UC San Diego

SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

Advanced Pharmacy Practice Experience (APPE)
Acute Care

SPPS 400A
SPPS 400B

Office of Experiential Education (OEE)

Christina Mnatzaganian, PharmD
Associate Dean for Experiential Education
cmnatzaganian@health.ucsd.edu
(858)822-5642

Ila Saunders, PharmD
Director, APPEs
isaunders@health.ucsd.edu
(858)822-6839

Karla Barranco Marquez
Coordinator, APPEs
kbarrancomarquez@health.ucsd.edu
(858)822-5503

I.   Course Description: SPPS 400A, 400B (8units)

SPPS 400A or 400 B is a six week, supervised clinical pharmacy experience in an acute care setting. Through observation and practice, students will develop and explore 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 will have the opportunity to interact with diverse patient populations and are encouraged to collaborate with other health care professionals in the care of their mutual patients. Through this experience the student will apply the Pharmacist Patient Care Process (PPCP). The student will educate patients about their medication therapy and pharmacists and/or other health care providers about appropriate medication use. Students will use evidence-based information to advance patient care. Acute care patient interactions are done face-to-face and may involve post-discharge telephone conversations as part of a transitions of care approach to patient care.

Students should refer to the OEE section on the Resources tab of Canvas and Core ELMS for specific Rotation Descriptions and additional resources.

Students are expected to adhere to all Policies and Guidelines at SSPPS:
https://pharmacy.ucsd.edu/current/policies-guidelines

I.   Prerequisites

Students must:
   A. Have successfully completed didactic pharmacy years 1-3.
   B. Meet eligibility requirements to progress to APPEs per SSPPS Progression Policy.
   C. Meet expectations of professionalism as stated in the SSPPS Guidelines on the Evaluation of Professionalism.
   D. Have successfully completed all Introductory Pharmacy Practice Experience (IPPE) requirements.
   E. Have received a passing score on the Comprehensive Cumulative exam.
   F. Have a valid and active pharmacy intern license.
   G. Have up-to-date immunization records and received HIPAA training.
   H. Have requisite training/certifications necessary for the given activity as well as all required components set by the practice site.

II.   Course Goals

Students will interact with patients, pharmacists and other healthcare providers and participate in a variety of patient care activities which will develop and enhance professional judgment, knowledge, and the skills needed to practice in the acute care setting. The student will have

opportunities to educate patients and health care professionals on appropriate medication use and will use evidence-based information to advance patient care.

III. Course Goals, Objectives, and Activities[1]

	Specific Objectives	Example Learning Activities
Goal 1: Patient Care Provider		
Objective 1: Apply the Pharmacist Patient Care Process (PPCP).	1.1. Demonstrate appropriate depth and breadth of pharmacotherapeutics and disease-related knowledge for a variety of common conditions seen in adult acute care patients. (PPC 1)	• Participate in and/or lead topic discussions. • Apply the PPCP to every patient assigned by the preceptor, essentially independently, and present to the preceptor. • For those medical problems and drugs which were not covered in the curriculum, the student is expected to efficiently locate appropriate literature resources.
	1.2. Collect information to identify a patient's medication-related problems and health-related needs. (EPA 1.1)	• Systematically collect information sufficient to identify drug related problems and to support decisions regarding drug therapy. • Assess collected information to evaluate/identify drug related problems. • Collect a medication history from a patient or caregiver. • Determine a patient's medication adherence.
	1.3. Analyze information to determine the effects of medication therapy, identify medication-related problems, and prioritize health- related needs. (EPA 1.2)	• Interpret laboratory test results. • Identify drug interactions. • Compile a prioritized health-related problem list for a patient. • Evaluate an existing drug therapy regimen.
	1.4. Establish patient-centered goals and create a care plan for a patient in collaboration with the patient, caregiver(s), and other health professionals	• Follow an evidence-based disease management protocol. • Develop a treatment plan with a patient. • Manage drug interactions.

