**CAS 101H: Reacting to the Past**

*Kansas 1999: Evolution and Creation Sciences* and *Climate Change in Copenhagen, 2009*

University of Oregon – Spring 2016 – CRN 36443

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**Course Description:** This course employs an exciting approach to learning called Reacting to the Past. Reacting courses consist of elaborate games, set in the past, in which students are assigned roles informed by historical texts. In this class, you will learn to construct arguments from these texts and then support your positions through reasoned, sometimes impassioned, writing and speeches. As you take control of an unfolding historical drama and struggle for your characters to prevail, you will become deeply engaged, both intellectually and emotionally, with the subject matter. I will act as the gamemaster, determining your roles, preparing you to play, grading your work, and occasionally nudging the games as they develop.

We will be playing two games over the ten-week term. The first focuses on a scientific, political, and religious argument in the Kansas Board of Education in 1999 about what material should be included in the K-12 science curriculum, the second on the an international meeting in Copenhagen in 2009 to discuss a climate change treaty. Both games highlight how groups can deny scientific evidence and construct alternative interpretations due to an external motive in one case for religion (Kansas) and in the other for profit from oil sales (Copenhagen). Each game is described in more detail below.

***Kansas 1999: Evolution and Creation Sciences*** is set in 1999 and 2000 when Christian Conservatives on the Kansas Board of Education have deleted macroevolution and Big Bang cosmology from the state science curriculum. The game centers on the election of a new Board of Education which must, for legal reasons, revisit the decision. Students will campaigns for office through press conferences, sponsored debates, and are encouraged to involve the larger campus community in the issues. Following the election, the Board meets to resolve the science curriculum issue.

The controversy in Kansas lies on a continuum that begins with the trial of Galileo. Most states in the South and Midwest have struggled with this issue and even New York limits the teaching of evolution. The Kansas controversy is uniquely interesting. It coincided with the controversial presidential election of 2000 in which both candidates took sides on the issue. It was also part of a struggle for control within the Republican Party of Kansas and involved large numbers of outside interests and national attention for the controversy. The final outcome is a science standards document for use by the state of Kansas.

***Climate Change in Copenhagen, 2009,*** invites students to an international meeting held in Copenhagen in December, 2009 to negotiate a treaty to replace the Kyoto Treaty. Before the game, students will explore the basics of the greenhouse effect, the carbon cycle, and the feedback mechanisms in the global climate. During the game, students representing the Intergovernmental Panel on Climate Change (IPCC) present the case for human induced climate change and argue for immediate action. Climate deniers challenge the scientific basis for this. The game then moves to a discussion of the impact of climate change on developing nations and the philosophical and moral implications of continued pollution. Finally, the national representatives attempt to formulate a treaty that the major polluters can sign.

**Learning objectives**

This course will improve your ability to:

1. Speak and write clearly, analytically, and persuasively.
2. Read complicated texts and critically evaluate their arguments and evidence.
3. Lead discussions, conduct negotiations, and work in teams to solve problems in a climate of rival interests, irreconcilable values, and incomplete information.
4. Analyze—through simulated firsthand experience—the extent to which individuals and groups can affect the course of history.

**Learning objectives for Kansas Game**

Students will be able to

1. Define science.
2. Compare and contrast microevolution and macroevolution.
3. Interpret geological time scales and the fossil record of the evolution of life.
4. Summarize the processes involved in evolution, including random mutations, symbiosis, and environmental change.
5. Critique the evidence for the Big Bang Cosmology.
6. Critique the theory of Intelligent Design.
7. Assess the relationship between church and state in the US Constitution.
8. Examine the tensions between science and religion within American society.
9. Debate the concept of civil religion and its role within American society.

**Learning objectives for Copenhagen Game**

Students will be able to

1. Explain the carbon cycle.
2. Explain the physics of the greenhouse effect and the effects of greenhouse gases.
3. Explain positive and negative feedback mechanisms
4. Explain heat transport in the climate system.
5. Construct reasonable arguments for their game role based on knowledge of the underlying science.
6. Compare and contrast the differences between developed and less developed countries economic problems and challenges with respect to climate change.
7. Extrapolate environmental justice, economics, and philosophy to the position of their country.

**Workload**

The readings at the beginning of each game are difficult by design, intended to familiarize you very rapidly with complex historical, political, and scientific dilemmas. Don’t be alarmed or discouraged; this is part of the plan. Nor should you be fooled by the absence of reading assignments in the weeks when the game is being played. During this time, you will be frantically caucusing with other members of your factions (both online and in person), drafting speeches and writing assignments using arguments derived from course texts, rebutting and co-opting your fellow students’ own speeches and writings, and repeatedly delving back into the course material to fashion new arguments and develop an ever deeper understanding of the issues. Many students become so immersed in their roles that they devote extra time to the course over and above the formal requirements. Don’t hesitate to get involved in this way—it’s part of what Reacting is all about—but don’t let other obligations fall by the wayside!

