Introductory Practice Experience: An Opportunity For Early Professionalization

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The development, implementation, and associated outcomes of a 30-week introductory practice course sequence in an experiential pharmacy education program is discussed. The American Council on Pharmaceutical Education accreditation standards require entry-level PharmD curricula to include both introductory and advanced practice experiences for students. Developing a curriculum at a new college of pharmacy provided opportunity to offer a course sequence focused on early rotation experiences based upon practice philosophies rather than technical/task based activities. The course sequence has been offered since 1998 and provides first professional year students an opportunity to experience pharmacy practice activities which focus on observation and provide learning through discovery and introspection. On-campus activities include presentations, panel discussions, self-directed learning, and use of guest speakers. A majority of the students surveyed increased their interest in pharmacy as a career based on experiences gained from this course sequence. Preceptors found the program equally rewarding and valuable through discussion with students concerning the issues and philosophy of pharmacy practice. Based on this data it appears the course has been successful in exposing students to early professional practice philosophies, assisting in career path evaluation, and reinforcing didactic learning through demonstration of practice situations.

INTRODUCTION

Midwestern University College of Pharmacy-Glendale (MWU-CPG) matriculated an inaugural class of 96 students to begin instruction in the Fall of 1998. The unique situation of developing a new curriculum (Appendix A) without the need for re-engineering existing educational programs was an opportunity to provide different methods of pharmacy instruction. Among the College's foundational offerings is a year-round curriculum leading to the PharmD degree in three calendar years; integrated teaching of pharmacology, medicinal chemistry, pathophysiology, and pharmacotherapeutics; and an experiential program throughout the entire three years of the program. This paper describes the design, implementation, and outcomes of an introductory practice experience sequence that requires all first year students to participate in weekly experiences at pharmacies and on-campus classroom activities over a 30-week period. The three-quarter sequence course, "Introduction to Professional Practice," requires students to participate in specific activities at the practice site in addition to developing skills in writing, oral presentation, and inter-

viewing. Ultimately, the three unique practice experiences completed over three quarters in the first year should assist in the development of personal practice philosophies of students. Such development is critical as early professional socialization has been described as the "essence" of health professions education(1).

BACKGROUND

The American Council on Pharmaceutical Education (ACPE) developed new accreditation standards for the entry-level PharmD degree subsequently approved by the American Association of Colleges of Pharmacy (AACP) in 1997(2). ACPE recognized the need for students to experience pharmacy practice activities throughout their educational process and now include early experiences as a requirement for accreditation of entry-level PharmD programs. Though not explicitly prescriptive, these standards clearly require the experiential component of the curriculum to offer "early experiences in a variety of sites, offered in a continuum throughout the curriculum." A conceptual framework for introductory practice experiences has been previously described by Beck et al.(3).

Over the years, the adoption of the PharmD degree has led to the implementation of academic-based experiential rotations focused on a multitude of practice experiences while students are enrolled in the professional program. Rotations offer significant experiences in management of drug distribution systems, patient care activities and other advanced practice activities. In many pharmacy curricula the majority of rotations are often in the last year of the program.

Before the development of the PharmD degree, pharmacy practice experiences were obtained primarily through internship (or apprenticeship) experiences that were simply measured by the number of hours accrued to meet the requirements of state boards of pharmacy for licensure. Frequently there were no graduated learning experiences and rarely were objectives or outcome assessments related to the experiences performed. As the length and amount of experiential components increased in professional programs, the traditional internship model began to be assimilated into academic based experiential education programs. These new experiences were focused on obtaining competencies that were generally not available in traditional pharmacy practice internships.

Typically colleges of pharmacy reserve the experiential component of the curriculum for the final year of study and unintentionally leave early experiences to the desires of the student. Often, students obtained practical pharmacy experience from working as pharmacy technicians in various practice environments, though some colleges and schools did provide early experiences. As experiential coursework eventually grew to satisfy the time required by state boards of pharmacy for internship, many students became exposed to their first pharmacy practice experience in their final year of the pharmacy curriculum.

