ASSESSMENT:
In-Class Quizzes: 2-3% of grade
Midterm Exams: 50% of grade
Final Exam: 40% of grade
Mastering A&P Assignments: 7-8% of grade

IMPLEMENTATION:
All three courses are delivered via in-class lectures and assessed via on-site examinations. Each course is supported by a web site that contains interactive exercises, a discussion forum for student questions, and a link to MasteringA&P where students can easily access their regular MasteringA&P assignments.

Large class sizes (there can be as many as 4 sections per A&P course with 250 - 350 students per section) make it challenging to ensure that students are regularly reviewing and critically exploring what they learn in class. I chose to use MasteringA&P in an effort to address two important concerns that I have with regard to these large classes. One challenge is that our curriculum does not include any laboratory sessions. The second concern is the need to find ways to engage students in regularly reviewing and critically exploring what they have learned in class when I see them only two times per week.

Anatomy labeling exercises provide students with interactive ways to self-assess their memory of the locations and names of the anatomical structures they study in class. These exercises are like virtual tutorial sessions. Students are instantly provided with feedback, question by question, on their progress. When wrong answers are selected, students are directed to the appropriate textbook reading.

With regards to engagement, MasteringA&P allows the introduction of some structure into the study habits of students through the creation of assignments that my students can do at weekly or bi-weekly intervals for credit. This timetable requiring regular completion of assignments encourages them to review course content during the days after it has been presented in lecture, allowing for better transfer of knowledge from short-term to long-term memory.
MasteringA&P allows me to design the assignments to reflect the style and difficulty of questions on examinations, which in turn helps students feel confident about midterm and final exams.

I also share exercises with lecturers responsible for other sections of the same course, to promote consistency between the various course sections. This is important to students who want to feel that they are getting the same learning opportunities and are being evaluated equivalently, regardless of the course section in which they are registered.

**WHAT WORKS:**

I use the assignment feature and would strongly recommend this as an easy way to promote regular, feedback – associated student interaction with the course content.

During the first lecture, I also show students the MasteringA&P site and both encourage them and show them how to access the additional study tools. I stress the fact that each of them may have different ways of learning anatomy and physiology and these additional tools provide them with ways to work with their learning strengths (visual, kinaesthetic, read/write, etc).

**RESULTS:**

At present, I am using Excel files and Word tables to track student data (class size, drop rate, midterm and final exam scores, due dates of assignments and individual student dates for assignment completion.) The data is very preliminary at this time and I intend to continue tracking student outcomes, but I have seen trends toward improved exam scores and lower failure rates.

The particular course where the improvement has been observed is the course with the most anatomy content, ANP 1106: Anatomy and Physiology of the Integumentary, Musculoskeletal and Nervous Systems.

**CONCLUSION:**

I am very much impressed that MasteringA&P has a very large bank of questions, a high quality of the interactive diagram labeling exercises, and the ease with which I could create online assignments tailored to the specific anatomy and physiology courses I teach and have student outcomes transferred directly into Gradebook.

The automatic grading and tracking of student outcomes using Gradebook is a valuable timesaver for a professor who may be dealing with 800 – 850 students in a single term.

MasteringA&P helps me prompt students to take responsibility for their own academic success. The assignments engage my students in regularly reviewing and critically exploring what they learn in class. Student compliance with these assignments is high and they tend to do well on them. There is a level of encouragement of inter-student discussion with regard to on-line assignments, and if they are unsure of why a particular answer is correct, they post their question in the Discussion Forum of our course web site and other students get involved in the discussion.

I will continue to use MasteringA&P with emphasis on structuring the assignments so that students are working with the course content every one to two weeks.