INTRODUCTION TO PHARMACY
Pharmacy 4510 – Spring Semester 2013

Instructor: Kenneth M. Hale, R.Ph., Ph.D. (452 Parks Hall, 614/292-4717, hale.3@osu.edu)

[Students are invited to meet with Dr. Hale at any time. Appointments can be scheduled by e-mailing him and providing options for convenient times to meet. He is also open to e-mail or telephone discussions and will typically be available after each class to meet with students.]

Follow Dr. Hale on Twitter @Prof_Hale
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Class Times: Wednesdays and Fridays, 3:00-3:55pm, room 0113 Dreese Laboratories

Course Description: A survey of the profession of pharmacy including its history, development, scope of practice, educational pathways, ethical foundations, regulation, the pharmacist’s role in the medication experience, drug discovery and development, contemporary issues, career opportunities, and prospects for the future.

Course Objectives:

1. To provide a comprehensive introduction to the profession of pharmacy including its history, development, regulation, ethical foundations, current scope of practice, important contemporary issues, and prospects for the future.

2. To provide a summary of the medication use process, the role of the pharmacist in the medication experience, the importance of medication therapy management, and guidelines for safe medication-taking practices.
3. To provide an understanding of educational pathways in pharmacy.

4. To provide an exposure to the role of the pharmacist in contemporary healthcare and career opportunities in the field.

5. To provide an overview of the process of drug discovery and development.


Available at the University Bookstore (Barnes & Noble)

Also available as a downloadable eBook at:

http://store.vitalsource.com/show/9781439896136
($41 to own; $32 for 1 year rental; $26 for 180 day rental)

Web Resources:

- www.go.osu.edu/learnaboutpharmacy (Introduction to Pharmacy)
- www.pharmacy.ohio-state.edu (OSU’s College of Pharmacy)
- www.pharmacist.com (American Pharmacists Association)
- www.ashp.org (American Society of Health-System Pharmacists)
- www.aacp.org (American Association of Colleges of Pharmacy)
- www.amcp.org (Academy of Managed Care Pharmacy)
- www.ascp.com (American Society of Consultant Pharmacists)
- www.ncpanet.org (National Community Pharmacists Association)
- www.nphaa.net (National Pharmaceutical Association)
- www.talkaboutrx.org (National Council on Patient Information and Education)
- www.nacds.org (National Association of Chain Drug Stores)
- www.phrma.org (Pharmaceutical Research and Manufacturers of America)
- www.nabp.net (National Association of Boards of Pharmacy)
- www.pharmacy.ohio.gov (Ohio Board of Pharmacy)
- www.ohiopharmacists.org (Ohio Pharmacists Association)
- www.ohioshp.org (Ohio Society of Health-System Pharmacists)
- www.fda.gov (Food and Drug Administration)

Course Grades:  A total of 300 points are available for course requirements (see page 3). Letter grades will be based on cumulative performance using the following OSU standard scale [note: the instructor reserves the right to curve this scale downward (an upward curve will not be applied)]:

- 93-100% A
- 90-92% A-
- 87-89% B+
- 83-86% B
- 80-82% B-
- 77-79% C+
- 73-76% C
- 67-69% D+
- 60-66% D
- 0-59% E
Course Requirements:

1. Three mid-semester examinations and a final will be administered [each mid-semester exam is worth up to 50 points; the final exam is worth up to 100 points].

2. Complete the online self-assessment in the APhA Pathway Evaluation Program (see: Carmen links or www.pharmacist.com/apha-career-pathway-evaluation-program-pharmacy-professionals), review one of the career option profiles recommended from your assessment, and write a one page (single-spaced) reflection on your self-assessment and the career option profile you selected to review. Submit the “Your Results” page from the online assessment (note: create a pdf file) along with your reflection paper to the Carmen Dropbox by February 22nd [this project is worth up to 25 points]. Your reflection paper should include your name and Pathways ID code from the online self-assessment and address the following: How will you use this self-assessment in career planning? How well does the career option profile you reviewed match your personal interests?

3. Construct your own two page (single-spaced) future vision for pharmacy [note: see the Joint Commission of Pharmacy Practitioners (JCPP) “Future Vision of Pharmacy Practice” (11/10/2004) as an example – available on Carmen]. Describe your vision for the following: (1) How will pharmacists practice in the future? (2) What types of training or credentialing will be necessary to meet the future practice expectations for pharmacists? (3) How do technicians and technology fit into your future vision of pharmacy? This assignment must be submitted to the Carmen Dropbox by April 22nd [this project is worth up to 25 points]. Be sure to consider ramifications for the various pharmacy practice settings we will study and relevant “pharmacy fundamentals” as you craft your paper – be creative!

Extra Credit Opportunities (students may do either or both of the following two options):

1. Up to 5 points of extra credit may be earned by submitting a one page (single-spaced) essay on “Why I enrolled in this course and what I hope to accomplished in Pharmacy 4510” to the Carmen Dropbox by January 14th.

2. Up to 25 points of extra credit may be earned by forming a “journal club” group of three to five students and meeting at least five times (at least 30 minutes each time) to discuss the following articles (available on Carmen):


Each student must submit a report (single-spaced) listing the students in your group, dates/times when you met, a one-half page summary of each article, and a one-half page summary of your group’s discussion of each article to the Carmen Dropbox by April 12th. Each student must read every article and participate in every discussion section.

