



UNIVERSITY OF KENTUCKY

PHR 966

**Office of the Provost**  
106 Gillis Building  
Lexington, KY 40506-0033  
(859) 257-2911  
Fax: (859) 257-1333  
Email: provost@email.uky.edu  
www.uky.edu

February 2, 2003

**FEB 04 2004**

TRANSMITTAL

TO: Rebecca Scott  
Senate Council

FROM: Cathy Owen   
Medical Center Academic Council

At its meeting on January 27, 2004, the Academic Council for the Medical Center approved, and recommends approval by the Senate Council, for the proposals from the College of Pharmacy to add PHR 956, Advanced Pharmacotherapy I; PHR 957, Advanced Pharmacotherapy II; PHR 966, Advanced Pharmacotherapy III; and PHR 967, Advanced Pharmacotherapy IV. Attached are the materials to implement these new courses.

Thank you for your attention to this matter.

/co

i:\home\aa\data\council\senate.doc

attachments

c: Kenneth B. Roberts, Ph.D.  
William C. Lubawy, Ph.D.  
Jacque Hager



UNIVERSITY OF KENTUCKY



**College of Pharmacy  
Academic Affairs**  
Lexington, KY 40536-0082  
(859) 323-6163  
(859) 257-5303 or 5304  
Fax: (859) 257-7297  
[www.uky.edu/Pharmacy](http://www.uky.edu/Pharmacy)

Memorandum

Michael T. Nietzel, Ph.D.  
Provost

FROM: Kenneth B. Roberts, Ph.D.  
Dean

DATE: January 6, 2004

Approval for New Courses

The College of Pharmacy requests approval of four new courses, Advanced Pharmacotherapy I – IV (PHR 956, 957, 966, 967).

**PHR 956 Advanced Pharmacotherapy I, 5 credits**

An advanced study of the pathology, pathophysiology and optimal treatment of common diseases. Through a series of case studies students will acquire and/or reinforce their skill at understanding diseases and developing and defending optimal treatment plans for successfully managing those diseases. The case studies utilized will integrate relevant pathophysiological, pharmacokinetic, pharmacoeconomic and pharmacological concepts with appropriate patient specific parameters. Students will be expected to communicate and defend their decisions, including the process followed in making those decisions, in understandable, appropriate written and verbal formats. Variable mixture of discussion, lecture, independent study and laboratory. Taught part of term.

Prerequisites: Admission to the third year College of Pharmacy

**PHR 957 Advanced Pharmacotherapy II, 5 credits**

A continuation of PHR 956.

Prerequisites: Admission to the third year College of Pharmacy

**PHR 966 Advanced Pharmacotherapy III, 5 credits**

A continuation of PHR 957.

Prerequisites: Admission to the third year College of Pharmacy, PHR 956, PHR 957 and PHR 959.

**PHR 967 Advanced Pharmacotherapy IV, 5 credits**

A continuation of PHR 966.

Prerequisites: Admission to the third year College of Pharmacy, PHR 956, PHR 957 and PHR 959.

Each of the courses in this new sequence concentrates on the pharmacotherapy of specific diseases integrated with a discussion of the relevant pathology and pathophysiology. The four new courses, a total of 20 credits, will replace two courses in pathology (3 credits each) and two courses in therapeutics (7 credits each). There is no change in total credits devoted to this general area, the total number of credits taken during any one semester or the total number of credits required for graduation.

The new courses will only be taken by students in the College of Pharmacy and not by students in any other department.

The therapeutics portions of the new courses will be taught by faculty in the College of Pharmacy. The pathology/pathophysiology components of the new courses will be taught primarily by faculty in the Department of Pathology and Laboratory Medicine, College of Medicine. Faculty in the Department of Pathology and Laboratory Medicine have been involved in the planning for this new integrated course sequence and the Chair of the Department is supportive of this proposal.

The rationale for this proposal is the course material can be more effectively and efficiently taught in an integrated format where pathology and pathophysiology are integrated with therapeutics in individual courses, rather than the current situation where pathology/pathophysiology and therapeutics are taught in separate parallel courses.



UNIVERSITY OF KENTUCKY

**College of Pharmacy  
Academic Affairs**  
*Lexington, KY 40536-0082  
(859) 323-6163  
(859) 257-5303 or 5304  
Fax: (859) 257-7297  
[www.uky.edu/Pharmacy](http://www.uky.edu/Pharmacy)*

Memorandum

Deans, Department Chairs, Members of the University Senate

FROM: Kenneth B. Roberts, Ph.D.  
Dean

DATE: January 6, 2004

Approval for New Courses

The College of Pharmacy requests approval of four new courses, Advanced Pharmacotherapy I – IV (PHR 956, 957, 966, 967).

