

MEDICAL PHYSIOLOGY

COURSE SYLLABUS AND SCHEDULE

SPRING 2009

DEPARTMENT OF NEUROSCIENCES

MUSC

MEDICAL UNIVERSITY
OF SOUTH CAROLINA

MEDICAL PHYSIOLOGY (NSCS) 601

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INTRODUCTION

The goal of the faculty in presenting this course is to assist the student in acquiring a balanced foundation in cellular and systemic physiology in preparation for advanced study in other basic sciences and in clinical medicine. The emphasis is on understanding general physiological principles and on how cellular and organ system functions are integrated within the organism. In this regard, physiology may be distinguished from other basic biomedical sciences because it deals with the function of the whole organism and emphasizes those processes that regulate and control entire organ systems.

A systems approach is used in NSCS 601, concentrating on each of the major organ systems individually. As information accumulates throughout the course, every effort is made to examine the interrelationships and interdependencies that exist among these various functional components. In addition, every effort is made to illustrate the relevance of this knowledge to the practice of medicine. A good working knowledge of physiology is a prerequisite for the student and practitioner who must ultimately interpret and evaluate disorders of function and provide rational treatment plans.

The specific objective of each block will be presented in the lectures and in the corresponding section of the syllabus.

ORGANIZATION

NSCS 601 is taught in the spring semester. The course consists of five major sections: cardiovascular, renal, respiratory, gastrointestinal, and endocrine physiology. In addition, an introduction to the physiology of aging as well as the relationship of nutrition and physical activity to physiology and disease will be presented.

Lectures: The lectures provide a framework to help the student organize his/her study of physiology. The lectures are not meant to be comprehensive, and should be supplemented by reading. Students are encouraged to bring questions about the content of a given lecture to the faculty member involved.

Clinical Correlations: The lecture series concerning each organ system block will be augmented with at least one clinical correlation. In each of these sessions, a physician

from the Medical University clinical faculty will take an aspect of that block and explore its clinical relevance through case presentation, patient presentation, or demonstration.

Laboratories and Conferences: One standard technique for investigating the function of an organ system is to observe what happens to that system under controlled laboratory conditions. Laboratory demonstrations have been prepared which will permit the student to observe, measure and interpret human physiologic responses. The laboratories are straightforward and highly reproducible. The student should attend each laboratory demonstration for which he/she is scheduled and prepare for it by reviewing appropriate sections in the syllabus or other materials provided. Questions derived directly from the laboratory exercises will be included in the pertinent examinations.

Syllabus: In addition to the lectures, a detailed syllabus has been prepared for each block of the course. The syllabus is meant to assist the student in understanding the materials presented in lecture by providing an organized outline of the material and by placing emphasis upon the most important principles and concepts. The aim is to minimize the need to focus on note taking during lecture, thereby freeing the student to concentrate on the substance of the material presented. The syllabus is **not** meant to be an all-inclusive source of information about any topic, but is designed to be supplemented with the lectures and additional readings.

Textbook: While no single textbook meets all the needs of students studying all areas of physiology, Medical Physiology by A.C. Guyton and J. E. Hall (10th edition), Physiology by R.M. Berne and M. N. Levy (5th edition), Medical Physiology by R.A. Rhoades and G. A. Tanner (2nd edition), and Medical Physiology (1st edition) by W.F. Boron and E.L. Boulpaep are all good books. Several copies of each (as well as other physiology texts) are held on reserve in the Library. Newer editions of these textbooks may be available in the bookstore or on-line.

ATTENDANCE

Students are expected to attend all assigned lectures and laboratories. In addition, attendance at all examinations is mandatory. If a student is able to tell the Course Director ahead of time that he/she will be unable to attend an examination, he/she should do so. All students are to take examinations on the scheduled dates.

TESTING AND GRADING

The College of Medicine administers three comprehensive examinations during each semester of the freshman year. Each examination is a combination of questions

taken from all courses in the semester within which the test is given. A student's grade in this course will be derived exclusively from the physiology question subset of those examinations. These three examinations will be weighted 30, 30, and 40 percent, respectively. The Final Exam is cumulative and will test the student's knowledge of the information presented during the entire semester and is thus afforded a greater weight.

Examination Policy

College of Medicine policy dictates that all students are to take exams on the scheduled dates. Missing an exam will result in a grade of "0" (zero), unless exceptional circumstances justify that the student may take the exam on a different date. Any requests for permission to take an exam at a time other than on the regularly scheduled date based on health reasons, a death in the family, or other significant problems must be submitted in writing with appropriate supporting documentation. A decision concerning the taking of an exam at a later date by a student will be made by the Associate Dean for Curriculum and Evaluation, Dr. Lynn Manfred.