THE INTRODUCTORY PRACTICE EXPERIENCE (IPE) AT MWU-CPG
Course Development

The development of the IPE was preceded by identifying objectives for the three-quarter course sequence. Because of the sequencing of courses in the curriculum, it was important to offer students experiences that would reflect as well as reinforce knowledge and skills taught in didactic coursework with behaviors and attitudes observed in professional practice situa-

tions (see Appendix A). In developing course objectives for IPE, an emphasis was placed upon developing a program to enhance the learning process based upon these early practice experiences. The course objectives were designed to allow students to begin to develop a sense of professionalism, develop practice philosophies, assist in career path evaluations, reinforce didactic learning, and realize the practice of pharmacy is a lifelong learning process. Course objectives for IPE do not focus on the development of technical skills, but instead focus on acquiring the behaviors, attitudes, and values of a health care professional. The process of socialization is not new, as medical educators have encouraged early professionalization to improve learning(4,5).

An additional rationale for developing the IPE was due to the fact that professional pharmacy programs across the nation are experiencing matriculating classes that represent an older student population(6). This concept of learning is consistent with andragogy, a learning model frequently preferred by adult learners where practice experiences are integrated with theoretical coursework(7-12). The first two classes of pharmacy students at MWU-CPG had an average age of 25 years. The adult learner has been shown to be a better learner in an integrated learning situation. Therefore, it was logical to develop foundational practice perspectives prior to the development of skills required for activities and tasks involved in daily practice.

A critical element in pharmacy practice is the thought and decision-making processes that precedes product delivery or administration. Thus, it was decided a course that would focus on the issues, pressures, and philosophies involved in pharmacy practice early in the curriculum was necessary. The instructors also wanted a course sequence that transcended the first professional year of the program. As a result, the IPE was scheduled over a 30-week period. Carter et al. have described the development of a introductory course to socialize pharmacy students that was delivered over a two-week period(13).

Prior to the opening of MWU-CPG, the Phoenix area did not have an established school of pharmacy. The most difficult task of developing experiential courses was the recruitment and training of preceptors and practice sites. The idea of students participating at a practice site without actually working was a concept that was difficult to grasp by many practicing pharmacists. Many pharmacists' perspectives were that order entry/dispensing should be taught early to students. To effectively deal with this belief and create another paradigm, preceptor training was offered on campus and at state professional meetings to allow a majority of pharmacists to participate and discuss the College's curriculum. Each session focused on the need to allow first year students to use their time in the pharmacy for self-discovery and evaluation of issues presented in the course. Practice tasks and clinical activities surrounding patient care would be the objective of rotations in the second and third years of the curriculum.

Course Format

The course is offered over a three-quarter sequence in which weekly classroom activities conducted in a one-hour session precede a four-hour session at a practice site. Minimum requirements are that all students experience one community and one hospital/institutional practice site. The third experience may be another community or hospital site but may also include a diversity of settings such as home care, long-term care, correctional facilities, or other expanded practice experi-

Table I. Percent responses from the student survey of the IPE

Question	1998/1999 (n=80)			1999/2000 (n=86)		
	Yes	No	Indifferent	Yes	No	Indifferent
Did you have pharmacy experience prior to entering pharmacy school?	66.6	33.3		70.9	29.1	
Based on your prior experience, did you think the early rotations would be unnecessary?	9.3	90.6		29.6	70.4	
Visiting practice sites gave me insight into the pertinence of my first year courses.	84.0	16.0		81.4	18.6	
The pharmacists with whom I interacted were generally pleased with their choice of a pharmacy career.	85.7	9.1	5.2	79.1	8.1	12.8
The negative experiences still provided insight into pharmacy as a career.	64.0	4.0	32.0	70.7	6.9	22.4
The introductory experiences made my first year in the program more enjoyable.	75.0	6.6	18.4	62.8	10.5	26.7
The introductory experiences stimulated discussion of practice issues with my classmates.	80.7	5.2	14.1	73.3	12.8	13.9
The introductory experiences were unnecessary.	6.4	83.3	10.3	13.1	72.6	14.3
The personal SOAP note helped me identify problems in my academic activities.	38.5	24.3	37.2	48.8	29.1	22.1
The personal SOAP note helped me begin a program of personal planning and assessment.	35.9	28.2	35.9	45.4	26.7	27.9

ences. Matriculating class sizes are approximately 100 students per year resulting in 300 introductory placements per year for the Office of Experiential Education at the College.

Students participate at the same site for the entire ten-week quarter and visit three different sites during their first professional year of study. While at the site, students are prompted by a workbook and specific course objectives (Appendix B) that poses questions related to practice issues that require students to interview preceptors, pharmacists, technicians, and patients. The workbook provides the basis for self-directed learning by requiring students to seek out answers to posed questions resulting in thoughtful and detailed discussions. It has been previously demonstrated that students who prefer an andragogy-based educational program prefer activities that encourage student-centered learning(7-9). Course objectives are satisfied through workbook activities by allowing the student to begin to develop a sense of professionalism and practice philosophies.

