

Cell Culture Basics in a Large Undergraduate Class

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This year we introduced a hands-on lab activity that presented second year undergraduates with the opportunity to practice the fundamental techniques of growing and maintaining mammalian cell lines. We were able to achieve this in a class of 300 students by dividing the students into small groups which rotated between three stations. Students were introduced to sterile technique in the lab and did a mock run through the procedure, and then moved to a tissue culture room to subculture HEK 293 cells. Finally, students proceeded to a third station to count cells and determine cell viability using the Trypan Blue exclusion test. This practical lab activity was well received and despite significant organizational demands in advance, ended up running smoothly and efficiently. During this workshop I will describe our process of implementing this activity, and will demonstrate our approach to teaching sterile techniques used in tissue culture. As a group we will consider benefits and limitations of this type of lab, and will discuss alternate ways of incorporating practical cell culture techniques into large classes.

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