

Teaching General Biology Using the Open Lab Format

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The Department of Biology at Kennesaw State College has been using an open-lab format in general education offerings for more than 15 years. The primary advantage is the efficient use of space and personnel in lab courses with large numbers of students. At Kennesaw State, for example, one lab with a capacity of 24 students can be used to accommodate 650 students per quarter. Another primary advantage is the flexibility afforded both students and faculty. Both faculty and commuter students appreciate the ability to vary lab hours around other work and family obligations, and the use of part-time faculty in the labs increases the options given faculty for time-release.

The primary disadvantages of an open-lab format are lack of communication and of responsibility. Faculty must use some class time to clarify lab expectations, and efforts must be made to ensure general faculty agreement on lab issues and assignments. Some students, away from the supervision of their professor, spend less time on lab exercises, and faculty must be encouraged, at times, to increase their lab emphasis.

The practical details of operating open labs vary from one school to another. At Kennesaw, the general biology laboratories are open approximately 60 hours per week, including Saturday morning. Faculty members staff the lab for 3 hours per week per section taught, and the remaining hours are the responsibility of part-time faculty.

Students entering the lab sign in on attendance records. Each receives a seat assignment and a plastic bin of appropriate non-disposable materials (glassware, forceps, marking pencils, etc.)

The lab manual contains detailed instructions and a series of questions to be answered as the student progresses through the lab. The instructions are divided up into sections, or stations, and the appropriate expendable materials (solutions, dialysis tubing, etc.) are arranged on benches around the room. Materials for each station are clearly marked. Laboratory assistants replace these materials as needed and are also available to help with check-in procedures when the lab instructor requests help.

Once the students have finished the lab, or have reached a logical stopping point, they check out of the lab, returning their bins of materials. They complete the lab report out of class and turn it in to their professor.

The primary function of the lab instructor is supervision of the lab, particularly helping students understand the process and the material. Faculty are encouraged to be pro-active, circulating among the students and discussing lab procedures and results.

The open-lab format has been successful at Kennesaw State College. You are welcome to direct questions to either of the authors.