During the first quarter, a one-hour classroom session is constructed around student panel presentations reinforcing the previous week's experiences at respective practice sites. A panel of six students is randomly selected each week to lead the discussion. This format provides a rich dialogue when students discover the differences and similarities among sites in issues regarding management structures, the availability of patient information, and various approaches to pharmacy practice. Panel presentations offer students the opportunity to practice presentation skills while giving incentive to fully investigate issues at their practice site. The second quarter classroom activities include guest speakers who offer information on current topics in practice such as automation and technology, addiction and diversion, ethical decision-making, negligence, malpractice, etc. The final quarter's classroom activities provide guest speakers the opportunity to discuss various career paths available in pharmacy. Practitioners from a variety of pharmacy careers are invited to describe the rewards and limitations related to their practice settings as well as advanced knowledge or training required to be successful (see Appendix C).

Course Assignments

In addition to the workbook activities, other assignments are provided to allow tasks to be performed while the preceptor is otherwise occupied during the four-hour site visit. While the preceptor may be busy, it is instructional for first-year students to observe how pharmacy practice requires the ability to perform many simultaneous activities. Students are required to learn the top 200 drugs by trade and generic name, category of use, drug class, and manufacturer. They are also assigned sixteen different dosage forms to evaluate including the composition, storage, and handling of these products. These activities are completed at the practice site and bring a level of appreciation for knowledge and skills taught in the dispensing and pharmaceutics labs offered during the first professional year.

Students complete a written assignment each quarter discussing findings of their respective practice sites regarding the opportunities and barriers to patient-centered care. This assignment is aimed at introducing students to developing a patient-centered philosophy of pharmacy practice. The patient care theme is introduced early and repeated throughout the curricu-. lum to promote graduates who are patient caring. Students are provided with nearly thirty visits to pharmacy practice sites during this first year of their academic tenure. The development of their own personal practice philosophies is evident by changes in their written assignments and classroom discussions over the three quarters.

Students are required near the end of the first year of study to write a personal SOAP note evaluating their professional and academic performance. The SOAP note consists of personal subjective and objective data students use to assess their academic performance. From this data, students develop a plan for continual professional development. This exercise is used early in a student's academic career to promote a plan of personal assessment and responsibility in their career planning. The SOAP note is then discussed in a personal interview with the Director of Experiential Education.

Course Evaluation

The course has been presented to first-year students since

Table II. Student pharmacy related experience

| | 1998/1999 | | | | 1999/2000 | | | |
| | Community | | | | Community | | | |
	Chain	Independent	Hospital	Other	Chain	Independent	Hospital	Other
Which practice were you considering prior to entering school?	8.8%	13.4%	41.8%	6.0%	54.4%	5.9%	30.9%	8.8%
Which practice type are you now considering after the IPE rotations?	35.9%	9.4%	24.5%	30.2%	45.1%	16.1%	19.4%	19.4%

Table III. Percent responses from preceptor survey of the IPE

| | 1998/1999 (n=124) | | |
Question	Yes	No	Indifferent
Have you employed interns?	61.8	38.2	
Have you previously been a preceptor in a college of pharmacy?	44.4	55.6	
I enjoyed having first year students visit the pharmacy.	94.2	0.0	5.8
I enjoyed discussing the issues and philosophy of pharmacy practice with early students.	98.4	0.0	1.6
The questions in the workbook served as a springboard for discussion of other issues.	83.5	4.1	12.4
Before the first student visited, I was skeptical of the value of early experiences.	14.8	75.4	9.8
After the first year of participation, the Early experiences appear to be valuable in the education of new pharmacists.	95.0	0.0	5.0
I would enjoy having the same students return for second and third year rotations.	80.9	0.8	18.3
How long have you practiced pharmacy	16.5 years		
Number of students in early rotation experiences	2.7 students		
Type of practice			
Hospital	38		
Community	38		
Home Care	2		
Government	8		
Other	12		

its inception in 1998. Students and preceptors were surveyed regarding their opinions and experiences with early rotations at the conclusion of the first year of study in the academic years of 1998/1999. Students were again surveyed at the conclusion of the 1999/2000 academic year. Overall students used the course as a basis to discuss practice issues with their classmates, explore career paths, appreciate the pertinence of didactic coursework as it relates to practice, and learn from negative experiences. Preceptors found the sequence to be enjoyable and provide a means by which to discuss issues pertinent to the pharmacy profession.

