The Florida State University
College of Medicine

BMS 6401

Pharmacology 201

FALL 2012

Table of Contents

Instructors

Course Director

Graham A. Patrick, Ph.D.

Office	Research Bldg., Room 3350-L
Office Hours	M-F 2:00-4:00 p.m., other times by appointment
Phone	644-8551
Email	graham.patrick@med.fsu.edu

Faculty

Gail Galasko, Ph.D.
gail.galasko@med.fsu.edu

Susanne Cappendijk, Ph.D.
susanne.cappendijk@med.fsu.edu

J. Michael Overton, Ph.D.
mike.overton@med.fsu.edu

Ken Brummel-Smith, M.D.
ken.brummel-smith@med.fsu.edu

April Johnston, Pharm.D.
awjohnston@chp.org

Phillip Treadwell, Pharm.D.
phillip.treadwell@tmh.org

Melissa Wilson, Pharm.D.
mrwilson@chp.org

Faculty and Course Evaluation

Students will have the opportunity to evaluate each faculty member who teaches a major portion of the course, using a standard evaluation questionnaire. Students will also have the opportunity to evaluate the course at its conclusion. Suggestions and comments concerning the course, its material and conduct, are welcomed and may be made to the Course Director at any time.

Course Overview

Course Goals

This introductory course deals with the concepts of pharmacodynamics (e.g., drug-receptor interactions, signaling mechanisms, and dose-effect relationships) and pharmacokinetics (e.g., drug absorption, distribution, metabolism, and elimination). The course emphasizes the biochemical and physiological bases for understanding drug action, and it introduces many major classes of drugs. Groups of drugs which are specifically considered include those acting on the autonomic nervous system, those most prominently affecting the immune system, those used in treating disorders of the cardiovascular and respiratory systems, and those used in treating neoplastic and infectious diseases.

Learning Objectives

Course Objectives

The student should exhibit the following knowledge, skills, and behaviors:

Knowledge

1. Demonstrate knowledge concerning each major drug class discussed in the course, including:
    a. prototype drug(s),
    b. mechanism(s) of action,
    c. important therapeutic actions and applications, and
    d. important (prevalent or life-threatening) adverse effects;
2. Demonstrate knowledge of the variations in drug response between individual patients, based upon disease, genetic traits, or other innate characteristics;
3. Demonstrate knowledge of the effect of age on pharmacodynamics, pharmacokinetics, and responses to therapy, with an emphasis on geriatric patients;
4. Develop an adequate basis of knowledge in pharmacology on which to build as the student advances through the clinical clerkship rotations;
5. Develop knowledge of drug classes and mechanisms into which additional drugs can be incorporated, compared, and contrasted as new drugs are developed and as the practice of medicine dictates.

Skills

1. Demonstrate an understanding of the general types and clinical usage of drugs for treating diseases of each organ system;
2. Demonstrate the ability to recognize and understand the physicochemical and physiological factors that affect the absorption, distribution, metabolism, and elimination of drugs, and how these relate to pharmacokinetics;
3. Demonstrate the ability to interpret dose-response relationships for both desired and undesired drug effects;
4. Demonstrate an understanding of drug-receptor interactions and allied molecular phenomena at a basic level;
5. Demonstrate ability to interpret and analyze literature related to drugs.

Attitudes and behaviors:

Demonstrate professional behavior during activities in the course by being in attendance when required, on time, attentive, and a considerate and active participant in discussions.

Integration with COM Goals and Objectives:

Knowledge

- Demonstrate the application of the scientific bases of health, disease, and medicine to common and high impact medical conditions in contemporary society.
- Describe the development, structure and function of the healthy human body and each of its major organ systems at the macroscopic, microscopic, and molecular levels.
- Recognize and discuss the implications of altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions.
- Identify changes in the structure and function of the human body associated with the aging process and be able to distinguish normal changes associated with aging from those that denote disease.
- Describe the molecular basis of diseases and maladies and the way in which they affect the body (pathogenesis).
- Demonstrate the ability to use basic biobehavioral and clinical science principles to analyze and solve problems related to the diagnosis, treatment, and prevention of disease.
- Demonstrate the ability to employ a comprehensive, multidisciplinary approach to the care of patients that integrates biomedical and psychosocial considerations.
- Recognize the implications of cultural, social, economic, legal, and historical contexts for patient care.
- Describe strategies to support lifelong learning via both print and electronic sources to assist in making diagnostic and treatment decisions (e.g., practice guidelines) and to remain current with advances in medical knowledge and practice (e.g., medical information data bases).

Skills

- Demonstrate the ability to evaluate the patient's medical problems and to formulate accurate hypotheses to serve as the basis for making diagnostic and treatment decisions.
- Demonstrate the effective use of pharmacotherapeutic agents and other therapeutic modalities, while teaching patients the importance of preventative medicine, health promotion, and wellness.
- Demonstrate the ability to acquire new information and data and to critically appraise its validity and applicability to one's professional decisions, including the application of information systems technologies for support of clinical decision-making.
- Demonstrate the ability to organize, record, research, present, critique, and manage clinical information.