Student Review of Written Examinations (College of Medicine Policy)

- a. All exams will be evaluated for items that may be deleted or double-keyed after a preliminary run through the computer. Each exam booklet will have a comment page at the end and students will be encouraged to give feedback about items they think are problematic. Those questions will be analyzed before the exam is graded for a second and final time. No changes will be made after the grades are posted or distributed electronically.
- b. A review session will be scheduled after the grades are posted/distributed. Details of this process will be provided to the students by the office of the Associate Dean for Curriculum and Evaluation.

Course Grading

A minimal final average of 70% for all three exams is required to pass this course. Students averaging 70% or higher in the course will receive a final course grade of "pass" (P). Students receiving a final exam average of less than 70% will receive a grade of "no pass" (NP). The top 15% of the class will receive a final course grade of "high pass" (HP).

Ongoing Academic Difficulty

Medical students who, by unsatisfactory performance on examinations in NSCS 601, demonstrate difficulty in meeting the requirements of this course (i.e. < 75 average) will be strongly encouraged to work with individual faculty and possibly a tutor in remedying this deficiency. The Department of Neurosciences and the College of

Medicine will make every effort to provide such a tutor without cost to the student. As students develop such academic difficulty, their Faculty Advisor and Dr. Lynn Manfred, Associate Dean for Curriculum and Evaluation, will be notified by the NSCS 601 Course Director.

Failure and Re-Examination

The failure and re-examination policies followed in this course correspond to those outlined in the Bulletin of the Medical University of South Carolina. The most pertinent points are summarized below.

- a. Students who receive an NP in NSCS 601 are not eligible to take a re-examination or to retake the course if they meet the criteria for dismissal.
- b. If a student meets the minimum standards for continuing in school, he/she will be given the opportunity for a re-examination only if the failing grade in NSCS 601 is 65 or greater. This comprehensive written examination will be offered approximately 10 weeks after the end of NSCS 601. Students will be encouraged to utilize tutors, faculty, and self-study in preparation for this examination. During this period of preparation, each student will meet with an assigned Physiology faculty advisor.
- c. To pass the re-examination, the student must achieve a 75% or above.
- d. If the student fails this re-examination, he/she may be allowed to repeat the course, in accordance with the recommendations of the Progress Committee.

College of Medicine Policy Regarding Hand-held Computers

Students are permitted to bring hand-held calculators and computers to the examinations. These devices may only be used for computation. They may not be used as a source of preloaded information, data, formulas or normal values.

COURSE EVALUATION REQUIREMENT

Completion of course and faculty evaluations is a required course component. Responses to individual items on the evaluations are anonymous, however the software used in course and faculty evaluation administration permits us to know which students have completed the evaluations. Students who do not complete the course and faculty evaluations will receive an incomplete "IN" in the course until the evaluations are completed.

LECTURE/LABORATORY SCHEDULE – ROOM ASSIGNMENTS

A copy of the lecture/laboratory/conference schedule for physiology is attached.

Lectures

Lectures are held in Baruch Auditorium. Days and times are variable – please consult the course schedule in this syllabus.

Laboratories/Conferences

Laboratories and conferences are scheduled from 1:00-5:00 pm on either Tuesdays or Thursdays based on student assignment. Students are asked to attend on their assigned day as to avoid overcrowding. Typically the laboratories do not last more than 2 hours, however, each student is expected to block out the entire time as unexpected changes in scheduling may occur or one subgroup of students may be assigned to the 1:00-3:00 time slot and another subgroup to the 3:00-5:00 time slot. Please consult the calendar and student groupings in this syllabus for your specific lab/conference assignment.

COURSE FACULTY	Office Room #	Office Phone #	E-mail
Dr. E. Soltis, Course Director	QE 224	2-5445	soltised@
Dr. J. Ondo	Off campus		ondojpg@
Dr. F. Spinale	625 STB	876-5186	wilburnm@
Dr. J. Chandler	469 IOPN	2-5224	chandj@
Dr. C. Strange	812 CSB	2-2153	strange@

QE = Quadrangle Building (College of Pharmacy)
 STB = Strom Thurmond Building/Gazes Research
 IOPN = Institute of Psychiatry, North
 CSB = Clinical Science Building