

## **Teaching Physiology to Biomedical Engineers Using Team Based Learning and Inquiry Formative Assessment**

Recently, our biomedical engineering physiology course was revised to address four goals: first, to foster students' learning of physiology; second, to promote students' capacity for independent learning; third, to develop students' teamwork skills and; and forth, to develop students' appreciation for experimental physiology. To address the first goal, to foster learning of physiology, students are given the opportunity to ascend through Blooms' Taxonomy by completing activities that involve medical case studies, interpretation of experimental data, and experimental design. Promoting the acquisition of independent-learning skills is done largely in preparation for the readiness assessment test (RAT), which is completed before the lecture activities and evaluates understanding of material from the assigned reading, for which no lecture is provided. Concomitant with the activities and RATs in lecture, the laboratory component moves students through a progression that begins with an introduction to physiological data acquisition and culminates in presenting the results of a novel study. The development of team-work skills occurs throughout the course, as students complete the laboratory component, lecture activities, and portions of the RATs in learning teams. This course strategy is well-received by the students and provides a unique opportunity to transition from memorizing physiology to using physiology- and in so doing, developing problem-solving skills and content understanding that are likely retained more effectively than with traditional approaches.