



UC San Diego
SKAGGS SCHOOL OF PHARMACY
AND PHARMACEUTICAL SCIENCES

Acute Care Advanced Pharmacy Practice Experience

SPPS 400A
SPPS 400B

Office of Experiential Education

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I. Course Description: SPPS 400A, 400B (7 units)

In response to the evolving role of the pharmacist in the delivery of health care services, the University of California Skaggs School of Pharmacy and Pharmaceutical Sciences (SSPPS) and the UC San Diego Health Sciences and affiliated health systems offer students the opportunity for a patient oriented drug therapy education with an emphasis on patient responsibility and effective communication with the other members of the health care community. Through this experience the student will be able to apply academic basic science and clinical didactic course work to the situations which daily challenge the pharmacist in the clinical settings. The student will consult and discuss drug therapy with patients, the clinical pharmacist, medical staff, nurses, medical and other health care students in several different settings. As proficiency increases, more responsibility for monitoring and developing drug therapy will be given. As a result, the basic tools and insights necessary to deliver high quality rational health care will be at the student's fingertips for learning.

SPPS 400A/B is a supervised clinical pharmacy experience in an inpatient setting. Through observation and practice, students will develop and explore their roles in an interdisciplinary health care team. Students will take medication and medical histories, monitor drug therapy, provide patient education, and research patient-specific drug information questions.

Students should refer to the Experiential Education website for additional information: <http://pharmacy.ucsd.edu/faculty/experiential.shtml>. Students are expected to adhere to all Policies and Guidelines at SSPPS (<http://pharmacy.ucsd.edu/current/policies.shtml>.)

II. Prerequisites

- A. Students must have successfully completed years 1-3.
- B. Students must meet eligibility requirements to progress to APPEs per SSPPS Progression Policy. Students must meet expectations as stated in the SSPPS Guidelines on the Evaluation of Professionalism.
- C. Students must have successfully completed all Introductory Pharmacy Practice Experience (IPPE) requirements.
- D. Students must have received a passing score on the Comprehensive Cumulative exam.
- E. Students must have a pharmacy intern license.
- F. Students must have up-to-date immunization records and have received HIPAA training.
- G. Students must have requisite training/certifications necessary for the given activity.

III. Course Goals

Students will interact with a number of different healthcare providers and participate in a variety of patient care activities with the pharmacy preceptor and medical teams. The student will be provided with many opportunities to apply his/her academic basic science and clinical didactic course work to patient care in the hospital setting.

IV. Course Objectives

- A. Given a patient's medical history (symptoms, physical examination laboratory values, current medications and diagnosis), the student will be able to:
 1. Identify and prioritize the significant active and inactive medical problems.
 2. Identify which of the above problems require drug therapy.
 3. Identify those medical problems or laboratory values which may be induced or aggravated by present or future drug therapy.

4. Identify potential drug interactions.
5. Identify the subjective and objective evidence for each problem.
6. Assess the response and appropriateness of current therapy and if necessary make an assessment and design an individualized drug therapy plan for each of the patient's problems according to the objectives listed in the SPPS 212 ABC Therapeutics course syllabi.
7. For each drug which the patient takes (now or in the future):
 - a. Critically evaluate the rationale for its use in this particular patient. This will include evaluating a drug's appropriateness, efficacy and toxicity as compared to other drugs which may potentially be used for the medical problem in question. Also consider the impact of each drug on the patient's other medical problems.
 - b. Design a safe and effective dosing regimen for the patient, taking into consideration the pertinent pharmaceutical (dosage form, stability, flavor, etc.) and pharmacokinetic (bioavailability, elimination) features of the drug. The impact that other medical problems (e.g. renal, liver, or gastrointestinal disease) may have on the biopharmaceutic and pharmacokinetic parameters of the drug will also be considered.
 - c. Establish the therapeutic endpoints and toxic monitoring parameters of therapy. What is the expected time for the therapeutic endpoint to be achieved?
 - d. Identify laboratory, physical and subjective parameters which may be used to follow the therapeutic and toxic effects of the drug.
 - e. Evaluate the most common adverse effects and drug interactions including the following points:
 - i. clinical significance (incidence, severity, reversibility)
 - ii. pathogenesis
 - iii. predisposing factors
 - iv. presenting signs and symptoms
- B. For those medical problems and drugs which were not covered in the curriculum, the student is expected to efficiently locate appropriate literature resources and assimilate the information required to meet the objectives stated in "A" above.
- C. Students will demonstrate ethical and professional behavior in all practice activities.