**Grades and assignments**

15% Quizzes (2 for Kansas and 1 for Copenhagen)

25% Kansas Game papers (10-15 pages)

25% Kansas and speeches (see role sheet for details)

10% Copenhagen Game argument outline

10% Copenhagen speeches

15% Class participation

Raw grades on papers and other course materials will be posted on Canvas ([canvas.uoregon.edu](http://canvas.uoregon.edu/)). Canvas may show a cumulative grade of the items submitted on Canvas, but it may not include all of the components of your final grade. There is no final exam and no assignments are due during exam week.

The **quizzes** test your understanding of the background readings and science that we will be studying during the preparation for each game; they will be objective in format, with multiple-choice and/or short answer questions.

The **papers and argument outline** you are responsible for depend on your role; more guidance will be given in class and on role sheets. Most will take the form of short speeches or position papers taking a particular stance on a given issue. While papers need not (and probably should not) be written in traditional academic style, they should still cite evidence consistent with your character, make logical arguments, consider the views of others, and exhibit good style and perfect grammar and spelling. All papers must include proper citations for references and material that you learned from a source that you have read. Need a refresher on how to do this?  Please ask!  Great online resource is on the Purdue Owl site. <https://owl.english.purdue.edu/owl/> The paper length is up to you, but three pages (±750 words) is typical. A rubric for the grading of the papers is provided on Canvas.

You will also present the content of your papers as **speeches** in class. These should match the content of your papers but should not be read. Your speeches will be assessed based on the elements of good presentation from the Lily Lamboy videos.

**Before class** you should post each of your papers on Canvas **twice**, once under Assignments for me to grade, and once under on the appropriate Discussion to give your classmates a record of what your character has argued. Clearly indicate your name, your role, and the topic of each paper within the body of the submission.

The **class participation** component of your grade is based on how *successfully* you play your assigned role, but also on how *faithfully* you do so. Do not be tempted into being untrue to your character purely to advance your victory objectives, or to avoid a tragic end of the game. It will cost you if you do so. In determining your class participation grade, I’ll be paying close attention to a number of factors: the quality and quantity of your public statements during open discussions and faction meetings, your ability to make alliances—and handle disagreements—with other players, and the depth of your engagement with course readings. Lastly, you may be rewarded for winning the game and achieving your victory objectives, but this is a small component of the participation grade since the game is to some extent biased toward certain outcomes.

As a practical matter I maintain a log with a record of each student’s participation. I also keep track of what students are doing outside of class in preparation for the game. Because I will be in frequent communication with game players, I have a good idea of what different individuals and different factions are doing and thinking about doing.

**Class attendance is required.**  The games simply will not function in your absence. You will not be able to properly play your roles without attending the pre-game sessions. Missing two sessions of the games themselves without a valid excuse will result in failure for the course.

**Readings**You will need to purchase a copy of the Student Gamebook for the Kansas Game and Copenhagen Game at the Duck Store. This gamebook includes several of the required readings. Also available at the bookstore are two required texts for the Kansas Game.

Margulis, Lynn and Sagan, Dorion. ***Microcosmos – Four Billion Years of Microbial Evolution***. University of California Press, Berkley, 1986.

Keller, Michael. ***Charles Darwin’s on the Origin of Species: A Graphic Adaptation***. Roadle Books, New York, 2009. (This should be read in conjunction with the selections of the Origin of the Species in the gamebook.

***Canvas and Science Library:***  Additional readings for the Kansas game are listed on the course Canvas site. Some are listed as pdfs and others as links (these are more up to date than in the Kansas Gamebook). Several books that will be important for different factions of the Kansas Game are on hold at the Science Library. You will need to use these resources as not all material for your roles will be available online. If you need a book that our library does not own, it can be requested through Summit and will arrive on campus in approximately 3 days.

Reading assignments on the schedule below should be completed *before* the relevant class. Most readings are in the Gamebook and for others, I highly recommend that you download the readings, print them out, and mark them up as you read, underlining key sentences and making notes in the margins. This will help you retain what you read. The Kansas Gamebook also includes discussion questions for many of the readings; writing answers to each of these questions will help you better prepare and our class discussions will build on the assumption that you have answered them.