Attitudes/Behaviors

- Demonstrate awareness of the health care needs of aging patients and a willingness to care for the elderly.
- Demonstrate awareness of the unique health care needs of ethnically diverse populations and communities.

Relationship of course objectives to the "Six Principles" of the Curriculum:

1. The course is student-centered in providing a supportive, respectful environment in which to learn, while requiring that students be active and critical learners.
2. The course provides information that can be applied within a clinical context. Case-based learning and clinical situations are used to present and to reinforce knowledge and analysis.
3. The course is integrated with other courses in the year. Cases and examination questions integrate information from other disciplines, from the prerequisite biomedical sciences, and from clinical situations.
4. The course reinforces professional behavior in the classroom and small group settings. Ethical issues in relation to drug therapy or other drug usage are discussed. Application of biomedical science to patient care, in the form of pharmacotherapy, is a major emphasis of the course.

Problem solving and critical thinking are promoted by classroom discussions, case discussions, examination questions, and written critique. Lifelong learning skills and management of information are promoted by the requirement for using online and library sources and by the application of information to novel situations.

5. Scholarship is encouraged primarily through an emphasis on the necessity of evidence-based utilization of drug therapy; e.g. evaluation of drug safety and efficacy, appropriateness of off-label usage of drugs, and post-marketing surveillance of drug effects.
6. Information is included in the course which deals with drug effects in specific populations such as women, geriatric patients, pediatric patients, and patients belonging to specific ethnic groups.

Course Format

The course consists of 45 lecture hours, 4 clinical discussion-tutorial sessions, and 4 small group discussion sessions.

Competencies

FSUCOM – Competencies - BMS 6401		
Competency Domains	Competencies Covered in the Course	Methods of Assessment
Patient Care	X	Lecture, small groups, case-based clinical scenarios, quizzes, and examinations
Medical Knowledge	X	Lecture, small groups, quizzes, examinations, paper
Practice-based Learning	X	Treatment goals and targets (later built on in 3rd year clerkships), quizzes and exams
Communication Skills	X	Drug Ad critique, communication skills in small group exercises and large group discussions
Professionalism	X	Socioeconomic & ethical issues related to drug therapy & usage; small group student evaluations
System-based Practice	X	Drug Ad critiques to become aware of bias and misleading information related to patient safety & quality improvement

Policies

Americans with Disabilities Act

Candidates for the M.D. degree must be able to fully and promptly perform the essential functions in each of the following categories: Observation, Communication, Motor, Intellectual, and Behavioral/Social. However, it is recognized that degrees of ability vary widely between individuals. Individuals are encouraged to discuss their disabilities with the College of Medicine's Director of Student Counseling Services and the FSU Student Disability Resource Center to determine whether they might be eligible to receive accommodations needed in order to train and function effectively as a physician. The Florida State University College of Medicine is committed to enabling its students by any reasonable means or accommodations to complete the course of study leading to the medical degree.

The Office of Student Counseling Services
Medical Science Research Building, G146
Phone: (850) 645-8256Fax: (850) 645-9452

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
97 Woodward Avenue, South
Florida State University
Tallahassee, FL 32306-4167
Voice: (850) 644-9566
TDD: (850) 644-8504
sdrc@admin.fsu.edu
http://www.fsu.edu/~staffair/dean/StudentDisability

Academic Honor Code

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. (Florida State University Academic Honor Policy)

Attendance Policy

The College of Medicine has detailed attendance policies as they relate to each cohort and events that conflict with course schedules. See pages 28-29 of *FSUCOM Student Handbook* for details of attendance policy, notice of absences and remediation.

For BMS 6401: Unexcused absence from a scheduled examination or quiz may result in a score of zero (0 %) being assigned for that assessment. Unexcused absence from any activity for which attendance is required may be considered as an issue of Professionalism. Any unexcused absence may require completion of the Performance Improvement Program (see Grading System, below).

Required Materials

Required Textbook

Basic and Clinical Pharmacology, 12th Ed. (2012), B.G.Katzung, ed. (Available online at COM Medical Library webpage under "E-Books", then scroll down to "Pharmacology" listing)

Required Website

The Medical Letter on Drugs and Therapeutics (**required**, subject to examination) *(on Medical Library webpage under "Drug Information")*

Recommended Materials

Textbooks

Goodman and Gilman's The Pharmacological Basis of Therapeutics, 12th ed.

