

## Industrial Pharmacy Rotation (SPEP2–6): Learning Objectives

Pharmacy students are trained in accordance with the NAPRA Entry-to-Practice Competencies (2024). By the end of the Industrial Elective Rotation, the student will be able (but not be limited) to achieve the following outcomes:

### Domain 1: Product Quality & Safety

- Demonstrate understanding of Good Manufacturing Practices (GMP), Good Laboratory Practices (GLP), and Standard Operating Procedures (SOPs).
- Observe and describe steps in the production and packaging of different dosage forms, including documentation and quality control.
- Participate in quality assurance/quality control (QA/QC) activities, such as review of batch records, deviation reports, or in-process checks.
- Shadow activities in the warehouse/logistics unit, understanding raw material receipt, storage, distribution, and documentation.
- Identify potential quality or safety risks in the production pipeline and discuss preventive strategies with supervisors.

### Domain 2: Knowledge and Expertise

- Apply knowledge of formulation science, excipients, and bioequivalence in discussions related to product development.
- Conduct a drug information question (DIQ) related to industrial or regulatory practice (e.g., GMP updates, regulatory filing requirements).
- Perform a supervised literature search and prepare a journal club presentation on a topic relevant to industrial pharmacy (R&D, pharmacovigilance, new manufacturing technology).
- Gain familiarity with regulatory submission processes, including product registration, stability data, and compliance with local and international standards.
- Demonstrate understanding of pharmacovigilance and post-marketing surveillance procedures.

### Domain 3: Communication and Collaboration

- Communicate effectively with supervisors, QA/QC staff, production teams, and regulatory departments in a professional manner.
- Prepare and deliver at least one oral or poster-style presentation summarizing a project, QA activity, or R&D finding.
- Collaborate with interdepartmental teams (QA, production, supply chain, regulatory) to understand the integrated nature of industry workflows.
- Document findings and tasks clearly in professional reports, logs, or templates following company standards.

### Domain 4: Leadership and Stewardship

- Demonstrate initiative in contributing to small-scale assignments/projects (e.g., QA trending, SOP review, regulatory compliance check).
- Participate in problem-solving exercises related to production, quality issues, or supply chain disruptions.
- Reflect on the role of pharmacists in the pharmaceutical industry in ensuring medication quality, accessibility, and public trust.
- Show accountability and independence in assigned tasks while seeking guidance when needed.
- Observe and understand the role of regulatory affairs, logistics, and marketing/sales departments in supporting safe product distribution.

### **Domain 5: Professionalism**

- Maintain punctuality, accountability, and professional attire throughout the rotation.
- Demonstrate ethical decision-making when faced with issues of data integrity, product quality, or regulatory compliance.
- Respect confidentiality of company data and intellectual property.
- Accept feedback constructively and reflect on areas of improvement in professional practice.
- Demonstrate scholarly professionalism through journal club, DIQ responses, and presentation of an assigned project.