**Detailed Class Schedule**

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| **Date** | **Activity** | **Homework (to be completed before class)** |
| **Week 1** 3/29 | **Introduction to the Course****Kansas Game** |  |
| 3/31 | **Discussion about *Civil Religion in America* and Gamebook**Distribution of Roles | Read Gamebook Introduction, Appendices 1-3 Read Robert Bellah *Civil Religion in America* |
| **Week 2**4/5 | **Discussion of Appendices 4-9****Quiz #1** on Gamebook readings**Faction meetings** | Read Gamebook Appendices 4-9Watch Lily Lamboy Videos |
| 4/7 | **Discussion of *Origin of the Species*****Lab** on Natural Selection | Watch *Origin of the Species: The Making of a Theory* before readingRead Charles Darwin *Origin of the Species* from Gamebook and Graphic Novel (Chapters 1-4)  |
| **Week 3** 4/12 | **Discussion of *Origin of the Species*****Faction meetings** | Read Charles Darwin *Origin of the Species* from Gamebook and Graphic Novel (Chapters 5-14) |
| 4/14 | **Discussion of *Microcosmosos* and Big Bang****Quiz #2** on Darwin and Margulis & Sagan**Faction meetings** | Read Lynn Margulis & Dorion Sagan *Microcosmos* (pages 29-191) |
| **Week 4** 4/19**Week 4** 4/19continued | **Kansas Game Session 1—****Elections Campaign**Press Conferences – AAAS holds a press conference to present their positions and take questions. Christian Coalition press conference follows same format. After the press conference, one third of candidates will have a candidate forum moderated by one indeterminate candidate. Candidates may be questioned by the audience and by other candidates as recognized by the moderator. | Press conferences (limited to 10 minutes each) and papers due for:AAASChristian CoalitionEveryone should prepare one question for each Press Conference.Candidate Forum and papers for:Linda HollowayBruce WyattDelsin JohnsonBrad Angell |
| 4/21 | **Kansas Game Session 2—****League of Women Voters Debates**League of Women Voters sponsors two debates for candidates for the BOE. One third of candidates will participate in each. Candidates may be questioned by the audience and by other candidates as recognized by the moderator.Election for Kansas Board of Education | League of Women Voters Debate 1 and papers:John BaconJanet WaughPatrick HillSue GambleLeague of Women Voters Debate 2 and papers:Mary Douglass BrownJohn StaverEloise LynchWayne Holt |
| **Week 5** 4/26 | **Discussion of Hume and Johnson****Lab** on Half LifeNew roles for candidates not elected  | Read Hume *Dialogues Concerning Natural Religion* (Gamebook)and Johnson *Evolution as Dogma* (Canvas) |
| 4/28 | **Kansas Game Session 3—Board Organization and Faction Meetings**Factions will meet and reorganize due to shift in roles. Board will meet to elect Chair and set agenda for public hearings.  | Board members must submit all proposed business to the Chair so that he/she can schedule time at board meetings for all issues to be discussed. (May be finalized during faction meetings) |
| **Week 6** 5/3 | **Kansas Game Session 4—****KBOE Public Hearing on Nature of Science**During this session, the statement in the science curriculum on the nature of science must be debated and draft language will receive preliminary approval subject to a final vote.KBOE Public hearing – The Board will certainly want to hear from experts on each side of today’s issues. Board Chair will determine the order in which sides will present their cases. Groups who wish to speak should also receive an audience – Christian Coalition, AAAS, parents, teachers, and school administrators. | Each faction (Creationist and Evolutionist) must submit a written science curriculum document. Board Members who have placed items on the agenda for a vote should also submit papers and make presentations. Public representatives will submit papers and participate in public hearing.Janet WaughPatrick HillDelsin JohnsonBrad AngellWayne Holt |
| 5/5 | **Kansas Game Session 5—****KBOE meeting on Macroevolution**During this session, the Board must debate the issue of Macroevolution. Public Hearings may be needed on this issue as well. | Factions will propose specific language about macroevolution for the curriculum document which will receive preliminary approval subject to a final vote. Speeches and papers on Macroevolution.Eloise LynchKenneth MillerLinda HollowayRoberta Combs |
| **Week 7**5/10 | **Kansas Game Session 6—****KBOE meeting on Big Bang** During this session, the Board must discuss the Big Bang component of the science curriculum. Public Hearings may be needed on this issue as well.A final vote on all issues will be held at the end of this class. | Factions will propose specific language about Big Bang for the curriculum document which will receive preliminary approval subject to a final vote. Speeches and papers on Big Bang.Adrian MellottJohn Bacon |
| 5/12 | **KBOE meeting on Intelligent Design and FINAL VOTE**During this session, the Board must discuss the Intelligent Design component of the science curriculum. Public Hearings may be needed on this issue as well.A final vote on all issues will be held at the end of this class. | Final language should be proposed by each faction. Speeches on Intelligent Design. |
| **Week 8**5/17 | **Kansas Game Debrief** | Indeterminate required papers due (see game sheet). |
| 5/19 | **Copenhagen Game Introduction****Quiz #3** on Gamebook | Read Gamebook. We will do exercises in Appendix 3 in class. |
| **Week 9**5/24 | **Copenhagen Game 1—****Welcoming and Issues** | Speeches and papers for:Danish Host Welcome SpeechIPCC & Green NGOsCenter for the Study of CO2 and Climate |
| 5/26 | **Copenhagen Game 2—****Treaty Negotiations** | Formal Treaty Negotiations Faction Speeches and PapersUSA & AustraliaBrazil-India-ChinaEuropean UnionLess Developed CountriesOil Producing Countries |
| **Week 10**5/31 | **Copenhagen Game 3—****Treaty Negotiations and Final Vote** | Formal Treaty Negotiations Faction Speeches and PapersUSA & AustraliaBrazil-India-ChinaEuropean UnionLess Developed CountriesOil Producing Countries |
| 6/2 | **Copenhagen Game Debrief** |  |