**Carmen Dropbox Instructions:**

The Carmen Dropbox will not accept file names that include certain characters such as: ' (apostrophe), " (quotes), * (asterisk), | (vertical bar), \ (back slash), / (slash), ? (question mark), : (colon), > or < (greater than or less than), ' (back tic), & (ampersand), ; (semicolon), and # (pound sign). *If you submit a file to Dropbox that has one of these characters in the name, it will appear in the Folder Submissions as submitted, but the instructor will not be able to read it.*

**Policy on Late Assignment Submissions & Missed Exams:**

Students who turn-in assignments late will be penalized one point for each day late unless they have a compelling written excuse. If a student must miss a midterm or final examination for a compelling reason with a written excuse, a make-up exam will be administered.

**Class Sessions, Readings, Examinations and Assignment Due Dates:**

[The scheduling of specific topics is subject to change. The semester will constitute seven sections as outlined below. Two chapters of required readings from *Pharmacy: What It Is and How It Works* are assigned for each section. Lecture topics will be delivered in short modules of approximately 10 minutes each followed by class discussion. Any slides used in class will be subsequently posted to Carmen. Engage, get involved, learn!]

**Section 1:** *The History of Pharmacy and Its Evolving Scope of Practice*

**Readings:**

Chapter 1 – “What Is Pharmacy?”
Chapter 8 – “Ambulatory (Community) Pharmacy”

Jan 9 Orientation; What is a profession? What is pharmacy?
Jan 11 Pharmaceutical beginnings; The emergence of a distinct profession of pharmacy
Jan 14  **Extra credit essays due – “Why I enrolled in this course and what I hope to accomplished in Pharmacy 4510”**

Jan 16  The evolution of pharmacopeia; The evolution of pharmacy education
Jan 18  The evolution of pharmacy practice; Practitioner panel (Doc Lamberjack, community pharmacy; April Delahunty, hospital pharmacy)

**Section 2: Educational Pathways in Pharmacy**

**Readings:**
Chapter 2 – “The Pharmacist”
Chapter 9 – “Health System Pharmacy”

Jan 23  The pharmaceutical disciplines; Graduate professional pathways
Jan 25  Residency and fellowship training; Student/resident panel (Eric Place, Candice Tavares, Brigid Long)

Jan 30  Graduate research pathways; Graduate education panel (Dean Carnes, Julian Richard)
Feb 1  **(Exam #1 – covering material from Sections 1&2)**

**Section 3: Career Pathways for Pharmacists & Their Role in the Healthcare System**

**Readings:**
Chapter 3 – “Pharmacists and the Health Care System”
Chapter 20 – “Career Development”

Feb 6  APhA Pathways Evaluation Program; Essential roles/functions of pharmacists
Feb 8  Medication therapy management; Management/administrative practices

Feb 13  Specialty practices; The role of pharmacy technicians
Feb 15  Specialty practitioner panel – Contemporary ambulatory & inpatient practices (Jaime Capestany, Joy Lehman, Bella Mehta)

**Section 4: The Medication Experience**

**Readings:**
Chapter 4 – “The Drug Use Process”
Chapter 7 – “Pharmaceutical Care”

Feb 20  The role of medicines in healthcare; The drug-use process
Feb 22  Transitions of care; Practitioner panel (Larry Schieber, Joe Dula)
   **(Self-Assessment and Career Option Profile Reflection paper is due)**

Feb 27  Medication safety; Prescription drug misuse/abuse
Mar 1  **No class (see assignment below)**
   **(Review lecture videos on “Drug Discovery” and “Drug Development” on Carmen)**
Section 5: Drug Discovery & Development

Readings: Chapter 17 – “How Drugs are Discovered, Tested, and Approved”
Chapter 18 – “The Pharmaceutical and Biotechnology Industry”

Mar 6 (Exam #2 – covering material from Sections 3&4)
Mar 8 Pharmaceutical industry panel (Chuck Bramlage, Sheila Thomas Jackson, Steve Lawrence)

Mar 11-15 Spring Break

Mar 20 New drug approval; Post-marketing surveillance
Mar 22 Pharmacy research panel (Dean Brueggemeier, Dr. Kinghorn)

Section 6: Regulatory and Ethical Considerations in Pharmacy

Readings: Chapter 10 – “Managed Care Pharmacy”
Chapter 13 – “Government Pharmacy”

Mar 27 State regulations; Regulatory/association panel (Kyle Parker, Amy Bennett)
Mar 29 The Food and Drug Administration; Other Federal agencies

Apr 3 (Review Table 1.4, page 15, “Code of Ethics for Pharmacists”) Ethical frameworks for pharmacists; Ethics case study
Apr 5 (Exam #3 – covering material from Sections 5&6)

Section 7: Contemporary Issues & the Future of Pharmacy

Readings: Chapter 5 – “Pharmacy Supportive Personnel”
Chapter 6 – “Pharmacy Informatics”

Apr 10 Collaborative practice; Pharmacogenetics/pharmacogenomics
Apr 12 Drug quality; Drug shortages
(Journal Club extra credit papers due)

Apr 17 Telepharmacy; Workforce Issues
Apr 19 The future of pharmacy; Future vision panel (Milap Nahata, Bob Weber)

Apr 22 Future vision of pharmacy practice paper due

Apr 25 Final Exam (comprehensive – covering material from Sections 1-7) (Tentatively: Thursday, April 25th, 4:00-5:45pm, 0113 Dreese Labs)