

Student-Selected Biology Lab Activities

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Martha Jack has taught biology at Indiana University of Pennsylvania (her alma mater) since 1982. She is currently the Director of the General Biology program, which offers a two-semester biology course with labs for non-majors and serves approximately 750 to 850 students per semester. Her teaching duties, in addition to General Biology I and II, include Cell Biology and Microbiology.

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Replacing five of the weekly lab sessions at the end of a General Biology laboratory schedule with a smorgasbord of activities allows the students to have a choice in their lab experiences. This "Elective Lab" program enables the faculty to offer the students a wide variety of activities without being constrained by a two-hour time limit. This workshop highlights the numerous advantages for both students and faculty, then addresses such 'how-to' issues as determining the slate of labs and number of seats to be offered, organizing student registration for the elective labs, and assigning credit for completed labs. A little extra work and organization can result in a tremendous educational pay-off.

Benefits of the Elective Lab Program for the Students:

- They have a choice in what topics they will explore, and they can select according to their interests.
- Students tend to enjoy biology more in the relaxed, informal settings, and are generally very attentive and eager to participate in elective labs since it was of their choosing.
- They are exposed to a greater number of faculty since they can choose laboratory experiences offered by any professor on the General Biology team.

- Many students are afforded an opportunity to visit a place of interest that otherwise would not be easily accessible to them.
- Students are less hesitant to select a lab dealing with a difficult topic that may interest them, since they will not be tested as they are with regular laboratory exercises.

Benefits of the Elective Lab Program for the Faculty:

- Faculty have the opportunity to offer activities dealing with topics in areas of their expertise, or ones that they simply enjoy doing, which would not otherwise fit into a routine laboratory schedule.
- Laboratory activities and investigations that don't fit neatly into a two-hour lab period may be undertaken, since elective labs can vary from two to eight hours or more.
- Enrollment in any particular elective lab offering can be limited to the appropriate class size for that activity.
- Faculty members have the opportunity to "try out" new lab exercises that may later be incorporated into the regular lab schedule.

The Elective Lab Program was developed by the faculty of the Biology Department at Indiana University of Pennsylvania over 20 years ago, and has served the purpose of both educating and interesting undergraduates in diverse topics in biology. Just as nature springs to life in Pennsylvania every March, so, too, the multi-sectioned General Biology course at IUP breaks out of its routine of weekly two-hour laboratory sessions that are in lock-step together. This unique and innovative program is like a breath of fresh air at the end of the two-semester course sequence, for both the students and the instructors involved.