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Workshop A: How to Get Started in Undergraduate Research

Introductions

- Your year, major, burning questions
- WHY do research?

Hints on finding a topic --

- Some routes to discovering your interests: personal experience, favorite classes/readings)
- Topic should build on a foundation of skills/knowledge
- But it should add something new for challenge, growth, exploration
- Another approach is to find a topic that interests you within your favorite professor's "jurisdiction"

Your possible research topics?

Types of research:

A: Faculty-initiated (aka apprenticeship) -- a professor initiates the research; the student acts as the professor's assistant. Note: in the sciences, engineering, psychology you must begin as an apprentice; in social sciences and humanities, it is optional but still very helpful.

B. student-initiated (aka independent) -- you initiate your own project, e.g., a senior honors thesis where you would appear as the main author.

Finding institutional structures to support your research (aka ways to make research show up on your transcript):

- Honors thesis: graded, always in your major; often with seminar that provides guidance/structure. May have gpa requirement, pre-requisite or recommended courses, or courses you must enroll in while you do the thesis: find out NOW what these are from your major's undergrad advisor to plan your course choices effectively.
- For Sciences, Social Sci. and humanities (not College of Chem, most Engineers).

Ungraded research credits:

- Independent study: For social science and humanities, can be out of your major; you and the professor decide on requirements for course and meeting

times.

- Research Units: For psych/sciences/engineering. Gives course credit for time in lab. Can be out of your major.

- Paid research assistant jobs during academic year: Can be a good starting point, but beware of permanent "grunt" assignment with minimal possibilities of advancement.

Finding a mentor

Major methods of finding a mentor - if one doesn't work, try another method.

- 1-Apprenticeship programs (URAP - about 1200 students/semester placed -- SPUR, summer paid apprenticeships, etc.) or formal application (esp. Psychology). See <http://research.berkeley.edu> for full list.

- 2-Through favorite classes-->office hours-->"mobilizing contacts"

- 3-"Strategic door-knocking"

Strategic door-knocking manual (see "finding a mentor" links on [this page](#) for more detail).

- 1) Survey faculty research interests to find faculty members on campus whose research interests coincide with yours {Note: you can also find a faculty member first, then choose a topic in that professor's "jurisdiction"}

- Department web sites in all related departments-faculty link

- UC Berkeley home page search

- Faculty Expertise database: <http://vcresearch.berkeley.edu/faculty-expertise>

- Web sites of related research centers and institutes (go to talks there and get on their mailing list, too - be "in the loop").

- Course listings (but be aware of faculty hierarchy: ass't/assoc/prof v. lecturer, adjunct)

- Look up work of the most promising candidates in the library; read something recent by each.

- 2) Check the "grapevine": what are these potential mentors like to work with?

Consult with:

- major undergrad advisors

- undergrad thesis students

- grad students (ask grad advisor who is working with profs you're considering)

- check lab web site for names of students working in each lab

- check with program coordinators of undergraduate research programs.

3) Meet with your top candidates (Note: in person is better, but a well-crafted e-mail combining steps 3 and 4 can be successful if you've done steps 1 and 2 carefully).

Apprenticeship situation, including Sciences, Math, Psychology, Engineering:
Read a recent article from the lab and ask about the professors's/lab's work.

Social Sciences/Arts/Humanities independent research (if apprenticeship, follow lab instructions above):

Read an article by the prof relevant to your project, and bring one half page written describing your project. Then solicit feedback on your idea.

-For either apprentice or independent, give the professor: a research [resume](#) (relevant coursework, experience, skills); a recommendation or reference (can be informal); BearFacts transcript, or community college/HS transcript if no UCB courses yet.

4) Rank your candidates, then Ask: will you be my mentor/can I join your lab?
Bear in mind:

a) You are negotiating a contract:

-Apprenticeship or lab: How many hours/wk can you work, which hours, how many semesters?

-Social science/humanities/arts independent project: How many pages? Indep. study or honors thesis? How many semesters commitment? Meet how often? Research programs' requirements?

b) They will want to know why you are asking them in particular

-Lab-why is the lab's work especially interesting/useful to you?

-Social Science - How will their expertise be useful for you? Who will help you with the aspects of your project with which they are unfamiliar?

If they say no:

They do say no, with some frequency. Don't despair; ask the next person on your list!

If they say yes:

See the document "[How to Get the Most out of your Mentoring Relationship](#)".

Finding Funding and Support

-Research can be done without funding or research programs, but participation in research programs can allow you to travel, buy supplies, pay subjects, go to conferences, and get lots of guidance, moral support, and recognition, from

peers as well as staff/faculty.

-Visit <http://research.berkeley.edu/> to use the searchable on-line database to find the right programs for you, either here at Berkeley, or away from Berkeley. Also there: publishing/editing opportunities, resources, listserv sign-up, calendar.