

**SYLLABUS: PERS 2002 Scientific Perspectives on Global Problems  
LIFE ON OTHER WORLDS**

Fall 2002, Tuesday and Thursday, 2:30 – 3:20 pm,

430 Aderhold Learning Center (Computer #82377,82380)

(on the WWW at <http://www.chara.gsu.edu/~gies/PERS2002/index.html>)

- Instructors: D. R. Gies, 719-1PP, (404) 651-1366 (Physics & Astronomy),  
W. C. Elliott, 340-KH, (404) 463-9548 (Geology), &  
J. E. Houghton, 416-SCA, (404) 651-0549 (Biology)
- Objectives: To examine the question of whether we are alone in the Universe from a scientific perspective. The course will cover basic elements of astronomy, physics, geology, and biology to help understand the origin and development of life on Earth. We will study environments on Earth and other worlds where life might thrive.
- Textbook: *The Search for Life in the Universe, 3rd Edition*,  
by D. Goldsmith and T. Owen, 2001 (University Science Books).
- Grades: Essay .....20%  
Best 3 out of 4 tests .....60%  
Final Exam .....20%  
Students are expected to do their own work and to abide by the Policy on Academic Honesty discussed in the University General Catalog.

Schedule: Text chapters and lecturers for each meeting are given in parentheses.

- Aug. 20: The Search for Life on Other Worlds (1) (Gies)
- Aug. 22: Galaxies and the History of the Universe (2,6) (Gies)
- Aug. 27: The Birth of Stars and Planets (3) (Gies)
- Aug. 29: Star Life and Death (4,5) (Gies)
- Sept. 3: **Test 1**
- Sept. 5: Formation and Evolution of Earth (8,11) (Elliott)
- Sept. 10: Structure and Tectonics of Earth (8,11) (Elliott)
- Sept. 12: Cosmic Impacts (11) (Elliott)

- Sept. 17: Mars (13,14) (Gies)
- Sept. 19: Terraforming Mars (14) (Gies)
- Sept. 24: Moons of the Giant Planets (15) (Gies)
- Sept. 26: **Test 2**
- Oct. 1: Fundamentals of Life (7) (Houghton)
- Oct. 3: From Fundamentals to Origins (7,8) (Houghton)
- Oct. 8: Development of Biological Diversity (7,8) (Houghton)
- Oct. 10: Evolution (7,8,9) (Houghton)
- Oct. 15: Probing Evolution through the Fossil and Genetic Record (7,8,9) (Houghton)
- Oct. 17: Evolution and Origin (7,8,9) (Houghton)
- Oct. 22: **Test 3**
- Oct. 24: Earliest Life on Earth (8,11) (Elliott)
- Oct. 29: Life in Extreme Environments (10) (Gies)
- Oct. 31: Is Earth Unique? (16) (Gies)
- Nov. 5: Discovery of Extrasolar Planets (17) (Gies)
- Nov. 7: Extraterrestrial Civilizations (18) (Gies)
- Nov. 12: *Life Beyond Earth* (Part 1)
- Nov. 14: *Life Beyond Earth* (Part 2)
- Nov. 19: **Test 4**
- Nov. 21: Interstellar Spaceflight (19) (Gies)
- Nov. 26: Interstellar Radio and Television Messages (20) (Gies)
- Nov. 28: Thanksgiving Holiday - no class meeting
- Dec. 3: Where is Everybody? (22) (Gies)
- Dec. 10: 2:45 pm **FINAL EXAM**

Unexpected circumstances may require changes in the syllabus as the semester progresses.