



CHNE 499 / PS 400 Spring 2008



Human Settlement of Space



Instructors

Mohamed S. El-Genk

Regents' Professor, Chemical, Nuclear and Mechanical Engineering
Director, Institute for Space and Nuclear Power Studies
Department of Chemical and Nuclear Engineering
The University of New Mexico, (505) 277- 5442, e-mail: megenk@unm.edu

Christopher K. Butler

Associate Professor, Department of Political Science, University of New Mexico
(505) 277-3742, e-mail: ckbutler@unm.edu



In this visionary course, students will work in teams to examine a host of scientific, technological, psychological, physiological, legal and economical issues. Examples include, but not limited to, potential international collaboration, political and legal challenges of getting to and operating in earth orbits and for establishing human outposts on the Moon and Mars; potential utilization of space resources and harvesting energy from space for improving the quality of life of the world citizen, and various issues associated with long-term living and operating in space. Particular attention will be given to viable launch cost, international treaties, potential space commerce and international collaboration, and potential technical, economic, potential legal issues. The course is limited to upper-class undergraduate students, particularly those from the following disciplines: engineering, science, education, business, political science, law, and humanities.

Prerequisites: *General knowledge of physics, astronomy, calculus, chemistry, biology, psychology, engineering, and political science will greatly enhance the class experience for all students.*

Resources: *There is no text book for the class. Students will search for needed information in a wide range of archival resources from the open literature, including journal articles and conference proceedings, reference books, international treaties, internet, etc.*

Examples of Applicable Articles:

- Brearley, A., "Mining the Moon: Owning the Night Sky?" *Astropolitics* 4(1): 43 – 67, 2006.
- Casini, S., "Dealing with the International Implications of Space Exploration," *Space Policy* 22(3): 155-157, 2006.
- Harris, P. R., "Human Dimensions in Space Development," *Space Policy* 5(2): 147-154, 1989.
- Sadeh, E., D. Livingston, T. Matula and H. Benaroya, "Public-Private Models for Lunar Development and Commerce," *Space Policy* 21(4): 267-275.

Applicable International Treaties:

- "The Antarctic Treaty" (1959)
- "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies" (1967)
- "Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space" (1968)
- "Convention on International Liability for Damage Caused by Space Objects" (1972)
- "Convention on Registration of Objects Launched into Outer Space" (1975)

