UC San Diego

SKAGGS SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

Advanced Pharmacy Practice Experience (APPE)
Ambulatory Care

SPPS 401A
SPPS 401B

Office of Experiential Education (OEE)

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I. Course Description: SPPS 401A, 401B (8 units)

SPPS 401A or 401B is a six week, supervised clinical pharmacy experience in ambulatory care. Through observation and practice, students will develop and explore roles in ambulatory care practice settings. 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 regarding their medication therapy, in addition to educating pharmacists and/or other health care providers regarding the appropriate use of medications. Students will use evidence-based information to advance patient care. Ambulatory care patient interactions may be face to face, over the telephone, or via telemedicine (while working onsite or remotely). In addition, students may have opportunities in the expanding areas of Medication Therapy Management (MTM) practice and transitional care with ambulatory patients.

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.

II. Prerequisites

Students must:

A. Have successfully completed didactic pharmacy years 1-3.
B. Have successfully completed all Introductory Pharmacy Practice Experience (IPPE) requirements.
C. Meet eligibility requirements to progress to APPEs per SSPPS Progression Policy.
D. Meet expectations of professionalism as stated in the SSPPS Guidelines on the Evaluation of Professionalism.
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.

III. 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 ambulatory 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.

IV. Course Objectives, Example Activities, and Link to PPCP[1]

Course Objectives	Example Learning Activities	PPCP
1. Demonstrate ethical and professional behavior in all practice areas.	• Demonstrate ethical and professional behavior in all practice activities. • Adhere to patient privacy standards and ethical principes, in verbal and written communications. • 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.	n/a
2. Demonstrate appropriate depth and breadth of pharmacotherapeutics and disease-related knowledge for a variety of common conditions seen in patients in the ambulatory care setting.	• 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 didactic curriculum, be able to efficiently locate appropriate literature resources.	n/a
3. Collect information necessary to identify and diagnose a patient's medication-related problems and health-related needs. (EPA 1)	• Collect a history from a patient or caregiver. • Collect a medication history from a patient or caregiver. • Collect a patient's experience with medication. • Collect information related to barriers for patients to take their medication(s). • Collect objective information from the patient (e.g., physical exam, point of care testing). • Collect data from a patient's electronic health, digital health, or medication record.	Collect

4. Assess collected information to determine a patient's medication-related problems and health-related needs. (EPA 2)	• Assess the indication of the medication treatment plan. • Assess the safety of the medication treatment plan including drug interactions. • Assess the effectiveness of medication treatment plans, including existing, previous, and new medications. • Assess the alignment of the medication plan with the patient's goals, needs, abilities, values, and beliefs. • Assess the relative priority of each health-related need of the patient to create a prioritized problem list. • Assess if a patient requires a referral for their health-related needs. • Assess whether a patient is eligible for CDC-recommended immunizations.	Assess
5. Create a care plan in collaboration with the patient, others trusted by the patient, and other health professionals to optimize pharmacologic and nonpharmacologic treatment. (EPA 3)	• Create person-centered treatment goals. • Create a prioritized list of evidence-based and patient-centered treatment options to discuss with members of the healthcare team/patient/caregiver(s). • Create a person-centered treatment plan. • Create a plan to mitigate the risk of drug interactions and polypharmacy. • Create a treatment plan that incorporates potential strategies to minimize cost for the patient, such as formulary review, patient assistance programs, medication discount programs. • Create a plan to monitor the safety and efficacy of the treatment plan.	Plan

	• Create an individualized education plan for the patient and/or caregiver.	
6. Contribute patient specific medication-related expertise as part of an interprofessional care team. (EPA 4)	• Explain a pharmacist's role and responsibilities to the health care team. • Apply the PPCP as a member of an interprofessional team. • Communicate a patient's medication-related problem(s) to the health care team. • Provide recommendations to the healthcare team to resolve and/or monitor medication-related problems. • Provide evidence-based drug information to the health care team.	Plan
7. Answer medication related questions using scientific literature. (EPA 5)	• Ask clarifying questions to identify and address the true question. • Perform a systematic search of tertiary, secondary, and primary resources. • Identify and retrieve high-quality scientific literature. • Analyze scientific literature. • Provide a written or verbal response to the true question, including findings and recommendations.	Plan
8. Implement and prescribe a care plan in collaboration with the patient, others trusted by the patient, and other health professionals. (EPA 6)	• Initiate, modify, or discontinue medication therapy. • Present necessary information to a colleague during a handoff or transition of care. • Schedule follow-up care as needed (e.g., labs or tests, follow-up appointments). • Document the findings, recommendations, plan, and pharmacy services provided. • Discuss the care plan with a patient and/or others trusted by the patient.	Implement