L.L. Brunton et al., eds., 2011. (Available online at COM Medical Library webpage under "E-Books", in the "Pharmacology" listing)

Review books

Katzung & Trevor's Pharmacology Examination and Board Review, 8th ed., A.J. Trevor et al. eds., 2008. (An extensive review)

USMLE Road Map: Pharmacology, 2nd ed. (2006), B.G. Katzung and A.J. Trevor, eds. (A more abbreviated review)

Websites

Therapeutic Guidelines from The Medical Letter *(on Medical Library webpage under "Drug Information"/Medical Letter)*

Facts and Comparisons (available on COM Medical Library website under "Drug Information")

e-Pocrates (available on COM Medical Library website under "Drug Information" and on handheld devices)

MD Consult Drug Tab (available on COM Medical Library website under "Drug Information")

Prescriber's Letter (available on COM Medical Library website under "Drug Information")

Grading

Assignments and Weights

Questions pertaining to Medical Pharmacology 201 will be included in the four integrated examinations in the fall semester (total of approximately135 questions) and in the integrated quizzes. The integrated quizzes are formative and do not contribute to the final exam average. In addition, there will be 4 announced quizzes (5 questions each) given during Pharmacology Small Group sessions. Small group quizzes contribute to your final exam average. The types of questions may include computer-graded formats (multiple choice, matching) and open-ended, short answer questions. Each student will also be required to write a critique (1-2 pages, double-spaced, size 12 font) of a print, television, online, or radio advertisement for a drug product.

Unexcused absence from a scheduled examination or quiz may result in a grade of zero (0 %) being assigned for that assessment. Attendance at formative quizzes is required. Unexcused absence from an activity for which attendance is required (for example, Small Group session) may be considered as an issue of Professionalism and require completion of the Performance Improvement Program.

Grading System

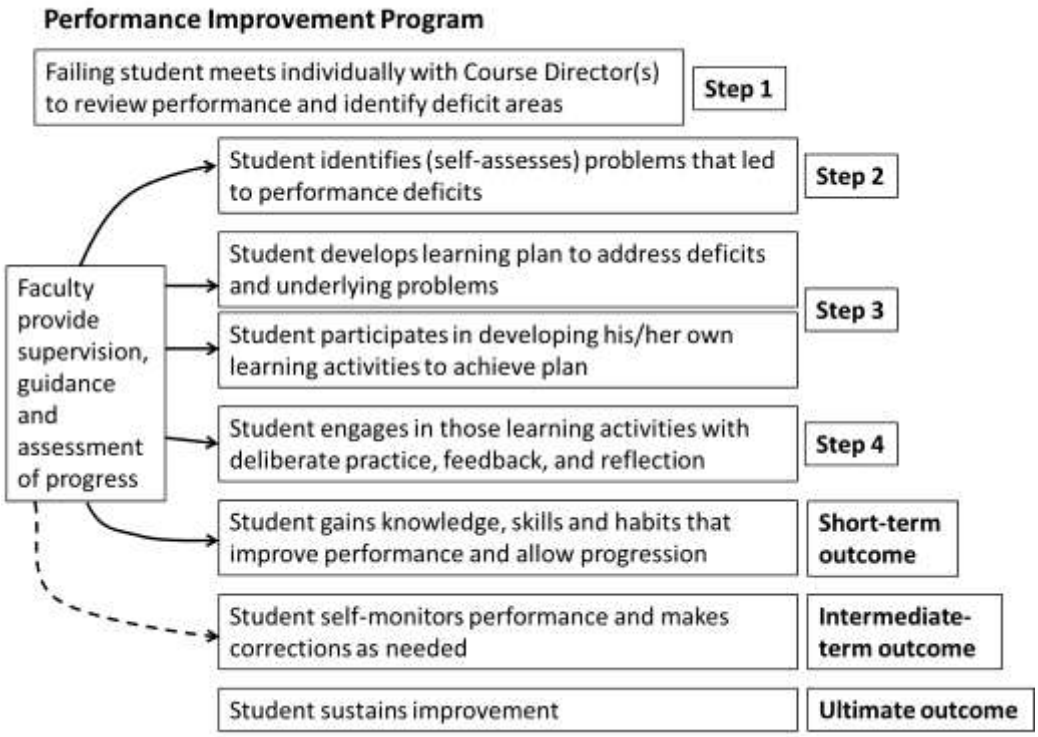
FSU COM has adopted a pass/fail grading system which is used in the curriculum for the first and second years (See page 31 of Student Handbook). To achieve a grade of Pass in BMS 6401 a student must meet all of the following requirements:

1) A final average ≥ 70% on the combination of all examination and graded quiz questions. An average <70% will receive a grade of fail, which will require remediation or repetition of the course, as determined by decision of the Student Evaluation and Promotion Committee. A student whose performance is below passing during the course, i.e.,
    - <65% on any one exam

    OR

    - <70% on any two exams in the semester

    is required to engage in and complete the Performance Improvement Program in consultation with the Course Director. The purpose of this program is to assist the student in developing the skills and habits necessary to succeed in the curriculum as well as to address specific performance deficits.



2) Attendance and satisfactory participation in all required sessions, as determined by the Course Director. Unexcused absence from an activity for which attendance is required (for example, Small Group session) may be considered as an issue of Professionalism and require completion of the Performance Improvement Program.
3) Satisfactory completion of the assigned drug advertisement critique, as determined by the Course Director.
4) Demonstration of the attitudes and behaviors of Medical Professionalism in all aspects of the course. Issues of Professionalism may require completion of the Performance Improvement Program.