Student response to the IPE sequence has been very positive (Table I). Though there were differences between the two years of students and their feelings toward the necessity of the early rotations, both groups responded favorably in that these experiences gave them insight into the pertinence of the didactic material they were learning at the College (84 and 81.4 percent respectively). The majority of students responding did not feel that the IPE was unnecessary, though 67 percent from 1998/1999 and 71 percent from 1999/2000 had pharmacy relat-

ed work experience prior to entrance of pharmacy school (range of 2.15 and 1.49 years, respectively). Overall 33.3 and 29.1 percent of students did not have pharmacy-related experience prior to entrance to the professional program. Almost half the classes had some level of community related experience (48.7 and 50.6 percent) for the 1998/1999 and 1999/2000 student groups (Table II).

The negative experiences students encountered actually became a significant learning factor in the course. Initial concern was that some students may find themselves in a practice site where preceptors were negative toward the profession of pharmacy and discourage students from continuing their course of study. However, when asked, students overwhelmingly responded that negative attitudes of some pharmacists were not a deterrent.

In both years of students surveyed there was a reduction in the interest in hospital pharmacy practice from entrance to pharmacy school to post-IPE, 41 percent in the 1998/1999 group and 37 percent in the 1999/2000 group. In a positive respect, student surveys demonstrated that a majority of responders from the

1998/1999 and 1999/2000 classes actually increased their interest in pharmacy careers as a result of this course sequence (97.3 and 92.7 percent, respectively). Overall, 30.8 percent (1998/1999) and 43.0 percent (1999/2000) of students indicated they experienced three positive rotations from the IPE sequence.

Preceptors surveyed in the 1998/1999 academic year were equally supportive of the IPE course sequence (Table III). A total of 94 percent enjoyed having first-year students in their pharmacy and 98 percent agreed that it was enjoyable discussing issues and philosophy with students. Likewise, 95 percent felt the early experiences were valuable in the education of new pharmacists and 81 percent would like to have that same student return for rotations later in the curriculum.

With respect to course and student outcomes, the faculty involved in the IPE sequence believe the respective goals were met. Outcomes of what students learned and how the course objectives were met were assessed based on student papers submitted at the end of each quarter, classroom discussions, personal SOAP notes, and through discussion with individual students in the personal interview.

CONCLUSION

Introductory practice experiences are valuable in the early professionalization of pharmacy students. Using pharmacists and practice sites in a repetitive method allows students to become familiar with the pharmacy practice environment through self-discovery. Avoiding practice tasks and activities allows students to observe and internalize issues germane to professional practice while not becoming over indulged with the technical aspects of pharmacy. Introductory courses that place students in professional practice situations provide a benefit of reinforcing what is being taught in the pharmacy curriculum as students progress through it. We believe our students gained a greater appreciation for their role as a healthcare professional, the curriculum, and real-life situations present in professional practice.

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APPENDIX A. COLLEGE OF PHARMACY— GLENDALE CURRICULUM

Fall Quarter, First Year (17.5 qhrs)

PSCI	501	Human Physiology I, 4.5 qhrs
PSCI	551	Biochemistry I, 3.5 qhrs
PSCI	560	Pharmaceutical Calculations, 2 qhrs
PSCI	561	Pharmaceutics I, 2 qhrs
PPRA	571	Health Care Systems, 3 qhrs
PPRA	591	Introduction to Professional Practice I, 2 Qhrs
CORE	460	Interdisciplinary Healthcare, 0.5 qhrs

Winter Quarter, First Year (17.5 qhrs)

PSCI	502	Human Physiology II, 4.5 qhrs
PSCI	552	Biochemistry II, 3.5 qhrs
PSCI	562	Pharmaceutics II, 4 qhrs
PPRA	572	Research Methods and Epidemiology for Healthcare Professionals, 3qhs
PPRA	592	Introduction to Professional Practice II, 2 qhrs
CORE	470	Interdisciplinary Healthcare, 0.5 qhrs

Spring Quarter, First Year (17.5 qhrs)