9. Fulfill a medication order. (EPA 7)	• Enter an order or prescription into an electronic health or pharmacy record system. • Perform calculations required to compound, dispense, and administer medications. • Perform a prospective drug utilization review. • Adjudicate a third-party claim. • Identify and manage drug therapy problems. • Consider formulary preferred medications when making recommendations. • Complete an authorization process for a non-preferred medication. • Assist a patient to acquire medication(s) through support programs. • Adhere to state and federal laws/regulations and site quality and safety procedures.	Implement
10. Educate the patient and others trusted by the patient regarding the appropriate use of a medication, device to administer a medication, or self-monitoring test. (EPA 8)	• Provide education and self-management training to the patient or caregiver. • Assess the learning needs of a patient and others trusted by the patient. • Select a method for providing education in the given environment. • Actively engage the patient in the education session. • Identify, select, or develop supportive education materials (e.g., written, models, demonstration devices, videos). • Adapt the terminology and verbal delivery of information. • Determine the effectiveness of education provided by assessing a patient's understanding and/or their ability to demonstrate the technique.	Implement

	• Reinforce key points, correct misunderstandings, or address gaps with the patient as needed.	
11. Monitor and evaluate the safety and effectiveness of a care plan. (EPA 9)	• 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.	Follow up: Monitor and evaluate
12. Report adverse drug events and/or medication errors in accordance with site specific procedures (EPA 10)	• Identify factors of system(s) (e.g., personnel, infrastructure, interfaces) associated with errors or risk of errors. • Determine points of intervention within system(s) to prevent or minimize medication-related errors. • Report and document adverse drug events and medication errors to stakeholders.	Follow up: Monitor and evaluate
13. Deliver medication or health-related education to health professionals or the public. (EPA 11)	• Lead a discussion regarding published primary literature and its application to patient care (e.g., journal club). • Develop and deliver a verbal, digital, or written medication or health-related educational program to health professional(s), a community, or other groups.	n/a
14. Identify populations at risk for prevalent diseases and preventable adverse medication outcomes. (EPA 12)	• Perform a screening assessment to identify patients at risk for prevalent diseases in a population and triage, when needed. • Evaluate individual and/or aggregated patient data to determine patients or populations at risk for a disease.	n/a

[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. 2023 June; 87: 100562. https://doi.org/10.1016/j.ajpe.2023.100562

V. Evaluations

A. Grading will be Pass/Fail.
B. Three evaluations using the standardized Pharmacy Evaluation Form are required for this course:
    i. 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.
    ii. Preceptor & Site Evaluation: Separate online evaluations completed by the student at the end of the rotation.
    iii. 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. Use of Generative Artificial Intelligence (AI)

The use of generative AI tools in clinical or experiential settings is strictly regulated, and misuse can lead to serious consequences, including but not limited to violations of the Health Insurance Portability and Accountability Act (HIPAA) and causing harm to patients. Generative AI is to be used as an assistive tool and should never be used as a substitute for clinical or professional judgment.

SSPPS students are responsible for staying informed about and adhering to the guidelines for using approved generative AI tools at their practice sites. Students are advised to ask preceptors and/or site coordinators about each site's generative AI use policy during orientation to the practice site. In the absence of a generative AI use policy at the practice site, the use of such tools should be assumed to be prohibited.

VII. Resources

A. SSPPS References: Students & Preceptors
B. UC San Diego Intranet ("Pulse") Medication Resources
C. Online Clinical Library Resources
    1. Clinical Pharmacology
    2. Micromedex
    3. DynaMed
    4. UptoDate
    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*. 21st ed., American Pharmacists Association, 2024.
    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 PPCP template.
F. Journal club format: PIES Method of Critique
G. As specified per individual rotation site/preceptor.

Appendix 1

Student Presentation and/or Conference (example)

The student may be required, by the preceptor, to present a drug or disease related topic related to ambulatory care. 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: Pharmacist Patient Care Process (PPCP) Template

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, O_2 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 ▪

	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/ **Preventative Care**	Patient-specific lifestyle modifications (e.g., specific targets for diet, exercise, tobacco, alcohol, actions to do/avoid…) ▪	
	Monitor/Follow-up ▪ What ▪ When ▪ Who ▪ How	**Efficacy monitoring** ▪ What monitoring (S/O) parameters will indicate if therapy is working? ▪ How often should parameters be checked? ▪ Next steps if goal(s) not achieved	**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 ▪ Lifestyle changes/non-drug therapy ▪ What needs to be done for follow-up (e.g., clinic/telehealth visit, phone call, labs, home monitoring), when, and with who ▪ ± Considerations for addressing medication access, SDOH (e.g., where/how to get med, cost, adherence barriers) ▪ ± Communicate plan to other providers (e.g., document in health record, phone call, provide written summary to patient)	