

**Designing a Settlement on Mars**  
*(Political Science 342: Political Design and Futuristics)*  
10/25/13

**Ethics and Writing Intensive**

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**Learning Objectives fore this class:** It is quite possible that permanent human settlements in space will come into existence within your lifetime, and that human life will begin to spread from its apparent cradle, Earth, throughout the solar system and beyond. While there are hundreds of thousands of persons working on the technology, architecture, environment--and even law, economics and psychology--of human settlements in space, almost no one is thinking about how humans might behave in such settlements, and how concepts of governance design might be used or developed to help space settlers live as they wish, rather than as architectural forms, ground mission control, or military commanders might dictate their behavior.

This course is one attempt to design a space settlement on the basis of how people want to behave, rather than requiring them to adapt to conditions that others have imposed on them.

But maybe you think humans should not waste their resources on space travel at all, but rather should stay at home and create better environmental and political structures here. No problem! What better place to think through fundamental principles of preferred political behaviors and conditions for facilitating them than on Mars? Everything we do in space will have to be brought there for some purpose. We can take nothing for granted, or because it is traditional. Thus, any ideas we might have about preferred forms of governance on Mars should also be useful for new political processes and activities on Earth as well.

In this class you will learn the basic concepts of political futures studies—that the futures can not be predicted, but preferred futures can be envisioned and invented; an overview the history and possible futures of governance, on Earth and Mars; the history and possible futures of human space exploration; and the basic geological and biospheric features of Mars compared to Earth.

You will work both individually and in teams so that you will have the chance to broaden and strengthen your own ideas about governance and preferred human behavior within a social, and not just an individual, context. You also will be encouraged throughout the course to think, not of present needs and problems, but of the needs of future generations--of people yet unborn, who you will never meet, but whose lives you greatly impact by what you do, or do not do, now. Behaving responsibly towards future generations is a significant ethical challenge we will consider in this class.

**Undergraduate Learning Objectives for all Political Science courses**

**1. Students will be able to think critically and historically about power and the political.**

Students identify and analyze power dynamics in a range of social contexts and processes, including but not limited to language, government, images of the future and civil society institutions. Students will be able to pose and explore relevant, open-ended questions about authority and legitimacy.

**2. Students will be able to craft and defend evidence-based arguments.**

This argumentative capacity is built upon their ability to rigorously and respectfully weigh competing views, synthesize multiple sources and critically reflect on their own and others assumptions. Students should be able to make arguments in both written and oral forms of communication.

**3. Students will be able to communicate effectively in public settings, with attention to and appreciation of diverse cultural contexts.**

Students are equipped for productive, civic participation in their communities, able to synthesize critical thinking, empathic, collaborative and argumentative capacities, and futures thinking with an audience in mind.

4. Students will be able **cogently to explain** the interconnectedness of local and global dynamics of power within the context of the political and cultural specificities of Hawai'i nei.
5. *In addition, in this class you will learn how to think prospectively (futuristically) about power and the political, as outlined above, and in the syllabus that follows.*

All the readings listed on this syllabus are found on Laulima

1/13 Introduction to the class

Discussion of the syllabus  
Your views of space exploration and settlement  
TRWContest

**ASSIGN: Complete TRW Contest. Due 1/15**

1/15 Introduction to political futures

Dator, "How to think about the futures"  
PolConcerns13 Assignment

**Turn in TRW Contest**

**ASSIGN: Your basic political concerns (500-600 words). Submit electronically to [dator@hawaii.edu](mailto:dator@hawaii.edu) BEFORE class on 1/22.**

1/20 Martin Luther King, Jr., Day. No class.

1/22 "Cultural Rationale for Space" (ppt and discussion)

Dator, "Cultural Rationale for Space"

**FIRST DAY TO POST "MINUTE PAPER" ON LAULIMA**

**"Political concerns" paper due today electronically to [dator@hawaii.edu](mailto:dator@hawaii.edu) BEFORE class.**

1/27 The evolution of political systems

Dator, "Evolution of political systems & political science"  
Lewellen, "Types of preindustrial political systems" and "The evolution of the state"

1/29 New models of governance (1)

Harcones, "Personalized government"

2/3 New models of governance (2)

"Aanivalta"

**FORM POLITICAL DESIGN GROUPS**

2/5 New Models of governance (3)

Bullinga, "Intelligent Government"

2/10 New models of political-economy

Pendse, "Economic systems"  
Dator, Efficiency vs Equity (notes)  
Dator, "Evolution and Devolution of Work" (outline)

**Instructions for Mars final project**

2/12 Structure Matters

Dator, Law vs. Design  
PolDesAssign13

**ASSIGN: Political Design paper (500-600 words) DUE electronically before class on 2/19**

2/17 President's Day. No class.

