the Writing Guidelines listed in this syllabus!

Essays should be approximately 2 pages in length.

4. Act and Interact Assignment (25% of final grade): At the beginning of Day 5, you will also be assigned to a city-team for the Act and Interact assignment. This will be your second opportunity to use your character.

Once you have completed your research, and submitted your essay, you will collaborate with your team-members to create an imaginary city based on your worldview. You may start by choosing a name for your city and creating either an emblem, symbol, or flag to represent its central beliefs.

Next, each student will specify how they would contribute to the city and describe what these contributions would entail. Finally, working collaboratively, and using course materials as a guide, each student will work with team-members to create and discuss in as much detail as possible the city's culture. This will involve deciding what the city's science, scientific tools, and philosophy might look like; as well as determining what its possible views on religion might be, and what work of literature the city would find exemplary. What sort values will your city promote? How will your city view "outsiders"? What will life inside your

city be life? How will science, philosophy, and culture factor into this? Please also dedicate some consideration to describing your city's limits or weaknesses.

Once the collaborative process has been completed, each team should draft a final "overview" document summarizing its city and containing a summary of what each character has contributed. This document will include the names of all students on the team who participated. Once the document has been finalized, each student will submit it on Canvas.

Your individual grades will be determined based on the quality, creativity, and accuracy of your various contributions to your team's Discussion Board.

Grading Breakdown:

A: 100%-94%; A-: 93%-90%; B+: 89%-87%; B: 86%-84%; B-: 83%-80%; C+: 79%-77%; C: 76%-74%; C-: 73%-70%; D: 69%-60%; F: 60% >

Homework/Discussions/Project Policy:

No late work will be accepted. You will be responsible for submitting your work on time. Specified protocol for all submissions must be followed. All assessments will be turned-in or posted on Blackboard.

Plagiarism and Cheating:

Plagiarism is intellectual theft and will not be tolerated. Any idea you owe to someone else that is not general knowledge must be documented.

Honest intellectual work on all assignments and tests is expected. Any plagiarism and/or cheating will result in a zero.

Disability Services:

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to register with Disability Services and provide them with documentation of your disability. They will work with you to determine what accommodations are appropriate for your situation. To avoid any delay, you should contact Disability Services as soon as possible. Please contact Disability Services for more information at Main Hall room 105, 719-255-3354 or dservice@uccs.edu.

UCCS Policy Links:

Plagiarism: <http://www.uccs.edu/las/las-plagiarism-policy.html> Student Code of Conduct and Behavior Policy: <http://www.uccs.edu/dos/student-conduct.html> Discrimination and Harassment: <http://www.uccs.edu/vcaf/policies/uccs-policies.html>

Writing Guidelines for Final Paper:

1. Use a title page for your final paper only.
2. You must have page numbers on each page except the title page. Your first page of actually writing is page 1.
3. Your papers must be double-spaced, 12 pt. Times New Roman or a nice easy to read font with 1" margins.
4. Use subtitles where appropriate. They give order and structure to your paper.
5. You must document all your sources in the final paper through a recognized format (MLA, Chicago, APA etc.).
6. Your final essay must contain a Bibliography that properly documents all of your sources. (This page does not count as one of your required pages.) Please document ALL secondary sources on the required readings.
7. Information in your writing must be organized in well-constructed paragraphs with minimal grammatical, spelling, and punctuation errors. Carefully check spelling, punctuation, grammar, capitalization,

paragraphing, and documentation. Underline or italicize book titles, magazines, and journal titles.

8. Do not be overly autobiographical. Do not write, “I think that X is true because of Y.” Simply write “X is true because of Y.” Any personal pronouns must relate directly to the substance of your paper.

9. Periods and commas go inside quotation marks—“Like this.”—not outside of them—“Like this”.

10. Use but don’t overuse direct quotations from sources. I want to know how YOU summarize the material.

11. Paragraphs should contain one main idea. They should not go on for several paragraphs, nor should they be only one sentence.

12. Don’t give a report on the life of a philosopher or a paper that is merely describes ideas without explaining them.

Course Schedule:

Module 1: August 20

- View: Dr. Olkowski's lectures on Canvas
- Read: The chapters below from the **Worldviews** textbook
- Ch. 1 What is a Worldview?
- Ch. 2 What is truth? Correspondence or Coherence? Descartes.
- Ch. 3 Facts and Concepts
- Ch. 8 Instrumentalism and Realism
- Discussion Board: Personal Introductions
- Complete: 1+1

Module 2: August 27

- View: Dr. Kuzma's video-blog on BB
- Download and Read: "Second Person, Present Tense"
- Complete: Evaluate and Create, Know and Explore #1

Module 3: September 3

- View: Dr. Olkowski's lecture on BB
- Read: The chapters below from the **Worldviews** textbook
- Ch. 9 Aristotelian Worldview
- Ch. 10 Ptolemy
- Ch. 11 Astronomical Data: Empirical
- Ch. 12 Astronomical Data: Philosophical/Conceptual Facts
- Complete: 1+1

Module 4: September 10

- View Dr. Kuzma's Video-Blog on BB
- Download and Read: Selections from Dante's *Inferno*
- Access: AIP website "Greek Worldview" and "Naked Eyes"
- Discussion Board: Selected Canto Explication

Module 5: September 17

- View: Dr. Olkowski's Lecture on BB
- Read: The chapters below from the **Worldviews** textbook
- Ch. 13 Ptolemaic System
- Ch. 14 Copernican System
- Ch. 15 Tychonic System
- Ch. 16 Kepler
- Access: AIP "Start of Scientific Cosmology" and "First Telescopes"
- Complete: 1+1

Module 6: September 24

- View: Dr. Kuzma's Video-Blog on BB
- Download and Read: Selections from Dante's *Paradisio*
- Complete: Evaluate and Create, Know and Explore #2

Module 7: October 1

- View Dr. Olkowski's Lecture on BB
- Read: The chapters below from the **Worldviews** textbook

- Ch. 17 Galileo and the telescope
- Ch. 18 Summary
- Ch. 19 The New Science
- Complete: 1+1
- **Characters for Essays Assigned**

Module 8: October 8

- Download and Read: Selections from Calvino's *Invisible Cities*
- View: Dr. Kuzma's Video-Blog
- Access: AIP "Mechanical Universe" and "Early Reflectors"
- Complete: Evaluate and Create, Know and Explore #3

Module 9: October 15

- Online Writing Workshop
- Complete: Writing Process Reflection
- Complete: Concept Summary and Peer Review

Module 10: October 22

- View: Dr. Olkowski's Lecture on BB
- Read: The chapters below from the **Worldviews** textbook
- Ch. 20 Newtonian Worldview
- Ch. 21 Scientific Law
- Ch. 22 Special Theory of Relativity
- Access: Relativity Theory Video
- Complete: 1+1

Module 11: October 29

- View: Dr. Kuzma's Video-Blog on BB
- Download and Read: Calvino's "Light Years"
- Access: AIP "Island Universes"; "Golden Era of Refractors"; "Expanding Universe"; "Spectroscopy and the Birth of Astrophysics"
- Access: Quantum Universe Video
- Complete: Evaluate and Create, Know and Explore #4

Module 12: November 5

- Download and Read: LeGuin's "Omelas"
- View: Dr. Kuzma's Video-Blog on BB
- Complete: Evaluate and Create, Know and Explore #5
- Final Paper Due Sunday, November 11 by 11:59pm.

Module 13: November 12

- ACT AND INTERACT ASSIGNMENT
- Final Group Project Summary Due Sunday, November 18 by 11:59pm.