HONORS PROGRAM AND OPPORTUNITIES

A PARTNERSHIP BETWEEN THE SCHOOL OF EARTH AND SPACE EXPLORATION AND THE BARRETT HONORS COLLEGE

Training the next generation of explorers

ASU BARRETT THE HONORS COLLEGE
ARIZONA STATE UNIVERSITY

THE SESE MISSION

Launched in 2006, ASU's School of Earth and Space Exploration (SESE) is a bold initiative that combines science and engineering research and education to achieve a better understanding of the evolution of the Universe from the Big Bang to the evolution of life to the future of environmental conditions on our home world. To meet this goal, SESE unites Earth, planetary, and space scientists with engineering faculty to develop and deploy scientific instrumentation on Earth and in space.

A hallmark of SESE is that our research and teaching cross the boundaries of traditional disciplines. That's because new perspectives are needed to tackle the questions at the frontiers of Earth and space science. These questions include the origin and evolution of the universe; the coupled evolution of biological, chemical, and physical processes that led to the environment in which we live and that will determine the environment inherited by future generations; the evolution of other planets and celestial bodies, including the hundreds of planets now known to exist outside the Solar System; the emergence and evolution of life; best-practices for human and robotic exploration of space; and both formal and informal science education. Join us as we explore space, time, and possibility.

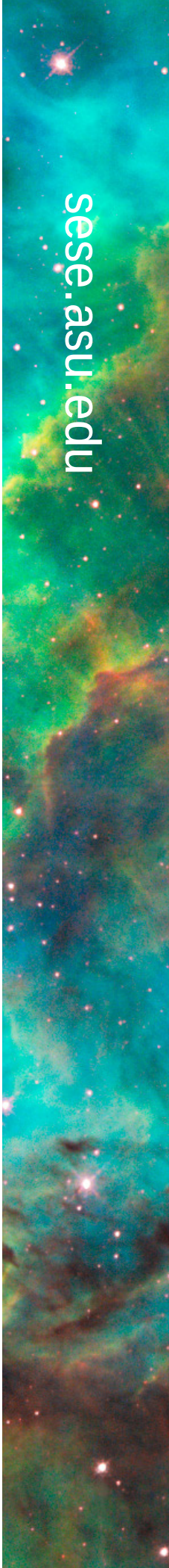
Our undergraduate programs prepare students to tackle these questions through a broad spectrum of courses leading to degrees in geological sciences, astronomy and astrophysics, astrobiology, cosmology, earth and space science education, system design engineering, environmental science, and sustainability and environmental policy. Students graduating from these programs develop science and engineering skills vital for the 21st century workforce.

Our new degree programs are as innovative as our research. The B.S. in Earth and Space Exploration is the only such program of its kind, emphasizing problem solving through the integration of the Earth and space sciences with engineering. It is excellent preparation for graduate programs in the physical sciences and a variety of engineering disciplines, and for work in both the private and public sectors.

The B.A. in Earth and Environmental Studies, designed to give students an all-encompassing introduction to environmental science and, so that questions of sustainability and environmental management and policy can be approached from the basis of how the Earth works.

We also offer a B.A.E. in Secondary Earth and Space Science Education (in collaboration with Mary Lou Fulton Teachers College).

For more information about our exciting and diverse degree programs visit:
http://sese.asu.edu/degrees



OPPORTUNITIES, ACTIVITIES & HONORS THESIS

Honors Classes and Contracts:
Students can request Honors Enrichment Contract credit for any AST/GLG/SES class, in subjects ranging from environmental science, geology, and geophysics to planetary science and systems engineering, to astrobiology, astronomy, and astrophysics. The requirements will be negotiated with the instructor.

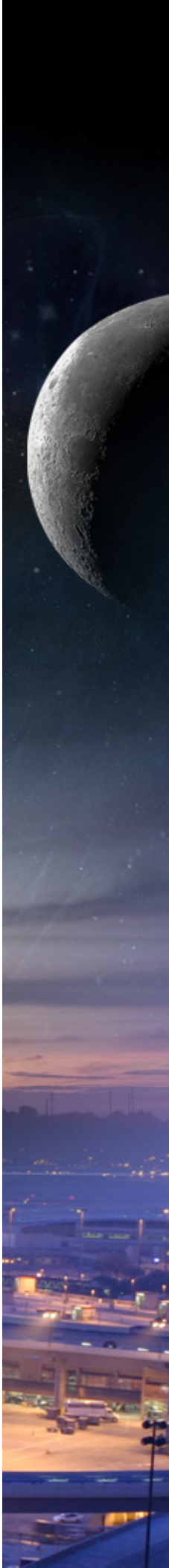
Research and Honors Thesis Opportunities:
SESE faculty enthusiastically involve undergraduates in research, in the lab and in the field. Projects are possible in all the areas of earth and space science and engineering in which our faculty are engaged (explore research areas here: http://sese.asu.edu/focus_areas). In some cases, students are paid from research grants or through involvement undergraduate research programs such as the ASU/NASA Space Grant program (http://nasa.asu.edu/). These research opportunities can evolve into Honors thesis projects via enrollment in AST/GLG/SES 492 and 493 (see Guidelines for Honors Theses below).

Scholarships and Awards:
SESE recognizes excellence in learning through a variety of financial and other awards, from grants and loans to scholarships and fellowships encompassing the following: Scholarships in Earth and Space Exploration, Geoscience Alumni Scholarship, the Nininger Meteorite Award, the Robert S. Dietz Field Camp Scholarships, Troy L. Péwé Vision Fellowship in Quaternary Studies, and the Ravi DeFilippo Field Camp Scholarship.