	that is evidence- based and cost-effective. (EPA 1.3)	• Select monitoring parameters to determine the therapeutic and adverse effects related to the treatment plan. • Create a patient-specific education plan.
	1.5. Implement a care plan in collaboration with the patient, caregivers, and other health professionals. (EPA 1.4)	• Write a note that documents the findings, recommendations, and plan from a patient encounter. • Educate a patient regarding the appropriate use of a new medication, device to administer a medication, or self-monitoring test. • Educate a patient on the use of medication adherence aids.
	1.6. Follow-up and monitor a care plan (EPA 1.5)	• Collect monitoring data at the appropriate time interval(s). • Evaluate the selected monitoring parameters to determine the therapeutic and adverse effects related to the treatment plan. • Recommend modifications or adjustments to an existing medication therapy regimen based on patient response. • Present a patient case to a colleague during a handoff or transition of care.
	1.7. Efficiently and appropriately optimize patient-specific outcomes for acute care patients using the Pharmacist Patient Care Process (PPCP). (PPC 2)	• Make decisions about a care plan for treatment; prevention; and wellness to optimize patient outcomes that includes, but not limited to, strategies that overcome patient-specific barriers to care. • Implement a care plan in collaboration with health care team and patient that includes monitoring and continuity of care, and considerations for triage, patient referral, and follow-up. • Monitor and evaluate care plan, make needed adjustments.
	1.8. Accurately prioritize multiple patient care responsibilities/needs in	• Determine which patient's needs should be addressed first.

	times of high activity and workload. (PPC 3)	• Address patient needs within an appropriate time, based on priority/acuity. • Communicate clearly and appropriately regarding patient work that is unable to be completed during an assigned work shift (ie. hand-off).
	1.9. Apply pharmacokinetic dosing principles for a variety of commonly used drugs to determine the correct dose. (PPC 4)	• Accurately adjust doses according to patient's renal and/or hepatic function. • Perform dose calculations for drugs that require monitoring for peak and trough concentrations. • Participate in dosing protocols that pharmacists are responsible for in the practice site.

Goal 2: Communication and Education		
Objective 2: Utilize appropriate education and communication strategies for a diverse patient population. [Communication and Education (C&E)]	2.1. Document patient care activities clearly and concisely to reflect the PPCP in the appropriate site-specific health record system(s). (C&E 1)	• Document clinical activity in the patient's medical record. • Document pharmacist activities as part of a clinical intervention tracking system (where appropriate). • Document treatment plans under protocol (eg. Vancomycin, anticoagulation). • Document medication histories/reconciliation in EMR. • Document patient education encounters.
	2.2. Perform patient-centered medication education	• Provide patients and their caregivers with appropriate medication education regarding prescription, OTC/self-care products, and supplements, including applying techniques to assess patient understanding in a diverse patient population.

Goal 3: Interprofessional Team Member		
Objective 3: Collaborate effectively as a member of an	3.1. Actively contribute as a member of an interprofessional healthcare team. (IPC 1 and EPA 2.1)	• Independently communicate medication therapy recommendations to members of the healthcare team.

interprofessional healthcare team. [Interprofessional Collaboration (IPC)]		• Share accountability for patient care decisions with the team. • Demonstrate effective teamwork/collaboration skills. • Participate in rounds with other health care professionals (if possible).
Goal 4: Population Health Promoter		
Objective 4: Promote Population Health	4.1. Minimize adverse drug events and medication errors (EPA 3.2)	• Report adverse drug events and medication errors to stakeholders.
	4.2. Maximize the appropriate use of medications in a population (EPA 3.3)	• Participate in antimicrobial stewardship programs. • Apply cost-benefit, formulary, and/or epidemiology principles to medication related decisions.
Goal 5: Information Master		
Objective 5: Utilize evidence-based medical information to advance the care of patients. [Evidence-Based Medicine (EBM)]	5.1. Educate patients and professional colleagues regarding the appropriate use of medications (EPA 4.1)	• Retrieve, interpret, and apply biomedical literature applicable to the patients seen on this rotation. • Respond to questions with the appropriate level of detail necessary to ensure proper patient care and communication with other relevant parties. • Analyze a clinical study. • Prepare and lead a Journal club or drug/disease-related topic discussion (see Appendices 1,2).
	5.2. Use evidence-based information to advance patient care (EPA 4.2)	• Retrieve, interpret and apply medical literature to formulate decisions for optimal patient medication regimens. • Analyze, evaluate, and apply a clinical study to promote optimal healthcare. • Defend/justify recommendations using published evidence in support of a clinical situation.
Goal 6: Ethics and Professional Behavior		
Objective 6:	6.1. Demonstrate ethical and professional behavior	• Adhere to patient privacy standards in verbal and written communications.