**PHR 956 Advanced Pharmacotherapy I, 5 credits**

An advanced study of the pathology, pathophysiology and optimal treatment of common diseases. Through a series of case studies students will acquire and/or reinforce their skill at understanding diseases and developing and defending optimal treatment plans for successfully managing those diseases. The case studies utilized will integrate relevant pathophysiological, pharmacokinetic, pharmacoeconomic and pharmacological concepts with appropriate patient specific parameters. Students will be expected to communicate and defend their decisions, including the process followed in making those decisions, in understandable, appropriate written and verbal formats. Variable mixture of discussion, lecture, independent study and laboratory. Taught part of term.

Prerequisites: Admission to the third year College of Pharmacy

**PHR 957 Advanced Pharmacotherapy II, 5 credits**

A continuation of PHR 956.

Prerequisites: Admission to the third year College of Pharmacy

**PHR 966 Advanced Pharmacotherapy III, 5 credits**

A continuation of PHR 957.

Prerequisites: Admission to the third year College of Pharmacy, PHR 956, PHR 957 and PHR 959.

**PHR 967 Advanced Pharmacotherapy IV, 5 credits**

A continuation of PHR 966.

Prerequisites: Admission to the third year College of Pharmacy, PHR 956, PHR 957 and PHR 959.

Each of the courses in this new sequence concentrates on the pharmacotherapy of specific diseases integrated with a discussion of the relevant pathology and pathophysiology. The four new courses, a total of 20 credits, will replace two courses in pathology (3 credits each) and two courses in therapeutics (7 credits each). There is no change in total credits devoted to this general area, the total number of credits taken during any one semester or the total number of credits required for graduation.

The new courses will only be taken by students in the College of Pharmacy and not by students in any other department.

The therapeutics portions of the new courses will be taught by faculty in the College of Pharmacy. The pathology/pathophysiology components of the new courses will be taught primarily by faculty in the Department of Pathology and Laboratory Medicine, College of Medicine. Faculty in the Department of Pathology and Laboratory Medicine have been involved in the planning for this new integrated course sequence and the Chair of the Department is supportive of this proposal.

The rationale for this proposal is the course material can be more effectively and efficiently taught in an integrated format where pathology and pathophysiology are integrated with therapeutics in individual courses, rather than the current situation where pathology/pathophysiology and therapeutics are taught in separate parallel courses.





## APPLICATION FOR NEW COURSE

10. What enrollment may be reasonably anticipated? 100
11. Will this course serve students in the Department primarily?  Yes  No  
Will it be of service to a significant number of students outside the Department?  
If so, explain.  Yes  No
- 
- Will the course serve as a University Studies Program course?  Yes  No  
If yes, under what Area? \_\_\_\_\_
12. Check the category most applicable to this course
- traditional; offered in corresponding departments elsewhere;
  - relatively new, now being widely established
  - not yet to be found in many (or any) other universities
13. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky?  Yes  No
14. Is this course part of a proposed new program:  
If yes, which?  Yes  No
- 
15. Will adding this course change the degree requirements in one or more programs?\*  Yes  No  
If yes, explain the change(s) below  
**New course sequence of four 5 credit courses will replace sequence of two 3 and two 7 credit courses.  
There is no change in the total number of credits taken during the semester or in the total number of  
credits required for graduation.**
- 
16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.
17. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted.
18. Within the Department, who should be contacted for further information about the proposed course?  
Name Dr. Donald Perrier Phone Extension 3-2769

\*NOTE: Approval of this course will constitute approval of the program change unless other program modifications are proposed.

**APPLICATION FOR NEW COURSE**

Signatures of Approval.

  
\_\_\_\_\_  
Department Chair  
  
\_\_\_\_\_  
Dean of the College

1/6/04 Date  
1/8/04 Date

\_\_\_\_\_  
Date of Notice to the Faculty  
1-07-04

\_\_\_\_\_  
\*Undergraduate Council

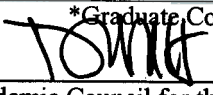
\_\_\_\_\_  
Date

\_\_\_\_\_  
\*University Studies

\_\_\_\_\_  
Date

\_\_\_\_\_  
\*Graduate Council

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
\*Academic Council for the Medical Center

1/27/04  
Date

\_\_\_\_\_  
\*Senate Council (Chair)

