Tips for Transfers: Getting Involved in Undergraduate Research

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Sponsored by the Divisions of:
Undergraduate Education, Physical & Biological Sciences, Research, and Baskin School of Engineering
Undergraduate Research (UR)

is an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline.

(www.cur.org)
UR in Every Division

- Examples?
  - Arts
  - Humanities
  - Social Sciences
  - Engineering
  - Physical and Biological Sciences
UR Benefits to Students

- Participate in the university community
- Engage in the practice of your discipline
- Create knowledge, not just consume
- Complement coursework
- Help get into graduate school or a job
- Career exploration
- Develop important traits: creativity, curiosity, ability to focus, verbal and written fluency, and respect for others’ contributions
UR Rates by Entrance Status

- UCUES survey in 2012
- Data analysis by Anna Sher, Institutional Research
- Among graduating seniors UR rates at UCSC
  - Entered as frosh: 62% (N=884)
  - Entered as junior transfer: 51% (N=281)
- Rate difference is statistically significant (Chi-square, p<.01)
Programs & Positions

- Programs often involve:
  - Multiple students
  - A formal application/evaluation process
  - Extra activities and/or benefits
  - May involve placement in a lab/research group
  - Stipend, research expenses, and travel and housing (in summer)
  - Examples later in presentation
Programs & Positions (cont.)

- Positions
  - Are often negotiated directly with a professor/mentor/supervisor
  - May be volunteer, for credit, or paid
  - May be flexible
How to Get Involved in UR 101

- Consider your goals, interests, and practical issues
- Do background research
- Contact the lab/group leader or program coordinator
- Express interest using specific examples
- Explain how research will help you reach your goals
- Ask specific questions
- Complete the application process
UNDERGRADUATE RESEARCH OPPORTUNITIES

APPLICATION DATES

August
- WEST Workshops for Science and Engineering Transfer Students due 8/12
- Summer Poster Symposium Abstract due 8/12
- UC Institute for Research in the Arts Open Sorcerer Grant and Mini-Grant 8/20

EVENTS

- SANCNAS Conference
  Thursday, October 3, 2013 9:00 AM to Sunday, October 6, 2013 9:00 PM
- April Goral: Graduate School Admission Process
  Tuesday, October 8, 2013 2:00 PM to 3:00 PM
- Sheila Rodriguez: Finding Internships Workshop
  Wednesday, October 16, 2013 12:00

STUDENT PROFILES

Ariel Anders (Computer Engineering) received multiple awards at national conferences for her undergraduate research presentations. "I was interested in research because it was an avenue I could actually apply the skills I was learning in my coursework," she recalls.

http://ugr.ucsc.edu
Physical and Biological Sciences Division

Undergraduate Research in Physical and Biological Sciences

Select one of the topics below:
- Preparing for Undergraduate Research
- Finding a Research Opportunity
- Join a Lab or Research Group
- Funding Your Research
- Presentation Opportunities—where and when
- Communicating Your Results—posters and papers
- Student Organizations

Finding a Research Opportunity
Finding a research opportunity is a process that will take a considerable amount of time and commitment. The suggestions below may help.

Consider your interests
- What classes have engaged your imagination?
- What causes or topics are you passionate about?

Evaluate your goals and consider practical issues.

http://ugr.ucsc.edu/PBSci
Join a Lab or Research Group

There are many research opportunities for undergraduates at UCSC, but unfortunately not enough for every student who is interested. You will need to be dedicated and focused to find and keep a position. The advice below can help you, but does not guarantee that you will get into a lab or research group.

If you have any questions or would like to have more information, please contact:

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To find out additional information for your field of study, go to the related webpage for the division/school:
- Engineering
- Humanities
- Physical & Biological Sciences
- Social Sciences

http://ugr.ucsc.edu/join_a_lab
Undergraduate Research Opportunities Database for UCSC and the Region

This database is continually updated. If you know of a program that should be added, contact rlanders@ucsc.edu. See Other Research Opportunities at http://ugr.ucsc.edu/other for additional programs, including Federal Programs.
Other Research Opportunities

Here is a sampling of research opportunities and databases. Please note that we cannot guarantee the accuracy of the sites.