Apply ethical and professional behavior to practice	in all practice activities. (EPA)	• Demonstrate an attitude that is respectful of diverse individuals, groups, cultures, and communities. • Demonstrate appropriate attire, demeanor, and conduct. • Adhere to attendance requirements, including punctuality.
Goal 7: Practice Manager		
Objective 7: Apply Systems Management for Medication Use	7.1. Participate in institutional systems and programs to assure appropriate drug use.	• Provide discharge counseling as appropriate. • Participate in communications regarding transitions of patients between different levels of care in the same institution (ICU to ward). • Communicate with community pharmacists and other community providers to facilitate successful transition to home upon discharge. • Identify and report medication errors and adverse drug events. • Participate in reporting pharmacist interventions or other activities in the electronic medical records. • Conduct and document medication reconciliation. • Interview and document medication adherence.

[1] *Course Goals, Objectives, and Activities Adapted from:*

- *Essential Elements for Core Required Advanced Pharmacy Practice Experiences.* Am J Pharm Educ. 2019 May; 83(4): 6865
- *Core entrustable professional activities for new pharmacy graduates.* Am J Pharm Educ. 2017 Feb 25; 81(1): S2

IV. 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: Separate online evaluations 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.

Students may be evaluated at any other time at the preceptor's discretion. Preceptors may evaluate students more frequently, so that the student is informed of areas requiring improvement early in the rotation. The primary preceptor may get feedback from all team members and any patient comments.

Students **must** submit a completed Mid-point Formative evaluation and evaluations of their sites/preceptors to receive a grade for the experience.

VI.　SSPPS Rotation Equity, Diversity, and Inclusion Statement

Each rotation is a place to expand knowledge and experiences safely, while being respected and valued. We support the values of UC San Diego to "create a diverse, equitable, and inclusive campus in which students, faculty, and staff can thrive." It is our intent that students from all diverse backgrounds and perspectives be well served by this rotation, that students' learning needs be addressed, and that the diversity that students bring to this rotation be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, religion, and culture. We ask that everyone engage in interactions with patients, caregivers and other members of the healthcare team with similar respect and courtesy. All people have the right to be addressed and referred to in accordance with their personal identity. We encourage everyone to share the name that they prefer to be called and, if they choose, to identify pronouns with which they would like to be addressed. We will do our best to address and refer to all students accordingly and support colleagues in doing so as well. We hope you will join us in creating a learning experience that upholds these values to further enhance our learning as a community.

VII.　Resources

A. SSPPS References: Students & Preceptors
B. UC San Diego Intranet ("Pulse") Medication Resources Page
C. Online Clinical Library Resources
　1. Clinical Pharmacology
　2. Micromedex
　3. DynaMed
　4. Up to Date
　5. Natural Medicines Database
D. Suggested textbooks (updated versions may be available)

1. Medical dictionary. Examples: Stedman's Medical Dictionary, Dorland's Medical Dictionary.
2. Krinsky DL et al. *Handbook of Nonprescription Drugs: An Interactive Approach to Self-Care*. 20th ed., American Pharmacists Association, 2020.
3. DiPiro JT, Yee GC, Posey LM, Haines ST, Nolin TD, Ellingrod V, eds. *Pharmacotherapy: A Pathophysiologic Approach*, 11th edition. McGraw-Hill, New York, 2020.
4. Goodman & Gilman's *The Pharmacological Basis of Therapeutics*, 14th edition. McGraw-Hill, New York, 2023. Available on-line (free-of-charge) through the UC San Diego Biomedical Library Online Clinical Library at https://accessmedicine.mhmedical.com/book.aspx?bookid=3191
5. The Sanford Guide to Antimicrobial Therapy 2023 (53rd edition)

E. The Pharmacists' Patient Care Process (PPCP) - See **Appendix 2** for blank PPCP template.

F. Journal club format: PIES Method of Critique

G. As specified by rotation site/preceptor.

Student Presentation and/or Conference (example)

The student may be required, by the preceptor, to present a drug or disease related acute care topic. The presentation expectations will be guided by the preceptor, who is encouraged to provide specific and clear instructions to the student. An example of student presentation expectations is outlined below:

1. **Handout should include:**

   a. Topic of presentation
   b. Student name, title, date of presentation
   c. Goal (s) and objective (s) of the presentation.
   d. Outline of presentation
   e. Reference list that utilizes primary literature, as appropriate

