Pharmacy in World War II  
Spring/2014

I. Course Information  
PHRX7097: SPEC TOPICS PHARM  
1 Credit Hour  
Prerequisites: None  
Course Times and Room Assignments: Wednesday 1:00 – 1:55 Room HPB 331

II. Course Instructor  
Course Instructor: Dennis B. Worthen, PhD  
Office: N/A  
Office Phone:  
Office Hours: Appointments as Arranged  
Email Address: dbworthen@fuse.net (preferred)

III. Course Catalog Description  
This interactive course introduces the student pharmacist to the history of the profession in the military with a focus on the World War II period both on the home front and the battlefield. The military experience led to the recognition of pharmacy as a profession and was the basis for significant changes in practice and education. Pharmacy’s experience in World War I was a driving force in the move to a university level, BS degree. Experiences gained during World War II ultimately led the move from a product-centric to a patient-centric profession. The Cincinnati College of Pharmacy and its alumni were part of the era and their experiences will be used to bring the story of pharmacy in World War II home.

IV. Student Learning Outcomes  
Upon completion of this course, the student should be able to:  
• Discuss the impact of the American military experience on the practice of pharmacy;  
• Recognize the role that the Cincinnati College of Pharmacy and its alumni played in the war effort;  
• Reflect on pharmacy’s “Greatest Generation”;  
• Identify how the war experience led to today’s patient-centric mission.

V. College Educational Outcomes  
This course contributes to attaining the highlighted ability-based outcomes that distinguish graduates of our Pharm. D. program:

<table>
<thead>
<tr>
<th>General Abilities</th>
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<tr>
<td>• Understand and apply critical thinking processes to identify, solve and prevent problems.</td>
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</table>
- Define the problem.
- Gather and analyze information relevant to the problem.
- Draw conclusions based on synthesis of pertinent information and analysis.
- Provide a rationale for and communicate a proposed solution to a problem.
- Implement a selected course of action and appropriate follow up assessment.
- Exhibit professional behaviors in practice.
- Display a demeanor, attitude, appearance and communication style that represents one’s self and the profession in a positive light.
- Develop, maintain and enhance competence by assessing one’s own learning needs and continuous professional development.
- Solve ethical dilemmas through use of a rational decision making process.
- Understand and apply the tenets of confidentiality in the healthcare setting.
- Demonstrate leadership skills.
- Show leadership skills inherent in practice and team work.
- Provide leadership in community, professional, and/or political arenas.
- Understand and apply basic research and scholarship principles.
- Using verbal and written communication skills, deliver information with the purpose of educating a specific population (e.g. patients, technicians, community members, students, healthcare providers).
- Advance the profession and the pharmaceutical care model of practice by: 1) ensuring that professional standards are maintained and enforced; 2) participating in professional organizations; and 3) advocating professional policy.

Pharmaceutical Care. Provide pharmaceutical care in cooperation with patients, prescribers, and other members of an interprofessional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, economic, and professional issues, emerging technologies, and evolving biomedical, sociobehavioral, and clinical sciences that may impact therapeutic outcomes.  

- Apply and integrate sound scientific and therapeutic principles in the provision of patient-centered and population-based pharmaceutical care.
- Interrelate physicochemical properties, structure-activity relationships, and biochemistry to explain mechanisms of action of drugs in biological systems.
- Design, implement, and monitor patient specific pharmacotherapeutic regimens by applying chemical and biopharmaceutical principles of absorption, distribution, metabolism, and elimination of drugs.
- Identify, assess, and resolve drug-related problems and implement changes in the pharmaceutical care plan.
- Design strategies to avoid or manage drug interactions and adverse drug events.
- Provide specific, rational, cost effective, evidence-based recommendations.
- Appropriately document recommendations, interventions, and outcomes.
- Retrieve, analyze, and interpret lay and scientific information and literature to support the care of specific patients or populations.
- Collaborate and communicate verbally and in writing with patients, caregivers, and other members of an interprofessional health care team with shared accountability to improve safety and therapeutic outcomes.
- Counsel and educate patients to promote adherence to pharmacotherapy management plans and to improve outcomes.

