

**Designing an Undergraduate Research Project**

**Elements of Good Undergraduate Research Projects:**

* Be reasonable in scope and feasible
* Have clearly defined outcomes or objectives
* Provide opportunity for mentee to synthesize, analyze, and interpret results
* Generate some new knowledge development not simply include “cookbook” experiments
* Provide mentee with “ownership” of at least some aspect of the research
* Be aligned with the mentor’s area of research expertise

**What Other Elements Should You Include in a Good Undergraduate Research Project?**

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**Advice for New Mentors**

For most people, good mentoring, like good teaching, is a skill that is developed over time. Here are a few tips for beginners:

* **Listen patiently.** Give the student time to get to issues they find sensitive or embarrassing.
* **Build a relationship.** Simple joint activities—walks across campus, informal conversations over coffee, attending a lecture together—will help to develop rapport. Take cues from the student as to how close they wish this relationship to be. (See “Sexual harassment” in section on Population-diversity issues.)
* **Don’t abuse your authority.** Don’t ask students to do personal work, such as mowing lawn, baby-sitting, and typing.
* **Nurture self-sufficiency.** Your goal is not to “clone” yourself but to encourage confidence and independent thinking.
* **Establish “protected time” together.** Try to minimize interruptions by telephone calls or visitors.
* **Share yourself.** Invite students to see what you do, both on and off the job. Tell of your own successes and failures. Let the student see your human side and encourage the student to reciprocate.
* **Provide introductions.** Help the student develop a professional network and build a community of mentors.
* **Be constructive.** Critical feedback is essential to spur improvement, but do it kindly and temper criticism with praise when deserved.
* **Don’t be overbearing.** Avoid dictating choices or controlling a student’s behavior.
* **Find your own mentors.** New advisers, like new students, benefit from guidance by those with more experience.

This mentor tool was adapted from *Entering Mentoring: A Seminar to Train a New Generation of Scientists,* J. Handelsman et al., pg 6; 44 and materials developed by Oklahoma State University’s Scholar Development and Undergraduate Research office for their Mentoring Workshop Series.