2. **If the topic includes a patient case presentation, the student should include the following elements:**

   a. Reason for clinic visit and chief complaint
   b. History of present illness
   c. Past medical history
   d. Medication history (Rx, OTC, allergies/ADRs, adherence)
   e. Summary of pertinent review of systems and physical examination
   f. Pertinent labs
   g. Assessment of response and appropriateness of current therapy
      i. Evaluation of the rationale for its use
      ii. 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).
      iii. Discussion of recent developments and/or controversies on the topic or drug presented and a critical evaluation of literature reviewed.
   h. Therapeutic plan
   i. Therapeutic considerations
      i. Discussion of pertinent pharmaceutical considerations (dosage form, stability, cost, insurance coverage, ease of use by the patient, dexterity issues, etc)
   j. Monitoring parameters
   k. Planned follow-up

Appendix 2: Pharmacists' Patient Care Process (PPCP) Template

Patient Name:		Age:	Race/Ethnicity:	Gender/Pronouns:	Wt:

COLLECT: What data is relevant to assess the primary problem?

	Subjective	CC (Chief Concern/Complaint): reason for the visit or admission HPI (**S**ymptoms, **C**haracteristics, **H**istory, **O**nset, **L**ocation, **A**ggravating factors, **R**emitting factors): Meds (Rx, OTC, herbal/supplements): dose, route, frequency ± duration, indication, efficacy, ADEs, adherence Allergies and type of reaction: Relevant PMH/FH: Relevant SH: diet, exercise, alcohol, tobacco, recreational drugs, occupation, etc.
	Objective	**Labs, vitals** (e.g., BP, HR, RR, temp, O2 sat, pain score), **physical exam** (positive findings, Ht, Wt), **procedures/imaging**

ASSESS

	Primary Problem		
	Problem Status	**What needs to be done for the problem:** ☐ **Needs treatment** (e.g., chronic condition is uncontrolled, acute problem requires drug therapy) ☐ **Refer**	
	Current Therapy ▪ Indicated? ▪ Effective? ▪ Safe?	▪ **Indicated?** Does the problem require drug therapy? Should current therapy be continued, changed or stopped? Why? ▪ **Effective?** What is the anticipated effect of current therapy (e.g., average A1c reduction)? Is the dose optimized (too high/low, appropriate for age, comorbidities, renal/liver function, convenient to take/administer, etc.) ▪ **Safe?** Any ADEs, DDIs or contraindications?	
		PROS: Identify patient-specific pros of current therapy ▪	**CONS:** Identify patient-specific cons of current therapy ▪
	New Therapy ▪ Add-on? ▪ Alternative med?	**What other meds could be considered? What is the anticipated effect of new therapy? Will it achieve goals?**	
		PROS: Patient-specific pros of new drug/class	**CONS:** Patient-specific cons of new drug/class
	New drug/class	▪	▪
	New drug/class	▪	▪
	New drug/class	▪	▪
	New drug/class	▪	▪
	New drug/class	▪	▪

PLAN / IMPLEMENT / FOLLOW-UP

	Treatment Goal(s)	Cure/reduce symptoms, correct lab/vitals, minimize/avoid ADE/DDI, prevent complications, reduce morbidity/mortality ▪

		Efficacy monitoring	Toxicity/adverse effects monitoring
Recommended Drug Therapy	▪ **Current therapy** (continue/increase/decrease/stop): ▪ **New drug therapy** (start): Drug name(s), strength, dose, route, dosing frequency ± duration of therapy		
Non-Drug Therapy	Patient-specific lifestyle modifications (e.g., specific targets for diet, exercise, tobacco, alcohol, actions to do/avoid…) ▪		
Monitor/Follow-up ▪ What ▪ When ▪ With who		**Efficacy monitoring** ▪ What monitoring (S/O) parameters will indicate if therapy is working? ▪ How often should parameters be checked?	**Toxicity/adverse effects monitoring** ▪ What monitoring (S/O) parameters will indicate if ADEs or toxicity is occurring? ▪ How often should monitoring occur? ▪ How would ADEs or toxicity be managed?
Patient Education (for selected plan) 3 Prime Questions Disease education ± **Coordinate Care** ± **Documentation**	▪ What the drug is for: indication/symptoms being treated, why the drug is needed/preferred for this patient ▪ How to take it: medication name(s), dose, frequency, duration, administration, how to optimize adherence ▪ **What to expect:** onset, common side effects and how to manage, potential drug interactions, missed doses, storage ▪ General care/preventative measures ▪ Lifestyle changes/non-drug therapy ▪ ± Considerations for ensuring access to medication (e.g., who will prescribe, where to get medication, cost) ± Communicate plan to other providers (e.g., document in health record, phone call, provide written summary to patient)		