

CENTER FOR SPACE SCIENCE AND ASTROPHYSICS

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Courses given in Center for Space Science and Astrophysics have the subject code SPACESCI. For a complete list of subject codes, see Appendix B.

The center is an interdepartmental organization coordinating teaching and research in space science and astrophysics. Its members are drawn from the Department of Geological and Environmental Sciences in the School of Earth Sciences; the departments of Aeronautics and Astronautics, Electrical Engineering, and Mechanical Engineering in the School of Engineering; the departments of Applied Physics, Physics, and Statistics in the School of Humanities and Sciences; the W. W. Hansen Experimental Physics Laboratory; and the Stanford Linear Accelerator Center. Its membership also includes all faculty and appropriate staff at the developing Kavli Institute for Particle Astrophysics and Cosmology.

Research now in progress covers a wide array of investigations and is approached in a variety of ways, including experiments flown on rockets, satellites, and space probes; ground-based observations made from the Hobby-Eberly Telescope, the Wilcox Solar Observatory, and from national observatories; and theoretical research including computer modeling. Topics currently being studied include cosmology, gamma-ray astronomy, gravitation theory and experiments, including gravitational waves (LIGO, LISA), guidance and control, high-energy astrophysics, ionospheric and magnetospheric physics, microwave and infrared astronomy, planetary sciences, solar physics, solar-terrestrial phenomena, stellar structure, theoretical astrophysics, x-ray and extreme ultraviolet astronomy, and the study of life in the universe. Some of these projects involve opportunities for collaboration with scientists at the Lockheed-Martin Research Laboratory through the Stanford-Lockheed Institute for Space Research, the NASA/Ames Research Center, and the SETI Institute.

Stanford is a member of the Universities Space Research Association, a consortium of universities which operates the Lunar Science Institute

in Houston, Texas; the University Corporation for Atmospheric Research in Boulder, Colorado; and the San Diego Supercomputing Consortium.

Stanford is the lead institution for the GLAST gamma-ray observatory, Gravity Probe B, and the Solar Oscillations Investigation on the Solar and Heliospheric Observatory spacecraft (SOHO); and participates in the USA X-ray satellite and the Soft X-Ray Telescope program on the Japanese Yohkoh spacecraft.

Stanford is also a member of the Hobby-Eberly Telescope Consortium which has constructed a 10-meter telescope at the McDonald Observatory of the University of Texas. Full science operations have begun.

The facilities of the center are available to any interested and qualified student, who must be admitted by and registered in a department. The departments of Aeronautics and Astronautics, Applied Physics, Electrical Engineering, Mechanical Engineering, and Physics offer opportunities leading to an M.S. or Ph.D. degree for work in space science or astrophysics. The center also offers opportunities to undergraduates who may, for instance, participate in research projects in their junior or senior years, on a part-time basis during the school year or on a full-time basis during the summer. The Astronomy Course Program operates a small student observatory where students may gain practical experience in astronomical observing. The course list at the end of this entry includes courses of interest to undergraduates, as well as courses primarily of interest to graduate students.

Further information is available from the director.

This file has been excerpted from the *Stanford Bulletin*, 2003-04, page 595. Every effort has been made to ensure accuracy; post-press changes may have been made here. Contact the editor of the bulletin at arod@stanford.edu with changes or corrections. See the bulletin website at <http://bulletin.stanford.edu> for late changes.