Systems Management. Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.  

- Manage a patient-centered practice.
- Manage a practice and accurately prepare, dispense, and administer medications according to state and federal laws and professional standards.
- Provide medication therapy management and patient care services and obtain compensation.
- Engage in a collaborative practice agreement process and participate in collaborative practice in order to coordinate the health care of patients.
- Implement strategies to facilitate continuity of care across health systems, including medication reconciliation.
- Apply operational, financial, personnel, and marketing principles to the management of pharmacy practice.
• Apply continuous quality improvement principles to modify services and implement new services with the goal of reducing cost, optimizing patient safety and improving health care outcomes.
• Effectively utilize technology resources to optimize pharmaceutical care.
• Partner with patients to maximize their health care benefits through utilization of third party, government, prescription assistance and other programs.

**Public Health.** Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers.¹

- Promote health improvement, wellness, and disease prevention.
  - Use principles of epidemiology and population specific data to identify current public health problems and anticipate future needs.
  - Collaborate with health care professional, social service, and community resources to maximize access to health care and improve continuity of care.
  - Promote public awareness of health and disease, including a healthy lifestyle and disease prevention strategies.
- Promote the community health of diverse patient populations.
  - Promote respect for all patients by recognizing and anticipating the needs of a diverse population (e.g., social, cultural, religious, economic, political, historical, and ethnic).
  - Adapt professional behavior to affect changing needs of society and the delivery and acceptance of health care.

**VI. Teaching Methods**

Class sessions are faculty led and didactic in nature. Students are expected to complete reading assignments, be prepared for each course session, and actively participate in classroom discussions.

**VII. Assessment**

Students will be evaluated on class participation and completion of a short (2 page) essay. The course will be evaluated on a pass/fail basis.

**VIII. Course Communication**

The course syllabus will be published on Blackboard (or distributed the first day of class). The published syllabus will define the class meeting times, grading policies and the dates of all major assessments. Instructor updates or communications to the class will be made using Blackboard. Students are responsible for maintaining the approved University email address in Blackboard and are responsible for insuring that their mailbox is able to receive notices. All communications for weather related changes will take place on Blackboard.

**IX. Course and Grading Policies**

**Grading/Attendance:** Attendance for class and programs is required. A single unexcused absence is the basis for automatic failure for the course.

Missed lectures and events: All events will occur as listed in the syllabus. In the event of an emergency situation or other College of Pharmacy/University professional obligation, an examination can only be made up with prior approval of
the course coordinator. Lectures and event will not be adjusted for vacations, weddings, or other pleasure activities.

**Course Withdrawal:** The University policy on withdrawal from this course will be followed. The process for withdrawal and the policies that govern grading are available at: [http://www.uc.edu/registrar/withdraw_reg.html](http://www.uc.edu/registrar/withdraw_reg.html)

**Student Code of Conduct:** The Student Code of Conduct is intended to provide broad guidance in identifying and discouraging behavior that conflicts with the idea of building a strong and just community that respects and protects the diverse interests and goals of all students, all student organizations, and the University of Cincinnati’s mission. The Student Code of Conduct defines prohibited conduct for all University of Cincinnati students and organizations.* The revised code approved by the Board of Trustees is available online at: [http://www.uc.edu/studentlife/conduct](http://www.uc.edu/studentlife/conduct).

**X. Special Accommodations**

**Disability:** Students with disabilities who need academic accommodations or other specialized services while attending the University of Cincinnati will receive reasonable accommodations to meet their individual needs as well as advocacy assistance on disability-related issues. Students requiring special accommodation must register with the Disability Services Office. [http://www.uc.edu/sas/disability](http://www.uc.edu/sas/disability)

Students registered with this office must request an accommodation from the faculty member in charge of the course during the first week of classes, or within one week of their registration with the Disability Services Office.

**Student Athletes:** Students participating in Division I athletics during the term in which this course is taught must provide notification to the faculty during the first week of the term and should provide their schedule as early as possible. Faculty will make accommodations for these students.

