The majority of students arriving at our community college with hopes of entering the nursing, physical therapist assistant, and other allied health programs (concentrations in pre-physical therapy, pre-occupational therapy, pre-pharmacy, and pre-physician’s assistant) are at-risk students. They may have completed a general education degree program (GED) rather than having obtained a regular high school diploma. Many of the students may have had a poor background in the sciences. Some are from a foreign country and have difficulties with the English language. Of the approximately 15,000 enrolled students at Kingsborough Community College, about 30% are African-American, 9% Asian and 13% Hispanic. The remaining percentage is a mixture of students coming from many different countries, speaking various languages.

It should be pointed out that, although many students come to college with gaps in their education, whether they are weak in mathematics or English, one should not generalize that all students are “at-risk.” Their needs are not all the same and they may even resent the stigma of labeling.

For all of the reasons cited above, several years ago, the Department of Biological Sciences at Kingsborough decided that two semesters of Human Anatomy and Physiology (A & P) are just not enough time to teach the fundamentals of the human body structure and function, in light of the extensive expansion of knowledge in the field. For example, there have been advances in our knowledge of the immune system, breakthroughs in genetics and developmental biology, and better understanding of the liver in human health and disease. This current knowledge necessitates the placement of the most fundamental concepts of A & P (cytology and histology, microscopic techniques, technical drawing, use of laboratory equipment) into a separate Foundations course. The rationale for this course was to help students better understand the material that would be covered in the A & P courses down the road and, thus perform at a higher level in these courses.

A Biology Foundations course of this type could easily be adapted for use by high school biology teachers because the course may be taught as a lecture/demonstration combination, with several hands-on activities for students. The high school biology staff would require a minimum preparation time to implement this course.

Description of Foundations Course

A Foundations of Human Anatomy and Physiology course (three credits, three hours) is being given by the Department of Biological Sciences at Kingsborough as one of the prerequisites for students in the pre-nursing curriculum and all the other allied health programs. Prior to enrolling in the yearlong Human Anatomy and Physiology (A & P) courses, students must take this course or the first semester of General Biology. However, students may opt to take and pass an examination, which exempts them from the Foundations course. The passing rate of this examination is quite low, as students study for this examination on their own.

In order to help students who wish to take the exemption exam, members of the Department of Biological Sciences may prepare an online version, which students could use to study for the exam. It has been determined that students who take and pass a course in General Biology may pick up the fundamental knowledge that is required for the A & P courses. For this reason, those students are exempted from taking the Foundations course.

A brief description of the Foundations course goals is shown in Table 1. These goals are accomplished by having students work in two-hour weekly laboratory sessions for the semester, as well as an additional one-hour weekly lecture.

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