2/19 Introduction to Mars

Chartrand, "Mars: Just the facts"  
 NASA's Mars Exploration Home Page <http://mars.jpl.nasa.gov/>  
 View and discuss--"Mars" Universe DVD 8002

**"Political design" paper due electronically before class today.**

2/24 The resources of Mars

Meyer and McKay, "Resources of Mars for human settlement"  
 Google Mars <[www.google.com/mars/](http://www.google.com/mars/)>  
 Gangale, "Mars Calendar"  
*MarsEarthAssign14*  
 View and discuss--"Earth and Mars" (#21246)

**ASSIGN: "MarsEarth" paper (500-600 words). DUE electronically before class on 3/3.**

2/26 Space history (1)

Dator "Origins of the space age"

3/3 Space history (2)

Holquist, "The philosophical bases of Soviet space exploration"  
 View and discuss "Russian Right Stuff"  
**"Mars/Earth" paper due electronically before class today.**

3/5 Space present (1)

Dator, "Space Agencies" (notes)  
 NASA Organization  
 What is ESA?  
 Chinese National Space Agency  
 Johnson-Freese, "China-US Space"  
 JAXA History  
 Indian Space Organization  
 Russian Federal Space Agency  
 Space Tourism for Developing Agencies

3/10 Space ethics: Should we go into space at all?

"ESA and UNESCO Raise Ethical Questions Related to the Utilization of Space"  
 Lupisella, "Space ethics"  
 Weapons in Space.doc  
 Dator, "Do rocks have rights?"

3/12 Space analogs (1)

Harris, "Influence of culture on space"

3/17 Space analogs (2)

Costello, "Space-dwelling families"  
 Dator, "Structure/function of families" (notes)

3/19 Space analogs (3)

Dator, "Humans in space"

3/24, 26, Spring Break. No class.3/31 Technologies for Mars (1)

Halal, "Forecasting Futures in Space"

Zappa, "Envisioning New Technology"

4/2 Technologies for Mars (2)

Teleportation  
Joy, "the future doesn't need us"  
"Meat!"

4/7 Habitats for Mars

Maruyama, "Aesthetics and the environment of outer space"  
Atayal, "Architecture as crime control"

4/9 To Terraform or not to Terraform?

Crutzen, "Anthropocene Epoch"  
Terraform Debate  
*Space Ethics Assignment*  
**ASSIGN: Space Ethics paper. Due 4/14**

4/14, Review class

**"Space ethics" paper due.**

4/16, 21, 23 Design Groups work on group presentation

4/28 Design Group 1 report

4/30 Design Group 2 report

5/5 Design Group 3 report

5/7 Design Group 4 report

**5/14 Final individual papers due electronically. Send to [dator@hawaii.edu](mailto:dator@hawaii.edu) before 4:15 pm.**

**ON THE ASSIGNMENTS AND OTHER MATTERS:**

**This is an Ethics and Writing Intensive Course**

1. The primary purpose of this course is to help you develop your ideas about preferred forms of governance. You will do this by imagining you are designing a governing system for people living on Mars in the mid 21<sup>st</sup> Century.

Detailed instructions about how to carry out this assignment will be given to you later.

During this course, you will learn about the evolution of political systems on Earth, existing ideas for new or improved political systems, and various ideas about political design.

You also will learn something about Mars--especially in contrast with Earth--and how those differences might influence the needs and desires of people living on Mars instead of Earth, and hence might impact your political design.

There are no books to buy in this course. All material listed on the syllabus is posted on the Laulima site for this class. **READ THE MATERIAL BEFORE THE DAY IT IS TO BE DISCUSSED. USE MATERIAL FROM THE SYLLABUS IN YOUR WRITTEN AND ORAL ASSIGNMENTS.** Other material may be distributed via email or posted on Laulima from time to time.

2. In order to assist you in developing your own ideas, and in order for you to learn from what others think, **you will be assigned to a Political Design group on February 3.** You will meet with your group, face to face and online, for the rest of the semester, preparing to make a collective presentation at the end of the semester, to the class as a whole about your group's governance design for a Mars settlement.

3. Your **own personal final report is due by 4:15 PM on May 14.** It may either be entirely written (about 3000-4000 words), or in mixed media (exhibits, film, video, painting, audio, performance) but always with

SOME written, explanatory base (1500 or more words). If you intend to do a mixed media final personal project, please let me know no later than April 28.

4. In addition to the individual final project, there are four brief written assignments. Detailed information about each these four papers is in the folder on the Laulima site for the day it is assigned. **READ THOSE INSTRUCTIONS AND FOLLOW THEM CAREFULLY.**

Each of the papers assigned in the syllabus must be sent to my email address [dator@hawaii.edu](mailto:dator@hawaii.edu) as **an attachment**. Be certain **your name** and **the topic** is on the paper itself AND on the attachment label, eg:

*Tanaka Political Design*

Be sure to save copies of anything you send to me via email or on paper.

