The University of Arizona’s (UA) Department of Astronomy currently has 47 Ph.D. students, making it the largest astronomy graduate program in the country. The program is extremely high quality, with admission of approximately 8-10 students per year from among 120-130 applicants. Incoming astronomy graduate students have the highest mean GRE scores among over 100 graduate programs on campus. We compete with Caltech, Harvard, Santa Cruz, Berkeley, and Chicago for the best students in the country. The graduate program is diverse, with 40% women (compared to the national average of 30%) and 26% international. Two thirds of the graduating Ph.D. students move into permanent astronomy positions in academia, government, or other research institutes.

According to the American Institute of Physics’ statistics, the Department of Astronomy runs the largest undergraduate majors program in the country. In 2005, 24 students graduated, and the best of these were accepted in the Ph.D. programs at Caltech, UC Berkeley, Harvard and Chicago, which are in the top echelon of astronomy departments nationwide. Over two thirds of the majors have formal research experience during their time as undergraduates, drawing on the full expertise of about 28 faculty members in theory, observation, and instrumentation. The program has excellent gender equity, with 45% women, above the national average for astronomy, which is far above the national average in physics. (Many of our students are double majors in physics and astronomy.)

One in four UA students takes a General Education course taught by the Department of Astronomy. Despite their major commitments to research, astronomy faculty members teach these courses in person. Last year UA astronomers taught 2,339 Tier One and Tier Two General Education students (the largest number of students taught by any UA College of Science department). Faculty members in the department have been innovative in the use of preceptors, classroom response devices, and instructional technology. Since 1922, our continuing public and education outreach programs have included the Steward Observatory Public Evening Lectures. The department also houses the Center for Astronomy Education (CAE), the largest college-level astronomy education research group in the nation, and the internationally renowned Astronomy Camp. (See the Astronomy Camp and CAE sections of this document.)
The Center for Astronomy Education (CAE), lead by Ed Prather & Gina Brissenden, is devoted to improving teaching and learning in Astro 101 by conducting fundamental research on student beliefs and reasoning difficulties related to astronomy, and instructor implementation difficulties related to teaching astronomy. The center uses the research results to inform the development of research-validated curriculum and assessment materials for use in the Astro 101 classroom. These research-validated curricula & assessment materials frame the CAE Teaching Excellence Workshops for Astro 101 instructors. The goal of these professional development workshops is to increase the pedagogical content knowledge of Astro 101 instructors and improve implementation of these curricula and assessment materials.

To create sustainability and broaden the national impact and scope of the work, CAE, in collaboration with other leaders in astronomy education and research (Chris Impey, SO; Kevin Lee, U. of Nebraska; and Doug Duncan U. of Colorado), developed the NSF funded Collaboration of Astronomy Teaching Scholars (CATS) Program. The primary goals of CATS are to:

1) Increase the number of Astro 101 instructors conducting fundamental research in astronomy education
2) Increase the amount of research-validated curriculum & assessment instruments available for use in Astro 101
3) Increase the number of instructors prepared to develop & conduct their own CAE Teaching Excellence Workshops

Astronomy Camp is an internationally known science education program held since 1988 at the Catalina Observatories on Mt. Lemmon. Created by astronomer Don McCarthy and sponsored by the UA Alumni Association, the Camp engages an international audience of teenagers, adults, educators, and school groups in research-based science education using telescopes as large as 1.5 meters. Begun as a service to the public, the Camp has grown steadily and benefits the UA by providing major external funding (research and education), undergraduate and graduate recruitment (National Merit, Intel Science Search, minority), student funding (salaries, fellowships), postdoctoral education grants, etc. Astronomy Camp is the primary focus of NASA's James Webb Space Telescope NIRCam outreach to all 317 Councils of the Girl Scouts of the USA (GSUSA) and has led to a major improvement of the GSUSA's national astronomy curriculum.

The Camp is financially self-sufficient and supports an internal scholarship program. The donations of a former adult Camper now provide major support for the site and are funding the development of the Mt. Lemmon SkyCenter to expand the present activities in a multi-disciplinary approach.