

# COURSE SYLLABUS

Degree Program: BS Pharmacy (2018)

## Program Learning Outcomes:

PLO 1: Practice pharmacy in a professional, legal and ethical manner with commitment for continuing professional development

PLO 2: Work effectively with inter- and multi-professional teams in various settings to manage medicines-related issues of individuals, communities and health facilities

PLO 3: Communicate medicines information effectively to patients, carers, healthcare providers, community members and other stakeholders

PLO 4: Produce quality pharmaceutical products to achieve optimum health outcomes for patients and communities

PLO 5: Disseminate research findings to improve medication use, pharmacy education and pharmacy service delivery

## A. Course Catalogue Description

**Course Title:** Advanced Practice Experience in Industrial Pharmacy

|                                      |                                   |                                          |                                         |                                              |
|--------------------------------------|-----------------------------------|------------------------------------------|-----------------------------------------|----------------------------------------------|
| <b>Course Number:</b> Clin Pharm 191 | <b>Credit Units:</b><br>7.5 units | <b>Number of<br/>Hours:</b> 300<br>hours | <b>Year Level<br/>offered:</b> 5th year | <b>Semester<br/>Offered:</b> 1st<br>Semester |
|--------------------------------------|-----------------------------------|------------------------------------------|-----------------------------------------|----------------------------------------------|

**Meeting Type/Instructional Format:** Internship

**Course Description:** This 7.5-unit, 300-hour internship course provides 5th-year pharmacy students with hands-on experience in the pharmaceutical industry. Students gain practical exposure to pharmaceutical manufacturing, quality assurance, quality control, regulatory compliance, supply chain management, and research & development processes. Under supervision of industry preceptors, students learn to apply Good Manufacturing Practices (GMP), ensure product quality, safety, and efficacy, and collaborate with multidisciplinary teams.

**Prerequisites:** 5th Year Standing

**Corequisites:** N/A

**Course Stipulation (if any)**

|                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  |                        |  |
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| <b>Course Goals:</b>                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               | This course aims to provide advanced practice experience in industrial pharmacy, enabling students to apply and integrate their knowledge, skills, and attitudes acquired throughout their pharmacy education in a real-world pharmaceutical industry setting |  |  |                                  |             |             |             |             |  |                        |  |
| <b>B. Relationship of Course Learning Outcomes to Program Learning Outcomes</b>                                                                                                                                                                                                                                 |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  | <b>Program Learning Outcomes</b> |             |             |             |             |  |                        |  |
| <b>Course Learning Outcomes</b>                                                                                                                                                                                                                                                                                 |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  | <b>PLO1</b>                      | <b>PLO2</b> | <b>PLO3</b> | <b>PLO4</b> | <b>PLO5</b> |  |                        |  |
| CLO1:                                                                                                                                                                                                                                                                                                           | Perform pharmacy-related roles, activities and tasks in the pharmaceutical industry setting under the supervision of preceptors and in collaboration with other team members. |                                                                                                                                                                                                                                                               |  |  | R                                | R           | R           | R           | R           |  |                        |  |
| I – Introduced      D- Demonstrated      R- Reinforced                                                                                                                                                                                                                                                          |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  |                        |  |
| <b>C. Course Content</b>                                                                                                                                                                                                                                                                                        |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  |                        |  |
| <b>Topics</b>                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  | <b>Number of Hours</b> |  |
| I. Introduction and Professional Preparation<br>A. Curriculum vitae & Cover Letter preparation<br>B. Introduction to the internship program<br>C. Overview of the pharmaceutical industry<br>D. Internship expectations and evaluations<br>E. Health and safety protocols<br>F. Company policies and procedures |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  | 8                      |  |
| II. Assignment in Various Establishments in the Pharmaceutical Industry<br><br>A. Current Good Manufacturing Practices (GMP)<br>B. Quality assurance systems and documentation<br>C. Good Clinical Practices (GCP)<br>D. Pharmacovigilance system and reporting<br>E. Pharmaceutical supply chain management    |                                                                                                                                                                               |                                                                                                                                                                                                                                                               |  |  |                                  |             |             |             |             |  | 292                    |  |

