Course-based Undergraduate Research Experience in a Senior Cell & Molecular Biology Laboratory Course

Laura L. Atkinson

Mount Royal University, Department of Biology, 4825 Mount Royal Gate SW, Calgary AB T3E 6K6 CAN
(latkinson@mtroyal.ca)

Course-based undergraduate research experiences (CUREs) offer students the ability to experience research during their undergraduate studies. While independent studies projects have generally achieved this in the past, demand for undergraduate research positions exceeds their availability at most institutions leading to the rise in popularity of CUREs. This poster explores the use of a CURE in a fourth year Cell & Molecular Biology laboratory course. In this course, students used a cell culture model to investigate an aspect of the morphological and biochemical alterations that occur during the process of myogenesis. Over the semester, students identified a specific research question, designed a series of experiments, collected and analyzed their data and presented their research in the form of a manuscript and presentation. Although set assessment dates aimed for completion of certain experiments, grading focused on students having gone through the scientific process and their ability to troubleshoot when experiments didn’t work. This type of assessment challenged them to integrate fundamental background knowledge from their previous courses with critical thinking and advanced research methodology. Overall, CUREs are effective in exciting and engaging the students as well as providing them with a unique undergraduate research experience.

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