MICR	513	Microbiology, 4 qhrs
PSCI	553	Immunology, 2 qhrs
PPRA	523	Applied Pharmaceutical Care, 3 qhrs
PHID	583	Integrated Sequence 1, 6 qhrs
PPRA	593	Introduction to Professional Practice III, 2 qhrs
CORE	480	Interdisciplinary Healthcare, 0.5 qhrs

Summer Quarter, First Year (14 qhrs)

PPRA	524	Pharmacy Law, 3 qhrs
PPRA	554	Renal, Fluids and Electrolytes, 2 qhrs
PSCI	564	Pharmacokinetics and Biopharmaceutics, 3 qhrs
PHID	594	Integrated Sequence II, 6 qhrs

Fall Quarter, Second Year (16 qhrs)

PPRA	694	Introductory Community Experience, 8 qhrs
PPRA	695	Introductory Institutional Experience, 8 qhrs

Winter Quarter, Second Year (17 qhrs)

PPRA	665	Behavioral Medicine/Ethics, 2 qhrs
PPRA	675	Pharmacy Practice Management, 3 qhrs
PHID	685	Integrated Sequence III A, 3.5 qhrs
PHID	686	Integrated Sequence III B, 5.5 qhrs
PPRA/PSCI	6xx	Electives, 3 qhrs

Spring Quarter, Second Year (17 qhrs)

PSCI	656	Clinical Pharmacokinetics/Therapeutic Drug Monitoring, 3 qhrs
PPRA	676	Drug Information and Informatics, 3 qhrs
PHID	688	Integrated Sequence IVA, 4 qhrs
PHID	689	Integrated Sequence IVB, 4 qhrs
PPRA/PSCI	6xx	Electives, 3 qhrs

Summer Quarter, Second Year (16 qhrs)

PPRA	657	Principles of Physical Assessment, 2.5 qhrs
PPRA	667	Complementary Medicine, 2 qhrs
PRA	677	Health Economics and Outcomes Assessment, 3 qhrs
PHID	690	Integrated Sequence V, 5.5 qhrs
PRA/PSCI	6xx	Electives, 3 qhrs

Fall Quarter, Third Year (17 qhrs)
PPRA   737   Wellness, Prevention, and Disease
                     Management, 5 qhrs
PHID   787   Integrated Sequence VI A, 5 qhrs
PHID   788   Integrated Sequence VIB, 4 qhrs
PPRA/PSCI 6xx   Electives, 3 qhrs

Winter, Spring Quarters, Third Year (48 qhrs)
PPRA   791-795   Advanced Patient-Care Experiences, 8 qhrs
                     each x 5 rotations = 40 qhrs
PPRA   796   Elective Experience, 8 qhrs

APPENDIX B. IPE COURSE OBJECTIVES

Source and Type of Patient Information
1. List available sources of patient data/information at this site. (Patient, chart, profile etc.)
2. What information should be obtained from the patient/caretaker?
3. List types of patient data/information available at this site (Ht, wt, labs, history, allergies, etc.). Why might this data be useful when providing pharmaceutical care?
4. Have preceptor discuss whether the available patient information is sufficient for quality patient care. Describe his/her opinions below.
5. What barriers exist to obtaining sufficient information about the patient?
6. How would you find additional patient data/information if it were needed?
7. Is available data/information used prior to dispensing/administration of medication? Are profiles reviewed? Why/why not?
8. What information is required before a medication may be dispensed for use?

Communication with Other Healthcare Providers
1. What other healthcare providers does the pharmacist at this site communicate with on a regular basis? What information is available from those individuals?
2. Are these providers acting as the patients' agent (Or representing the physician, insurance plan, etc.)? How does this affect the patient's choice and quality of care?
3. Discuss with the pharmacist the types of communication that occur with these providers and summarize.
4. How is the patient included in these communications?
5. Describe how communication with providers enhances or impedes patient-centered care.
6. Are there instances where the pharmacist's and physician's advice is contradictory? How is this handled?

Management Organization
1. Who does your preceptor report to?
    a. Who does his/her superior report to?
    b. Are these individuals pharmacists? (If no, describe their position)
    c. Prepare an organizational chart (Use the back of this page).
2. Discuss the organization's position on patient-centered care and summarize.
3. Does your preceptor feel supported in the organization's operations?
4. Does your preceptor feel his/her opinions are solicited within the organization?
5. What plans exist to prepare the practice at this site for the future? What changes are being considered?

