Integrating biochemistry into a program serving multiple tracks in medical laboratory science

This Education Case Study addresses two issues: the program-identified need for more biochemistry content in the pre-requisite course, Organic Chemistry I, and its availability to the Medical Laboratory Science Online Career Ladder track students. The underlying principles for resolving the issues are the constraints of the program curriculum and the unavailability of an online organic chemistry course at Georgia Southern University. The first step in addressing the issues involved collaboration between the Medical Laboratory Science and Chemistry faculty members to identify the specific biochemistry topics on which program courses build. Since the Biochemistry I course has the pre-requisites of two semesters of Organic Chemistry and the medical laboratory program of study only had room for one course in this area, a new course was designed to address the program-identified content need. The new course was offered in a face-to-face format but one of the program tracks utilizes entirely online instruction. To allow those students access to the new course, the course instructor obtained e-Faculty status and undertook designing an online version. The process included the expertise of an instructional designer and the resulting online course was rich in content and teaching strategies to provide the social presence necessary for student engagement in that venue. The online course immediately earned Quality Matters Certification and has been offered three times to date. Forty-one students have taken the new course. Of those eligible to apply, 71% entered the Medical Laboratory Science program and 78% of the entrants have graduated or are on track to do so. The average course GPA data for the 5 cohorts reveals that the strong level of student success in the face-to-face course has not been observed in the online course (3.55 and 2.53, respectively) requiring continued efforts to deliver content, engage students, and assess learning in alternative ways.

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