V. Activities

Students will be expected to participate in activities, as assigned by the preceptor and other healthcare professionals that are deemed appropriate and necessary for the care of patients in the clinic. Activities may include, but not limited to, the following:

- A. Clinical Activities and Discussions
 1. Establish professional rapport with pharmacy and other healthcare professionals as a member of an interprofessional team
 2. For all assigned patients, interview and obtain medication histories, monitor current and recommended drug therapy, anticipate and identify drug therapy problems, maintain an up-to-date database, educate patients, and provide drug information to patients and healthcare professionals
 3. Attend relevant grand rounds and medical conferences
 4. Practice as a member of an interprofessional team
 5. Identify, evaluate, and communicate to the patient and other health care professionals the appropriateness of the patient's specific pharmacotherapeutic

agents, dosing regimens, dosage forms, routes of administration, and delivery systems

6. Consult with patients regarding medications
 7. Recommend prescription and nonprescription medications, dietary supplements, diet, nutrition, traditional nondrug therapies to the preceptor
 8. Recommend appropriate medication dosing utilizing practical pharmacokinetic principles
 9. Administer medications where practical and consistent with the practice environment and where legally permitted (ex. immunizations)
 10. Identify and report medication errors and adverse drug reactions
 11. Manage the drug regimen through monitoring and assessing patient information
 12. Provide pharmacist-delivered patient care and education to a diverse patient population
 13. Educate patients and health care professionals regarding medical conditions, wellness, dietary supplements, durable medical equipment, and medical and drug devices
 14. Retrieve, evaluate, manage, and use clinical and scientific publications in the decision-making process
 15. Access, evaluate, and apply information to promote optimal health care
 16. Ensure continuity of pharmaceutical care among health care settings
 17. Participate in discussions and assignments regarding compliance with accreditation, legal, regulatory/legislative, and safety requirements
 18. Participate in discussions and assignments regarding the drug approval process and the role of key organizations in public safety and standards setting
 19. Participate in discussions and assignments concerning key health care policy matters that may affect pharmacy
 20. Work with the technology used in pharmacy practice
 21. Maintain efforts to adhere to patient privacy standards
 22. Appropriately triage patients
 23. Apply disease oriented knowledge to effectively solve actual/potential drug related problems and treatment of medical conditions
 24. Document a medication reconciliation and medication adherence
 25. Participate in collaborative interdisciplinary practice regimens
- B. Students may prepare an in-service presentation to the healthcare providers on their unit on a drug or pharmacy-related topic [e.g., nursing in-service, medication education]. The goals of this presentation are:
1. To provide practical information for clinicians (e.g. basic pharmacology, recognition, and minimization of common drug side effects, proper and safe administration of drugs)
 2. To give the student the opportunity to organize and relate drug information to a specific audience (under the supervision of a faculty or resident preceptor).
- C. Students will attend patient/clinician rounds as assigned by preceptors. The intent of clinician rounds is to allow students an opportunity to present and discuss in-depth patients that they are monitoring. Students will present their patients using the format

that is recommended by their preceptor. Following the patient presentation, the student will present an in-depth discussion of the therapeutic considerations of the patient including, but not limited to:

1. An evaluation of current therapy
2. Proposed alternative therapies.
3. Monitoring parameters for therapeutic response and toxicity.
4. The pathophysiology of the disease process in the patient.
5. Any pharmacokinetic parameters applicable.
6. Endpoints of therapy.

During patient/clinician rounds it is expected that preceptors will question students to assess the degree of preparation, monitoring skills and knowledge base. In addition, preceptors will broaden discussion and share clinical “pearls” and direction for therapy. The time and location of clinician rounds will be announced

- D. Students will participate in department of pharmacy educational activities as assigned by preceptors. All students will attend and participate in a weekly conference. The location and time will be announced.

VI. Student Conference

- A. The goals of the Student Conference are:
1. To provide an opportunity for the student to present a drug/disease topic in a conference setting.
 2. To provide the student with an evaluation of his/her presentation based on the criteria listed.
 3. To create and orally present a PowerPoint presentation to his/her colleagues.
- B. In a defined time period, the student will present a drug or disease related topic. Criteria for evaluation are as follows:
1. Handout will include:
 - a. Topic of presentation
 - b. Goal (s) and objective (s) of the presentation.
 - c. Outline of presentation
 - d. Reference list that utilizes primary literature as appropriate
- C. If the topic includes a patient presentation, the student will be able to give the patient presentation with the following elements:
1. No patient name or initials will be included for HIPAA reasons. Also if the age is > 89 it cannot be included either, but ok to say “> 89 yrs”, race, sex
 2. Reason for admission and chief complaint
 3. History of present illness (in chronological order along with treatments, medications; concurrent unrelated active problems will also be included)
 4. Past medical history
 5. Present medication history (medication on admission, allergies/ADRs)
 6. Summary of pertinent review of systems and physical examination
 7. Admission labs
 8. Admitting impression
 9. Therapeutic plan