Regulatory Bodies
1. What regulatory bodies have oversight at this practice site? List each with a brief description of license or certifications that

may be required for this pharmacy.
2. Describe license or certifications that involve personnel.
3. How does their oversight affect operations/activities at this site?
4. Discuss with your preceptor his/her opinions of how pharmacy is regulated.
5. How does your preceptor feel pharmacy practice would be affected if the regulatory bodies were not currently overseeing practice?
6. How do you think pharmacy practice should be regulated to protect the consumer?

Types of Patient Contact
1. How does the patient have contact with the pharmacist at this site?
2. Who is the primary contact for the patient? (Pharmacist, nurse, tech, clerk, etc.) How does this affect the pharmacist/patient relationship?
3. Discuss with your preceptor how pharmacists interact with patients at this site.
4. What barriers exist at this site to separate the pharmacist from the patient? Describe how you would attempt to remove those barriers.
5. How would you suggest the pharmacist change his/her practice habits to have more contact with the patient?

Decision Points in Care
1. Describe the process the pharmacist uses to provide a drug product or service to the patient. (Draw a schematic on the back of this page)
2. Where in this process does the pharmacist have an opportunity to evaluate the patient's pharmaceutical needs? Describe all opportunities.
3. Describe if whether the pharmacists have an opportunity to evaluate the outcome of his/her suggestions? If not offer your suggestions to obtain such outcome information.
4. If the pharmacist chooses to intervene in the therapy, whom does he/she contact? Is there a need to contact?
5. Discuss with your preceptor his/her opinions of his/her ability to impact quality of care at this site and summarize below. (Ask for specific examples of successful interventions)

Method of Medication Delivery to the Patient
1. Describe the method by which the medication is ultimately delivered to the patient.
2. Who is the agent responsible for delivery of medication to the patient?
3. Is there an opportunity for the pharmacist to communicate with the patient before the first dose is taken/administered? Is there any follow-up? How does this impact care?
4. Discuss with your preceptor the issues involved with mail order, automation, and physician office dispensing, and evaluate the quality of pharmaceutical care rendered.
5. Do you have any opinions about how pharmacy can improve this process? Describe.
6. What information should be given to the patient when counseling on new prescriptions is done?

Reimbursement Processes
1. How is the pharmacy paid for its services?
2. Does the pharmacist have an ability to use his/her own judgment in product selection? (Or how does managed care influence his/her practice?)
3. What financial incentives exist for the pharmacist to impact care? How does your preceptor feel about such arrangements?
4. Discuss and summarize below your preceptor's opinions regarding managed care, Medicare and other third party reimbursement scenarios.
5. What are your preceptor's thoughts about how the pharmacist might be better placed to provide patient centered care in a managed care situation?

APPENDIX C. INTRODUCTION TO PROFESSIONAL PRACTICE CLASSROOM TOPICS 1999-2000

Fall Quarter 1999 Topic		Speaker
Week 1	State Internship Review	State Board
Week 2	Pharmaceutical Care	Speaker
Week 3	Student Panel Presentation	Small Group
Week4	Medical Terminology Review	Speaker
Week 5	Student Panel Presentation	Small Group
Week 6	Student Panel Presentation	Small Group
Week 7	Student Panel Presentation	Small Group
Week 8	Student Panel Presentation	Small Group
Week 9	Medical Terminology Review	Speaker
Week 10	Terminology Exam	

Winter Quarter 1999-2000

Week 1	Universal Precautions	Speaker
Week 2	Cultural and Ethnic Diversity	Speaker
Week 3	Physicians Perspective	Speaker
Week 4	Terminology Review	Speaker
Week 5	State Board Meeting	State Board
Week 6	Addiction and Diversion	Speaker
Week 7	Anatomy Lab Demonstration	Speaker
Week 8	Ethics in Pharmacy Practice	Speaker
Week 9	Terminology Review	Speaker
Week 10	Terminology Exam	

Spring Quarter 2000

Week 1	Technology in Pharmacy	Speaker
Week 2	Home Care Pharmacy	Speaker
Week 3	Hospital Pharmacy	Speaker
Week 4	Chain Pharmacy	Speaker
Week 5	Independent Pharmacy	Speaker
Week 6	Clinical Specialist	Speaker
Week 7	Public Health Service	Speaker
Week 8	VA Pharmacy Practice	Speaker
Week 9	Military Pharmacy	Speaker
Week 10	Pharm. Industry Practice	Speaker