

Syllabus

Summer 2010

CP5220.TP- Pharmacology and Toxicology

Meeting times and places

Tuesday 11 a.m. Room R-200

Friday 10 a.m. in Room R-100

Contact Information:

Contact Information:

Course Professor: Dr. Jesse T. Coats, RPh., D.C., D.A.A.P.M., C.C.S.P.,

Associate Clinical Professor & Department Head Clinical Diagnosis

Office: Room #317, Faculty/Research Building

Office Hours:

Monday 11 a.m.

Tuesday 10 a.m.

Wednesday 9 a.m. and 11 a.m.

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Faculty Support: Michelle Soto (281) 998-6083 and Sharon Barnes (281) 998-6082

Course Materials:

Required Readings/Texts:

Brody's HUMAN PHARMACOLOGY: MOLECULAR TO CLINICAL,

Wingard, Brody, Larner, Schwartz. 5th Edition, Elsevier Mosby, 2009.

Scholar 360:

Course Description:

In a modern chiropractic practice it is imperative to have a basic knowledge of the pharmacology associated with the use of pharmaceuticals. This course is designed to acquaint the student physician with these various classes of pharmacotherapeutic agents and their prudent, knowledgeable utilization and evaluation of such entities. Additionally the pharmacotherapeutics of natural products will be taught.

Learning Outcomes: Upon completion of this course the student should be able to:

1. Describe the various classes of pharmaceuticals available to the physician and consequently to the public.
2. Discuss basic mechanism of action and indication for usage of the above.
3. Develop rapport with the prescribing physician while resolving drug-drug, drug-nutrient, and drug-co-morbid disease interactions.
4. Augment your chiropractic practice with prudent usage of OTC (over the counter) drugs, nutraceuticals, natural products and supplements.

Clinical Competencies:

Clinical competencies set forth by CCE (Council on Chiropractic Education) to be derived from this course are among the following:

1. Professional issues
2. Ethics and morals regarding use of pharmacotherapeutic agents.
3. Physical Examination.
4. Neuromusculoskeletal Examination.
5. Emergency care.
6. Chiropractic implications regarding utilization and review of pharmacotherapeutic agents.
7. Record Keeping
8. Co-managing/Referral patients in an integrated practice or network
9. The Doctor-Patient Relationship
10. Wellness

Teaching Philosophy:

The approach used in this class is to begin with a review of the basic sciences covered in the course, then build into the clinical application of the new clinical material covered.

The student doctor should benefit from this approach 3 fold:

1. Identify and solidifying attained background knowledge in basic science,
2. Correlating this basic science knowledge through application of such to solve novel clinical problems presented in upper level clinical courses,
3. And finally fortifying board preparation through this comprehensive review of basic science and clinical corollaries.

Teaching Methods:

Teaching methods used in this course will vary according to tempo and personality of the class. PowerPoint presentations will be used.

Student Responsibilities:

Last day to drop and/or add.....May 21st 2010

Last day to withdraw.....July 2nd 2010

Participation:

Student doctors should be participators rather than spectators. Ask questions in class and when the occasion arises dissertate. This is good early training for field doctors are asked to speak frequently often times in public.

Homework:

Seldom will homework be assigned. A standing request to commit to memory the lesson given that day as well as past lectures is in order.

Daily Responsibilities:

Attend class, participate in class and stay current with concepts as they are presented.

Projects:

No projects are assigned to date, however extra credit is available for a special project to be announced.

Quizzes/Exams:

Hourly exams will be given at regular intervals and paced somewhat to the tempo of the class at large.

Holidays/Other Non-meeting Dates:

Classes will not meet:

May 31st Memorial Day

July 5th Independence Day

July 15-17 Homecoming

Final Exam Week..... August 10th – 18th

TENATIVE OUTLINE OF COURSE:

Week 1 Introduction and definitions

Learning objectives: Know all bold faced terms specifically if presented in class.

I. General Principles

Chapter 1: Receptors and concentration-response relationships

Learning Objectives: Know basic receptor theory, mechanism of cellular

communication and how concentration may affect dose response relationships.

Chapter 2: Pharmacokinetics: Absorption, distribution, metabolism, and elimination

Learning Objectives: Know the basic definition and make application of these biokinetic terms.

Week 2

Chapter 3: Clinical pharmacokinetics and issues in therapeutics

Learning Objectives: Know the basic definition and make application of the various pharmacotherapeutic considerations in drug therapy.

Chapter 4: Regulated drug development and usage

Learning Objectives: Know stages of drug development as they relate to new drug application and development.

Week 3

Chapter 7: Herbals and natural products

Learning Objectives: Develop working knowledge of the various medicinal herbs as applies to alternatives to legend or prescription medicinals.

Week 4

Chapter 8: Principles of Toxicology

II. Drugs affecting the peripheral nervous system, skeletal, and smooth muscle

Chapter 9: Introduction to the autonomic nervous system Very Important Chapter

Learning Objectives: Review the nervous system PNS and CNS as it relates to the ANS and comit to memory all receptor types, location and physiological implications.

Week 5

Exam 1 60-75 multiple choice questions over Chapters 1-10 constituting one third of your final grade in the course

Week 5-6

Chapter 10: Drugs affection the parasympathetic nervous system and autonomic ganglia.