**Databases & Comprehensive Listings**

**Cross-discipline**
- From Pathways to Science
- UC Irvine’s Opportunities Database
- CSUMB Summer Research Opportunities

**Federal Agency Programs**
- Internship and Fellowship Opportunities in Science with the US government
- Department of Energy's (DOE) SULI Programs – Science Undergraduate Laboratory Internships at national laboratories across the country. These internships are run for 10 weeks during the summer. There are also opportunities during the fall and spring semesters. Internships are offered in all disciplines, including environmental and atmospheric science, mathematics and nuclear science.
Application Tips & Deadlines

Application Tips

- Help for every step of the process from Pathways to Science
- How to effectively obtain a letter of recommendation (from UCSC STEM Diversity)
- Writing a Curriculum Vitae (CV) (from UCSC STEM Diversity)
- Writing the Curriculum Vitae (from Purdue Owl Online Writing Lab)
- Writing the Personal Statement (from Purdue Owl Online Writing Lab)
- Summer Research—Applying and Getting in (from UCSC STEM Diversity)

Application Deadlines

April, 2013

- Psychology UR Funding due 4/5
- Deans' and Chancellor's Awards due 4/8
- Arts Division Internship Application due 4/15
- UCIRA Undergraduate Action Research Grant
UCSC Programs of Interest

STEM

- STEM Diversity Programs- Feb. deadline
  - Most are 2 years
  - CAMP (California Alliance for Minority Participation) is one year
  - Programs involve research, preparation for graduate school, tutoring, journal club, social activities and more

- Research Mentoring Institute (RMI) for working on any aspect of the human genome
  - Rolling deadline, helps if have faculty sponsor
UCSC Programs of Interest

STEM

- Some classes include research
- Be sure to check your department for additional options
  - UCSC Forest Ecology Research Plot (academic year)
  - Impact Designs: Engineering and Sustainability through Student Service (IDEASS)
    - 3-quarter upper division service-learning course
UCSC Programs of Interest

STEM

• UCSC NSF Research Experience for Undergraduates (REU)

  • Undergraduate Research in the Biological Effects of Climate Change
  • Summer Undergraduate Research Fellowship in Information Technology (SURF-IT)
  • The Lamat Summer Research Program on High Performance Computing in Astrophysics
  • Spring deadlines
Some Other Fun UCSC Programs

STEM

- Center for Games & Playable Media
- Pinniped Cognition and Sensory Systems Laboratory

From http://pinnipedlab.ucsc.edu-multimedia/
Critical Points

- You are here. You can do UR.
- Start preparing NOW
- Be assertive
- Go to office hours every week
  - Reference letters for summer 2014
- Get to know the department
- May need good grades
- Research summer programs this fall for late winter application deadlines
- Network with TAs, other students, etc.
- Join a student group, like Research Affiliates for Diversity (RAD).
Challenge

- Set a specific goal for the first few weeks of class
  - Go to one professor’s office hours
  - Read professors’ research interests for a department
  - Spend some time at the UR Opportunities website
  - Contact a program coordinator about opportunities
  - Ask someone how s/he got involved in UR
  - Go to a student group meeting and get involved
For More Information:

- Visit the UCSC Undergraduate Research Opportunities website, ugr.ucsc.edu
- E-mail: rlanders@ucsc.edu for a meeting
- Join the list-serve on the website
- I can email this presentation to you.
- Come to Drop-in Office Hours, Jack Baskin 153B
  - Monday 3-5 PM
  - Wednesday 12-2 PM
  - Friday 10 AM-12 PM
Please fill out the evaluation and leave it up front.

Thanks!
Graduating Seniors 2012 UR Rates by Entrance Status

** p<.01, Chi-square test

Data Source: 2012 UCUES; Analysis: Dr. Anna Sher, UCSC Institutional Research