10. Therapeutic considerations (emphasis will be placed on this element)
 11. Hospital course (include, in chronological order, any procedure (s), complication (s), new problem (s), as well as any significant changes in active problems during hospital stay).
 12. A summary of the patient being presented.
- D. The student will be able to clearly discuss a drug-related or disease-related topic. In this discussion, the student will include (when appropriate):
1. Identification of the medical problem (s) to be discussed
 2. Assessment of response and appropriateness of current therapy
 3. Evaluation of the rationale for its use
 4. Discussion of pertinent pharmaceutical considerations (dosage form, stability, flavor, etc.)
 5. Comparison of alternative therapies and therapeutic approaches which may be beneficial for the problem in question (this will include a comparison of efficacy, adverse reactions, toxicity and relative advantages and disadvantages of each therapy).
 6. Discussion of recent developments and/or controversies on the topic or drug presented and a critical evaluation of literature reviewed.

Students will present the topic in a manner so as to stimulate group participation.

Student will submit a final PowerPoint copy of presentation to the course coordinator via e-mail by the last day of the APPE (fjahansouz@ucsd.edu).

VII. Evaluations

- A. Grading will be Pass/No Pass
- B. Three evaluations using the standardized Pharmacy Evaluation Form are required for this course:
 - a. Mid-point Formative Evaluation: An online self-evaluation completed by the student and discussed with the preceptor. The preceptor will provide written and verbal comments and sign off.
 - b. Preceptor & Site Evaluation: An online evaluation completed by the student at the end of the rotation.
 - c. Summative Evaluation: An online evaluation completed by the preceptor at the end of the rotation and discussed with the student.
 - d. Students may be evaluated at any other time at the discretion of the preceptor. Preceptors may evaluate students more frequently, so that the student is informed of areas requiring improvement early in the rotation. The primary preceptor may obtain feedback from all team members as well as any patient comments.
- C. Students must have submitted their Mid-point evaluations in addition to completing evaluations of their sites/preceptors in order to receive their grade.
- D. For a summative evaluation, a student has to average at least a “three” on a scale of “one to five” overall in order to successfully pass an APPE rotation. Less than “three” for the summative evaluation is considered a failure for that experience.

VIII. Recommended Texts and References

- A. SSPPS References (<http://pharmacy.ucsd.edu/faculty/experiential.shtml>)
1. Goals and Essential Elements for Monitoring Drug Therapy
 2. How to Present A Patient for Pharmacy Rounds
- B. Textbooks
1. Mager R. Preparing Instructional Objectives, 3rd Edition. Belmont, CA: Fearon Publishers, 1984. *[Updated version may be available]*
 2. Alldredge, BK, Corelli RL, Ernst ME, Guglielmo BJ, Jacobson PA, Kradjan WA, Williams BR. *Koda-Kimble & Young's Applied Therapeutics: The Clinical Use of Drugs*, 10th ed., Lippincott Williams & Wilkins, 2012. *[Updated version may be available]*
 3. Medical dictionary. Examples: Stedman's Medical Dictionary, Dorland's Medical Dictionary.
 4. DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, eds. *Pharmacotherapy: A Pathophysiologic Approach*, 8th edition. McGraw-Hill, New York, 2011. *[Updated version may be available]*
 5. Kasper DL, Braunwald E, Fauci AS, Hauser SL, Longo DL, Jameson JL, Isselbacher KJ, eds. *Harrison's Principles of Internal Medicine*, 18th edition. McGraw-Hill, New York, 2012. Available on-line (free-of-charge) through the UCSD Biomedical Library at <http://www.accessmedicine.com/resourceTOC.aspx?resourceID=4>
 6. Pharmacology textbook. Example: Goodman & Gilman's *The Pharmacological Basis of Therapeutics*, 12th edition. McGraw-Hill, New York, 2010. Available on-line (free-of-charge) through the UCSD Biomedical Library Online Clinical Library at <http://www.accessmedicine.com/resourceTOC.aspx?resourceID=28>
- C. As specified per individual rotation site/preceptor.