**Professional Meeting Attendance:** Students participating in or traveling to professional organizations should make requests for accommodation during the first week of the session. Whenever possible, faculty will work with students to allow for their participation in these activities.

**XI. Texts**

*Pharmacy in World War II*  Dennis B. Worthen, PhD  
Paper copy available through Tribunal and Amazon  
Kindle version available through Amazon

Additional readings as assigned in the syllabus
## XII. Tentative Class Schedule

**Pharmacy in World War II**

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<tr>
<th>#</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>1</td>
<td>1/8</td>
<td>Introduction to Course</td>
<td>Kramer, JE “Pharmacy through Five Wars”</td>
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<td></td>
<td></td>
<td></td>
<td>Worthen, DB “Pharmacists in World War II: A Brief Overview”</td>
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<tr>
<td>2</td>
<td>1/15</td>
<td>Pharmacy in Revolutionary and 1812 Wars</td>
<td>Griffenhagen, GB “Drug Supplies in the American Revolution”</td>
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<td></td>
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<td></td>
<td>Cowen, DL “Colonial &amp; Revolutionary Heritage of Pharmacy in America” (partial)</td>
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<tr>
<td>3</td>
<td>1/22</td>
<td>Pharmacy in the Civil War</td>
<td>Hasegawa, GR “Pharmacy in the American Civil War”</td>
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<td>Flannery, MA “Civil War Pharmacy and Medicine: Comparisons and Contexts”</td>
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<td>[Banks, John T.] ‘Diary of a Civil War Pharmacist’</td>
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<tr>
<td>4</td>
<td>1/29</td>
<td>Pharmacy in World War I</td>
<td>Snyder, J.P. “Pharmacy and the War”</td>
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<td>Gordon, F.T. “The Naval Apothecary since the Civil War</td>
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<td>Wimmer, C.P. “The War and Pharmacy”</td>
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<td>5</td>
<td>2/5</td>
<td>Pharmacy in 1940 (Practice, Education, Industry)</td>
<td><em>Pharmacy in WW II</em> Chapter 1, pp1-9</td>
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<td>6</td>
<td>2/12</td>
<td>Practice Shortages &amp; rationing (Quinine Drive)</td>
<td>Jackson, RA and Worthen DB “Retail Pharmacy Operations in World War II”</td>
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<td>Worthen, DB “The National Quinine Pool”</td>
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<td>7</td>
<td>2/19</td>
<td>Education</td>
<td><em>Pharmacy in WW II</em> Chapter 2, pp11-42</td>
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<td>8</td>
<td>2/26</td>
<td>Nisei experience</td>
<td>Worthen, DB “Nisei Pharmacists in World War II”</td>
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<td>Worthen, DB “The Nisei Students”</td>
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<tr>
<td>9</td>
<td>3/5</td>
<td>Pharmaceutical Industry</td>
<td>Smith, MC and Worthen, DB “Soldiers on the Production Line”</td>
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<tr>
<td>10</td>
<td>3/12</td>
<td>Necessary men</td>
<td><em>Pharmacy in WW II</em> Chapter 3, pp57-67</td>
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<td></td>
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<td>3/19 <strong>Spring Break</strong></td>
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<tr>
<td>11</td>
<td>3/26</td>
<td>Pharmacy Corps</td>
<td><em>Pharmacy in WW II</em> Chapter 6, pp121-148</td>
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<tr>
<td>12</td>
<td>4/2</td>
<td>Outside speaker*</td>
<td>Outside speaker*</td>
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<td>13</td>
<td>4/9</td>
<td>Pharmacists in the military</td>
<td><em>Pharmacy in WW II</em> Chapter 7, pp149-173</td>
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<td>Worthen, DB “They Didn’t Come Home”</td>
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<tr>
<td>14</td>
<td>4/16</td>
<td>Post-war pharmacy</td>
<td><em>Pharmacy in WW II</em> Chapter 8, pp175-192</td>
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*Outside speaker (WW II pharmacy veteran or current service personnel) will be scheduled as available and lecture sequence adjusted as necessary.*