Public Presentations and Outreach Activities:
Throughout the year, SESE holds several public presentations and lectures with leaders in the field of geology, astrophysics, cosmology, sustainability and engineering, including our annual Dietz Memorial Lecture Series. On one Saturday each fall, SESE faculty, students, and staff invite the entire community to share in the excitement of our research and teaching on Earth and Space Exploration Day.

Come visit the School of Earth and Space Exploration and tour our facilities, labs, and museums, or make an appointment with our Honors Advisor Prof. Ariel Anbar (anbar@asu.edu; 480-965-0767) or Undergraduate Advisor Becca Dial to discuss course offerings and degree program requirements (bdial@asu.edu; 480-965-2213).

For more information about our programs and activities, visit our website: http://sese.asu.edu/



GUIDELINES FOR HONORS THESES

All Barrett honors students majoring in SESE programs must complete an undergraduate honors thesis and this work must be completed by your ASU graduation date. The thesis is your opportunity to contribute to and advance knowledge in your discipline, and to engage with professors in original research. Writing a thesis can be the most rewarding experience of an undergraduate career both from the sense of accomplishment and because it provides experience beneficial to graduate studies and in the workplace.

These instructions provide general guidelines to be used in conjunction with the Honors College requirements, processes, and timetable for theses (http://barretthonors.asu.edu/academics/thesis-and-creative-project/).

An honors thesis in SESE must adhere to the Barrett Thesis/Creative Project Preparation Requirements. Prior to enrolling in thesis credits, all students must complete a thesis/creative project information session. Review: http://barretthonors.asu.edu/wp-content/uploads/2010/12/New-Thesis-Prep-Req-2013-110613.pdf

1. An honors thesis for SESE majors typically spans 2 semesters and involves 6 credit hours:
• AST/GLG/SES 492 Honors Directed Study (3) – 492 is intended for the formulation of a thesis topic, outline of the scope of research, and initial data collection in consultation with your thesis director. Completion of 3 credit hours of AST/GLG/SES 492 and preparation of a SESE Research Proposal is a pre-requisite for enrolling in AST/GLG/SES 493 Honors Thesis and completion of the thesis.
• AST/GLG/SES 493 Honors Thesis (3) – Guided research with your thesis director and committee to complete the proposed research in written form as an honors thesis.

2. An honors thesis committee in SESE consists of three (3) members: the thesis director, a second reader, and a third reader. The thesis director and second reader must be a full professor, associate professor, assistant professor, or lecturer. It is your responsibility to understand the role of the committee and to communicate with each committee member, as spelled out on the BHC Honors Thesis webpages (http://barretthonors.asu.edu/wp-content/uploads/2010/12/New-Thesis-Creative-project-committee-structure-110613.pdf).

3. The student is responsible for formulating the thesis topic in consultation with his/her thesis director, for requesting faculty to serve on the committee, for submitting the necessary forms to the Honors College, and for informing the Chair of the committee of all Honors College requirements and deadlines, particularly where they differ from SESE Senior Thesis requirements and deadlines.

4. A BHC Honors Thesis Prospectus must be completed and submitted to the BHC Advising office early in the semester before you enroll in XXX493 Honors Thesis as specified on the BHC website (http://barretthonors.asu.edu/2011/02/important-dates/). The Thesis Prospectus is similar to the SESE Thesis Proposal, but is due at an earlier date. The SESE Thesis Proposal is simply an updated version of the Prospectus completed after the first semester of research (XXX492) is completed.

WHERE YOUR HONORS DEGREE CAN TAKE YOU

Our undergraduate degrees provide the initial training for career paths in the earth and space sciences, systems engineering, environmental science and sustainability, and science education. SESE graduates are prepared for admission into strong graduate and professional schools or may assume positions in industry, education, consultancy, utilities, regulatory agencies, non-profits, non-governmental organizations, or local, state or federal government.

By engaging a breadth of knowledge and experience, and by acquiring the skills to integrate various domains of knowledge, SESE students prepare themselves for a variety of careers to help find solutions to challenges having to do with biodiversity and habitats, climate, natural hazards, space exploration, economy and society, energy, materials and technology, governance and policy, international development, urbanization, food systems, and water. Our goal is to help you develop the skills you need to establish a rewarding and productive career. There are many options, depending on your talents, interests and area of focus.

geologist

planetary scientist

astronaut

Where do SESE graduates work?

- NASA
- ExxonMobil
- Shell Oil Company
- US Geological Survey
- Arizona Geological Survey
- SETI Institute
- Smithsonian Institution
- National Science Foundation
- Earth & Planetary Imaging Facility
- Honeywell
- Center for Earthquake Research & Information
- Ball Aerospace
- Jet Propulsion Laboratory
- Planetary Science Institute
- Fernback Science Center
- Newmont Mining Corporation
- Lunar and Planetary Institute
- Lawrence Livermore National Laboratory
- Phoenix Police Department Crime Lab
- Arizona Department of Environmental Quality
- K-12 Schools and Colleges

This is not a list of all SESE graduate occupations; rather this list is intended to show the range of positions held by SESE graduates.

space exploration

educator

environmental scientist

astronomy • astrophysics • cosmology •
earth and space education • earth system science •
planetary science • systems engineering

Come visit the School of Earth and Space Exploration and tour our facilities, labs, and museums, or make an appointment with our Undergraduate Advisor Becca Dial to discuss course offerings and degree program requirements (email bdial@asu.edu or call 480-965-2213).

For more information about our programs and activities, visit our website: sese.asu.edu

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