5. As part of the Writing Intensive aspect of this class, a discussion space for this class has been created on the Laulima site for this class. You are expected to access that space and to place items on it for everyone to read (and also to comment about). **As soon after each class session as possible, AND BEFORE THE NEXT CLASS SESSION BEGINS, you are to send a "minute paper" to the discussion list in which you briefly discuss two things about each class session:** (1) "The most important things I learned from class today are....." and (2) "The questions I have, or the things that remain unclear to me, after today's class are...." A comment of 150-250 words for each of these two things each class period should be sufficient. More would be appreciated. You ALSO are expected to comment about what others (including myself) say on the listserv, and to use the list as a place to carry on a continuing conversation about ideas generated by the articles, videos, and discussions in class and on the list itself. You MUST enter comments on the listserv **at least twice a week**. Daily would be much better. Participation on the listserv is an essential part of the Writing Intensive portion of this class, as well as essential to your substantive learning. ***Do not fall behind in this assignment or your grade will suffer!***

Remember always to capitalize Earth, as you do Mars!

The following statement must appear in the syllabi of **all WI Courses**: "Students must adequately complete all writing assignments to pass the course with a D grade or better. Students who do not complete all writing assignments will fail the course."

6. This class is Ethics Intensive. This course deals with some of the most important ethical issues humans face: How should people behave, and how can we assure that people behave as they should? How should we deal with people who do not behave as we think they should? Which is more effective in producing preferred behavior--ethical and/or moral persuasion or structural design? Or, at least what is the relationship between the two? "Living on Mars" is basically a foil: I am asking you to imagine that humans may soon be living in places substantially different from Earth in every way, and asking you to imagine helping them create a new society from scratch. This may also be a real opportunity for humans over the 21<sup>st</sup> Century and beyond, and so we need to begin learning how to do it now. Besides, what you learn should be useful for Earth now!

In addition, we will focus on the following ethical issues: the obligation of present generations towards future generations in general; whether it is ethical to use resources for space when there are so many problems on Earth; what should be humanity's ethical orientation towards other lifeforms we might encounter off Earth; and indeed whether nonliving things--such as the rocks and environment of Mars--have rights of their own that deserve our ethical consideration; the ethical aspects of space debris and of mining the Moon and asteroids; whether space should be owned privately, by nations, or kept as the common inheritance of all humanity; and the ethical aspects of space for peaceful purposes vs. the weaponization of space.

7. Regular attendance and active participation in all aspects of the course is very important. If you know that you will have to miss one or more class sessions because of University-approved activities (such as athletic events, concerts, debates, ROTC exercises, ASUH conferences, and the like) PLEASE LET ME

KNOW WELL IN ADVANCE SO THAT WE CAN DISCUSS WHAT YOU SHOULD DO TO MINIMIZE THE IMPACT OF YOUR ABSENCE.

If you miss a class during which a video is shown and discussed, please view the video either by borrowing it from me, or by viewing it at the Wang AV Center, or online. After you view the video, write and turn in to me a 600-750 word critique on it. If you miss class sessions without prior consultation, or if you do not participate as required on the listserv, you should expect your grade to be lowered.

8. Office Hours: My office is Saunders 617. I will generally be available there Monday-Thursday, 1:30-3 PM. Otherwise, I am available by appointment. Please come by, or phone 956-6601. However the best and my preferred way for you to communicate with me is via email. My address is: dator@hawaii.edu

9. Because of my duties as Director of the Hawaii Research Center for Futures Studies, I will have to miss several classes. Someone will come in to take over my classes while I am gone, so I expect everyone to attend and participate in class as usual. However, if my absence from some classes presents any problem to you, please discuss this with me, or please do not take the course.

10. Each portion of the class described above counts as indicated towards your final grade:

Individual final project	30%	
Participation & presentation of group final project		20%
Four written assignments (5% each)	20%	
Participation on the listserv	15%	
Class attendance and participation	15%	
TOTAL	100%	

11. **Plagiarism** is taking another person's words or ideas as your own without crediting them. Anything cut and pasted from a website without quotation marks around it (and/or without other accepted ways of identifying borrowed material) and without indicating its source is plagiarism. Copying anything from a book or journal without putting quotation marks (or the like) around it and without identifying its source is plagiarism. Plagiarism is cheating. There is no excuse for it. If anyone turns in anything with plagiarized material in it, that will result in an immediate grade of F for the course.

Plagiarism usually occurs when students feel overwhelmed--by school, by finances, by illness, by relationship problems, etc. If anything like this happens to you, please let me know. We will work something out that will be a lot more beneficial to you than cheating. (Adapted from the Plagiarism Policy of the Department of Political Science, UHM)