\_\_\_\_\_  
Date of Notice to University Senate

\*If applicable, as provided by the Rules of the University Senate

\_\_\_\_\_  
ACTION OTHER THAN APPROVAL



# Course Description

**PHR 956 Advanced Pharmacotherapy I**  
**PHR 957 Advanced Pharmacotherapy II**  
**PHR 966 Advanced Pharmacotherapy III**  
**PHR 967 Advanced Pharmacotherapy IV**

**College of Pharmacy**  
**University of Kentucky**

**Course Director:**

Thomas S. Foster, Pharm.D.  
Professor

**Pharmacokinetics Coordinator:**

George A. Davis, Pharm.D.  
Assistant Professor

**Pathology Coordinator:**

Paul Murphy, M.D.  
Assistant Professor

**COURSE DESCRIPTION:** Meeting the extraordinary challenges of the era of managed health care has resulted in a commitment by the profession of Pharmacy to focus on the individual needs of patients through the process of pharmaceutical care. The principles underpinning pharmaceutical care must be understood and applied by pharmacy practitioners. It requires critical analysis of drug therapy and monitoring to assure optimal drug efficacy and safety in conjunction with cost-effectiveness. Integration of pathology, pharmacology and pharmacokinetic/dynamic principles is necessary in order to design a rational treatment approach in all disease states. This course is designed to provide Doctor of Pharmacy candidates with a comprehensive and intensive overview of the methodology used in the development and implementation of patient-specific therapeutic treatment plans. The course series will be taught in a modular format focusing on primary disease entities that will be encountered by pharmacists. Class meetings will emphasize the application of pathophysiological and pharmaceutical science and practices to patient care. Discussions will be provided to allow the interchange necessary to explain individual judgements. Active learning processes will be employed in order to facilitate inter-professional communication skills and to allow students exposure to a variety of medical and pharmacy practitioners. The course has been planned to interface with the CAPP (PHR 959-969) sequences primarily through integrated cases and other experiential components. In addition, the course also includes a Capstone Case program, which provides an innovative individualized and group/ team instructional technique utilizing comprehensive patient cases. This program is designed to improve the clinical problem – solving skills of the student learners.

**Module Presentation Schedule:**

Advanced Pharmacotherapy, PHR 956,957,966, 967	
<u>Fall Semester</u>	<u>Spring Semester</u>
<u>Module</u>	<u>Module</u>
PHR 956	PHR 966
Infectious Disease	Endocrine Disease
Inflammatory, Bone/Joint and Collagen Vascular Diseases	Women's Health
Pain Management	Psychiatry
Neoplasia and Oncologic Disease	Neurological Diseases
PHR 957	PHR 967
Cardiovascular Disease	Gastrointestinal Diseases
Pulmonary Disease	Hematological Disease
Nutrition	Renal / Urologic Diseases

**GLOBAL COURSE OBJECTIVES/OUTCOMES:**

Following completion of this series of courses, students will be able to:

1. Appreciate the etiology, pathogenesis, and clinical significance of disease processes, with emphasis on those diseases that are amenable to drug therapy.
2. Understand how disease processes manifest at the gross, cellular, and molecular levels. This will help in the understanding of how and why certain drugs have beneficial effects in certain diseases, as well as why they have their various side effects.
3. Formulate pharmacotherapy plans for a variety of patient situations
  - Devise an initial dosage regimen and monitoring strategy, using pharmacokinetic principles and methods, for drugs with a narrow therapeutic range or marked variability in their disposition  
  
Recommend modifications in drug therapy based on the changes in the patient's condition that alter drug kinetics.
  - Recommend appropriate revisions in drug therapy using pharmacokinetic principles when appropriate
  - Recommend modifications in drug therapy based on the changes in the patient's condition that alter drug kinetics.
  - Recommend appropriate revisions in drug therapy using pharmacokinetic principles when appropriate (e.g., any untoward drug effect has been detected, desired drug concentration not achieved, or therapeutic endpoint not achieved).
4. Evaluate the scientific and clinical literature in terms of validity of results and clinical applications.
5. Be knowledgeable of interprofessional communication skills required for effective "team work" and cooperation critical to the achievement of optimal patient care.

In addition to global learning objectives and outcomes, each disease module will have specific learning objectives/ outcomes. Examples from the Infectious Disease, Oncology and Cardiovascular Modules include:

**Infectious Disease Module Objectives:**

- Differentiate between the various types of pathogens that cause infectious disease including bacteria, fungus, and viruses.
- List the steps in the Gram-stain process.
- Discuss the basic types of antimicrobial agents and the role of each in the treatment of infectious disease.

