



The  
Human  
Anatomy &  
Physiology  
Society

18 October 2005

Dr. Belle S. Wheelan  
President  
Commission on Colleges, SACS

Dear Dr. Wheelan,

Thank you for your time on the phone earlier today. In anticipation of your meeting on Friday, I will in this letter summarize the key issues that are directly related to what I would describe as “the accreditation crisis” in the southern region with regard to the accreditation of courses in human anatomy and physiology. I will send this letter by email and a hard copy will follow through the mail.

In terms of general background: The 2-semester/3-quarter undergraduate course usually known as "Human Anatomy and Physiology" or simply "Anatomy and Physiology" is one of the larger introductory level courses, with approximately 450,000 students enrolled each year in the US and Canada. Nationwide, roughly two-thirds of these courses are taught at community colleges, and the rest primarily at universities. This As an introductory level survey course, A&P covers a diversity of topics, including not only anatomy and physiology, but introductory biochemistry, cytology, histology, molecular biology, genetics, immunology, nutrition, embryology, and pathology. The coverage is so diverse, and the principles so relevant to a general understanding of modern biology, that a 1-semester version of this course is often used to satisfy the general biology requirements for non-majors students.

The majority of students taking the 2-semester A&P course are planning a career in the health sciences. The career paths include nursing, occupational therapy, physical therapy, radiation technology, laboratory/medical technology, dental hygiene, pharmacology and other related disciplines. Students majoring in physical education, sports training, or kinesiology make up a smaller component of the classroom population. At community colleges the course is often taken in the first year of college, without college-level prerequisites. Entry into any one of the career programs listed above is usually contingent upon successful completion of the A&P course with a grade of C or above; in competitive programs, the grade requirements may be much more restrictive. It is important to note that pre-med students and biology majors do not typically take this course because it is an option that does not count towards their degree requirements. Instead, they will take Majors Biology (or Zoology/Botany) as freshmen, followed by more specialized and detailed upper level courses in their junior and senior years.

Two-semester A&P courses are usually taught from the Biology, Zoology, or Natural Sciences departments; in rare cases, the sequence may be offered by another academic division (e.g. a department within an associated medical school) as a service course. As a result, the diversity of faculty roughly approaches the diversity of topics presented within the course. The minimum criteria for teaching the introductory level A&P course nationwide are (1) a Masters degree in one of the biological sciences and (2) 18 graduate credit hours in related courses. A professional degree incorporating both anatomy and physiology (M.S.N., MD, DO, or DVM) is generally accepted as fulfilling these requirements.

It has been reported to HAPS that the revised SACS criteria for accreditation of an A&P course is a Masters degree in human anatomy or human physiology (or A&P) and 18 graduate credit hours in human anatomy, human physiology, or related (human) courses. Comparative and clinical courses are specifically excluded from consideration. This is not only a departure from past criteria, but it is simply not supportable in terms of either the logistics and content of the course or the course topics available to faculty during their graduate careers.

In terms of course logistics, please review the HAPS Core Curriculum Guidelines provided as Enclosure 1. As you can see, the instructors must be prepared to integrate intro-level chemistry and biochemistry not only with anatomy and physiology, but with a variety of other relevant topics in biology, including cytology, cell physiology, histology, organology, microbiology, immunology, embryology, and nutrition. Because of the interrelatedness of topics in biology, a graduate level course in any one of the ancillary topics above must of necessity include a significant amount of anatomy and physiology. Using the HAPS Curriculum Guidelines as a reference, Enclosure 2 lists the graduate level courses that are relevant to the teaching of anatomy and physiology at the introductory level.

In terms of coursework options at the graduate level, the following should be noted:

- Opportunities to obtain a degree in “anatomy and physiology” are extremely limited. I am aware of degree programs with that description at Boston University, Kansas State, the University of Delaware, the University of Bristol (UK), and the University of Guelph (Canada). Even those degrees are in A&P and not *human* A&P; in some cases (e.g. Kansas State) DVM courses count toward the credit requirements of the degree program, and the graduate research projects typically involve experimental procedures using laboratory animals rather than people.
- The term *human* is seldom applied to the course description or syllabus for graduate level courses in the physiological sciences because the core principles of physiology are consistent not only across the vertebrate lineage, but across major animal phyla. As a result, the laboratory experiments and demonstrations use a combination of vertebrates and invertebrates, as appropriate. For example, cockroach nerve plexuses are used to demonstrate neural wiring patterns and reflexes; squid axons are used to study action potentials; frog skin is used to investigate ion transport mechanisms; and turtle hearts are used to demonstrate basic cardiovascular physiology.
- Because the basic anatomical, physiological, histological, and developmental patterns are found across the vertebrate lineage, mammalian physiology courses

and comparative anatomy courses are directly applicable to all forms of A&P. Note that A&P courses perform dissections as part of the laboratory component, and the animal most often dissected is the domestic cat. Although cats and primates are distinct, the basic patterns of anatomical organization are directly comparable. (Courses may also use rabbits, rats, fetal pigs, cow hearts, sheep brains, and other non-human materials as part of the laboratory component.)

On behalf of the membership of HAPS, I need to point out that should Dr. Sullivan's accreditation criteria be widely applied in colleges across the country, it would disqualify at least 90% of current instructors, both full-time and adjunct. This would be devastating for both academic departments and students who need the courses to advance in their career paths. In one instance (Edison College), the administration has removed all A&P and Microbiology courses from the Spring 2006 schedule and will reassign or lay off the faculty who were to teach them. Obviously students will be stranded and have to seek those courses elsewhere, if they can find them at all, and the loss of these courses will have a downstream impact on all of the allied health programs that accept students only after they have completed A&P. This would place SACS in the position of exacerbating a shortage of health care professionals in a region where the problem is already acute. In summary, the impacts of the revised accreditation criteria are all negative, and the duration and severity of those impacts are difficult to predict, but whatever happens will be directly attributable to the accreditation criteria imposed by Dr. Sullivan, acting with the tacit approval of SACS.

I have devoted my professional life to improving the quality of A&P education for undergraduates, as have many of our members. The issue here is that the criteria Dr. Sullivan is proposing do not match the reality of the courses, do not accurately reflect the relationships among topics within Biology, and fail to consider the options available to faculty during their graduate careers. Dr. Sullivan's revised accreditation criteria threaten not only the departments affected, but health care programs and facilities. It is my hope that after reviewing these materials you will take immediate steps to restore the historic accreditation criteria in A&P and avoid further disruption of departments and faculty in your region. HAPS stands ready to work with you to examine the previously existing standards in terms of their suitability and effectiveness, a step that should be completed *before* radically new standards are imposed.

I will look forward to hearing from you at your earliest convenience.

Sincerely,



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Enc: 1 – Course Curriculum Guidelines

2 - Graduate course listing

cc: Dr. Margaret Sullivan, Dr. Laura Lindsay