

Mentoring Undergraduate Researchers: Where to Begin?

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Planning for a Mentee

Develop a Project

- Reasonable in scope
- Feasible considering time/skills
- Challenging
- Multi-faceted
- May be designed collaboratively with student, or defined as part of a larger effort
- Designed to generate student's own data/findings

Written, detailed project descriptions get students going

Design a Selection Process

- Post description with URP, in department/class, or meet with student seeking research experience
- Use a combination of written application and interview
- Consider level of independence required
- Identify materials for students to review before interview
- Include direct supervisor in hiring (graduate student, post-doc, staff)

Keep in mind undergraduate needs/issues – busy/inflexible course schedules, midterm and final stress periods, need for training to use equipment/resources, easily discouraged by disappointing results, lack of awareness of research “culture” and social interactions in large research groups.



Undergraduate James Hong (middle) with mentors Ted Beauchaine (faculty,) and Lisa Kopp (postdoctoral researcher), Psychology

Advice from an undergraduate researcher:

“Enter your research experience with a plan. Work with your research mentor to form such a plan and realize how much work it will take to successfully carry out that plan. Don't just go through the motions to check off the “I worked in a lab” box. Also, make sure you do some reading on the field before you get fully involved.”

Integrating the Mentee into the Research Environment

Define Expectations

- Establish expectations about work habits, etc.
- Devise a work plan
- Provide information on awarding academic credit
- Set aside regular time for discussion
- Show openness to questions, encourage student to share ideas
- No cookbooks; emphasize insight gained through failure

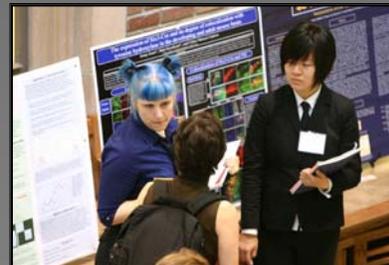
An undergraduate researcher:

“My mentor is such a bright and intelligent person, who is enthusiastic and passes that enthusiasm along to me in a big way.”

Orient Student Toward Culture of Research

- Introduce student to research resources (including people)
- Determine training needs and strategies
- Discuss intellectual property issues
- Introduce student to Human/Animal Subjects Review, Safety Protocols, etc., as needed
- Define milestones (big and small)
- Emphasize documentation of research and progress

The Millennial Generation: “The Millennial generation has seven distinguishing traits: special, sheltered, confident, team oriented, achieving, pressured, and conventional... [they] have ambitions but no plans, or unrealistic plans to achieve them...”



Fostering Growth

Keep Communications Open

- Establish regular meetings to discuss project, questions, documentation, and resources
- Check in regularly regarding coursework, stress level, and research progress

Most problems with undergraduate research result from a lack of communication or miscommunication.



Undergraduate Joshua Proctor (right) with mentor J. Nathan Kutz (Applied Mathematics)

Encourage Scholarly Interaction

- Provide opportunities to interact with other researchers
 - Research group meetings
 - Graduate student presentations
 - Visiting scholars' lectures
 - Departmental lectures, events, gatherings
- Suggest mentees apply for scholarships if eligible
 - Mary Gates Research Scholarships
 - Levinson Emerging Scholars or Fellowships for Advanced Undergraduates
 - McNair Scholars, Presidential Scholarships through OMA
 - Department or college-based awards for research
- Encourage mentees to present their research when ready
 - UW Undergraduate Research Symposium
 - Departmental events or seminars
 - Professional regional or national conferences

Provide information and support for research writing and publishing

Undergraduates talk about their mentors:

“I've learned a lot about the entire research process, such as submitting applications to perform the research, obtaining data, analyzing it, and then putting it all together to share with others. My mentors helped me so much in doing all these things and explained things I didn't understand.”

“Having a mentor is great, because it gives you a window into your profession and helps you see what a field is like on the inside before you commit yourself fully to it.”