- Select antimicrobial therapy in a variety of infectious disease processes in the setting of the emergence of resistant pathogens.  
Describe the role of new antimicrobial agents in the treatment of infectious diseases caused by resistant pathogens.
- Describe the mechanisms of resistance found in common bacterial pathogens.
- Differentiate eukaryotic cells from prokaryotic cells.
- Describe the use and toxicity of antimicrobials, antifungals, and antiviral drugs, and discuss their mechanisms of activity.
- Prepare a monitoring form for selected antimicrobial agents to maximize effectiveness and to minimize toxicity and adverse effects.
- Given a case study of an infectious process, select appropriate therapy and describe the best practice model for pharmacist monitoring of therapy.

### **Neoplasia and Oncology Module Objectives:**

- Discuss the frequency and mortality of common cancers
- Counsel a patient about ways to reduce their risk of developing cancer
- Know the current cancer screening recommendations and efficacy of cancer screening in terms of mortality.
- Understand tumor cell kinetics and cell cycle components as well as cancer chemotherapy pharmacology so that appropriate treatment recommendations can be made regarding a specific patient.  
Describe the philosophy behind combination chemotherapy and methods used to combine different agents  
Recommend a treatment regimen for a specific patient based on histology, stage, chemotherapy toxicity, and comorbid disease.
- Discuss treatment goals for different therapeutic modalities in patients with different diseases, as well as evaluate responses to therapy.  
Manage or prevent tumor or treatment toxicities; including the recognition and treatment of oncologic emergencies

### **Cardiovascular Disease Module Objectives:**

- Interpret the results of a variety of tests and examinations used in the evaluation of the cardiovascular system and their impact on developing a pharmaceutical care plan in the treatment of cardiovascular diseases.
- Identify and utilize key Internet resources and clinical practice guidelines developed by national organizations to increase cardiovascular disease awareness, knowledge and treatment by patients and health care professionals.
- Discuss the results from recently published clinical trials in the primary literature and their potential impact on clinical practice guidelines developed for the treatment of cardiovascular diseases.
- Develop a rational pharmaceutical care plan for a patient with atrial fibrillation, hypertension, hyperlipidemia, peripheral vascular disease, ischemic heart disease, congestive heart failure, and endocarditis.

- Identify the role of the pharmacist in the selection and monitoring of drug therapy prescribed for the treatment of cardiovascular diseases.

**The required textbooks and manuals for this course are:**

1. Pharmacotherapy - A Pathophysiologic Approach, 5<sup>th</sup> Edition / DiPiro
2. Pharmacotherapy Casebook, A Patient-Focused Approach 5th Edition / Schwinghammer
3. Clinical Pharmacokinetics Service, Department of Pharmacy/University of Kentucky Policy/ Procedure Manual, 7/03 (26<sup>th</sup> edition) edited by George A. Davis, Pharm.D.
4. Applied Clinical Pharmacokinetics, 1<sup>st</sup> Edition / Bauer
5. Robbins Pathologic Basis of Disease, 6<sup>th</sup> Edition, R. Cotran, V. Kumar and T. Collins, W.B. Saunders.

When supplemental reading articles are required that are not contained in textbooks or workbooks required in the course, the articles will be provided along with learning objectives. The course will also rely substantively on the use of the BLACKBOARD® as an instructional tool



UNIVERSITY OF KENTUCKY

December 10, 2003

Dr. Donald Perrier  
Chair, Division of Pharmacy Practice and Science  
Room 201a – College of Pharmacy 0082

**College of Medicine**

*Department of Pathology  
& Laboratory Medicine*

*Suite MS117*

*Lexington, KY 40536-0298*

*(859) 323-5425*

*Chairman: (859) 257-1446*

*Fax: (859) 323-2094*

*[www.mc.uky.edu/pathology](http://www.mc.uky.edu/pathology)*

Dear Dr. Perrier:

I am fully aware of the proposed changes by the College of Pharmacy in the Pathology and Therapeutics courses and am supportive of these changes.

The Department of Pathology and Laboratory Medicine looks forward to our continuing collaboration with the College of Pharmacy in the evolution of the course.

Best personal regards,

A handwritten signature in black ink, appearing to read 'Paul Bachner', written over a horizontal line.

Paul Bachner, MD, FCAP  
Professor and Chairman  
Department of Pathology and Laboratory Medicine

cc: B. Lubawy  
P. Murphy

PB/alb