Learning Objectives: Review the physiology and recognize the pathophysiology of the conditions related to aberrant parasympathetic nervous system discharge. Learn the basic pharmacological classes of drugs used to normalize the parasympathetic nervous system.

Chapter 11: Drugs affecting the sympathetic nervous system.

Learning Objectives: Review the physiology and recognize the pathophysiology of the conditions related to aberrant sympathetic nervous system discharge. Learn the basic pharmacological classes of drugs used to normalize the sympathetic nervous system.

Week 7

Chapter 12: Skeletal Muscle Relaxants

Learning Objectives: Review the physiology of skeletal muscle contraction and neurological control and how skeletal muscle relaxants affect those mechanisms.

Week 8

Chapter 13: Local Anesthetics

Learning Objectives: Know mechanism of action for local anesthetics.

Chapter 14: Histamine and Antihistamines

Learning Objectives: Know biosynthesis of histamine, physiology of histamine and mechanism of action for H1 and H2 blockers.

Week 9

Chapter 15: Prostaglandins and other Eicosanoids

Learning Objectives: Know physiology and biochemistry of membrane phospholipids and the mechanism of NSAIDs and leukotriene modulator.

Week 10

Chapter 16: Drugs to Treat Asthma and COPD

Learning Objectives: Review pathology of lung disease and therapeutic options both nutritional as well as pharmacotherapeutic.

Chapter 18: Drugs Affecting the GI System

Learning Objectives: Review physiology of GI system, pathophysiology of ulcers, gastritis, IBS, GERD and ulcerative colitis.

Chapter 19 Introduction to the Regulation of Cardiovascular Function

Learning Objectives: Review cardiovascular physiology including renin/angiotension/aldosterone system

Week 11-12

Chapter 20: Antihypertensive Drugs

Learning Objectives: Know mechanism of action of the various classes of antihypertensive drugs. Know the predominate side effects and contraindications of their safe usage.

Week 13

Chapter 25 Lipid Lowering Drugs and Atherosclerosis

Learning Objectives: Review biochemistry of lipids, mechanism of atherosclerosis, nutritional implications and treatment of hyperlipidemias.

Week 14

Exam II 50-75 multiple choice questions over chapters 10-25 constituting one third of your final grade in the course. Study hard for this exam for the material is more detailed clinically.

FINAL EXAM (WEEK 15) – Take Home will count for one third of your final grade in the course. The Learning Objectives of this Take Home Exam are: Demonstrate the ability to do an adequate search of the literature to answer clinical questions that arise in daily interactions with patients and other professionals. Devise strategies or techniques for consultation of these selected topics.

Grade Method and Scale:

Explanation of Evaluation:

Evaluation of progress will be solely by way of regularly spaced hourly examinations and one attendance grade. Grading scale is as per student handbook and has the following:

90-100 = A

80-89 = B

70-79 = C

Below 70 = F

Assessment Process and Measurements:

There will be 2 hourly exams equally weighted and together they comprise 67% of your total grade for the course. The final exam will comprise 33% of your total grade for the course.

Assessment Format:

Exams will consist of 50-75 questions, a combination of multiple-choice, true/false, or short answer format. Each item will be of equal value.

Resources:

Web-based:

None

Labs:

None

Study Groups:

Study groups are encouraged but are at the initiative of the individual students.

I have office hours and will be happy to meet with individual students or a group of students to help clarify topics that you may find need for clarification.

Essential Policy Information:

Attendance p. 59 Student Handbook:

Regular and punctual attendance at all scheduled classes and laboratories is expected. A student is subject to academic penalty if absences exceed ten percent. Absences exceeding twenty percent subject a student to dismissal from a course. Three (3) incidences of tardiness may constitute an absence. If justifiable cause can be shown for the absenteeism, the student may be permitted to make up missed assignments and maintain enrollment in the class. The hours from these periods will be added to the student's clinic requirements.

Examinations p. 59 Student Handbook:

Students must notify faculty before missing any examination. Students are expected to take intra-term examinations at their scheduled times. If an examination is missed for good and sufficient reason and the student has notified the faculty in advance, a make-up examination may be given subject to a fee of \$25. Such examinations must be made up prior to final examinations. Final exams are to be taken at the scheduled time. If an examination is missed for good and sufficient reason and the student notified the faculty in advance, a make-up examination may be given subject to a fee of \$25.00, which goes into a student scholarship fund. Make-up examinations must be completed with the first week of the next trimester.

Incompletes p. 59 Student Handbook:

Course assignments and examinations must be completed prior to the final examination in that course. Assignments and examinations not completed receive a grade of zero.

Cellular Phones and Pagers p.12 Student Handbook:

Electronic communication devices are to be turned off or placed in silent mode when entering the classroom. This will benefit the learning environment for you, your fellow classmates, and instructors.

Guidance and Counseling p.18 Student Handbook:

The Guidance and Counseling Department is prepared to confidentially assist students, faculty, and staff with personal, relationship, and academic mental health-related issues. With appropriate documentation, the Director of Guidance and Counseling coordinates academic-related special needs with instructors.

Note: Other important policies can be obtained from the current edition of the Student Handbook.