F. Procurement, storage, and distribution practices

## D. Course Coverage

| Week | Learning Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | LLOs with CLOs | Course Topics                                                                                                                                                                                                                                                                            | Essential or Key Questions                                                                                                                                                                                                                                                                                                   | Teaching and Learning Activities                                     | Assessment Methods and Tools                                                                                                                                                                                                   | Core Readings/Learning Resources                                      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1-3  | <p><u>General Objective:</u><br/>Perform pharmacy-related roles, activities and tasks in the pharmaceutical industry setting under the supervision of preceptors and in collaboration with other team members.</p> <p><u>Specific Objectives:</u></p> <ol style="list-style-type: none"> <li>1. Understand the structure and objectives of the internship program.</li> <li>2. Prepare professional documents (CV &amp; Cover Letter).</li> <li>3. Learn about the pharmaceutical industry (history, structure, scope).</li> <li>4. Acquire knowledge of health and safety protocols.</li> <li>5. Understand company policies, procedures, expectations, and evaluation process.</li> </ol> | CLO1           | <p>I. General Orientation</p> <p>A. Curriculum vitae &amp; Cover Letter</p> <p>B. Introduction to the internship program</p> <p>C. Overview of the pharmaceutical industry</p> <p>D. Internship expectations and evaluations</p> <p>E. Health and safety protocols</p> <p>F. Company</p> | <p>What is the structure and objectives of the internship program?</p> <p>What is the history, structure, and scope of the pharmaceutical industry?</p> <p>What health and safety protocols govern the pharmaceutical environment?</p> <p>What responsibilities does a pharmacist have in your assigned internship site?</p> | <ul style="list-style-type: none"> <li>• Learning Modules</li> </ul> | <p><u>Formative Assessment:</u></p> <ul style="list-style-type: none"> <li>• Learning Modules/Worksheet</li> </ul> <p><u>Summative Assessment:</u></p> <ul style="list-style-type: none"> <li>• Written Examination</li> </ul> | <ul style="list-style-type: none"> <li>• Internship Manual</li> </ul> |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                  |                                                                                                                                                                                                                                                                                                  |                                                                       |
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|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | policies and procedures                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                  |                                                                                                                                                                                                                                                                                                  |                                                                       |
| 4-16 | <p><u>General Objective:</u><br/>Perform pharmacy-related roles, activities and tasks in the pharmaceutical industry setting under the supervision of preceptors and in collaboration with other team members.</p> <p><u>Specific Objectives:</u></p> <ol style="list-style-type: none"> <li>1. Be deployed to assigned pharmaceutical industry sites (e.g., manufacturing, regulatory affairs, supply chain) for supervised experiential learning.</li> <li>2. Complete the cGMP and Quality Assurance module, focusing on production standards, QA systems, and documentation practices.</li> <li>3. Obtain a Good Clinical Practice (GCP) Certificate by completing the required training module.</li> <li>4. Complete the Pharmacovigilance module, focusing on monitoring and reporting systems.</li> <li>5. Complete the</li> </ol> | CLO1 | <p>I. Assignment in Various Establishments in the Pharmaceutical Industry</p> <p>A. Current Good Manufacturing Practices (GMP)</p> <p>B. Quality assurance systems and documentation</p> <p>C. Good Clinical Practices (GCP)</p> | <p>What are the principles of <b>cGMP</b> and how do they ensure product quality and safety?</p> <p>How are <b>QA systems and documentation</b> applied in the pharmaceutical industry?</p> <p>Why is <b>GCP certification</b> essential for regulatory compliance and ethical clinical research?</p> <p>What mechanisms are used in <b>pharmacovigilance systems</b> to monitor and</p> | <ul style="list-style-type: none"> <li>• Internship deployment</li> <li>• Learning Modules</li> <li>• Group Reporting</li> </ul> | <p><u>Formative Assessment:</u></p> <ul style="list-style-type: none"> <li>• Preceptor Evaluation</li> <li>• Daily Journals</li> <li>• Learning Modules/Manual</li> <li>• Reporting</li> </ul> <p><u>Summative Assessment:</u></p> <ul style="list-style-type: none"> <li>• Exit Exam</li> </ul> | <ul style="list-style-type: none"> <li>• Internship Manual</li> </ul> |

|  |                                                                                                                                                                                                                                                      |  |                                                                                                                                                                    |                                                                                                                                                                                |  |  |  |
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|  | <p>Pharmaceutical Supply Chain Management module, covering procurement, storage, and distribution practices.</p> <p>6. Integrate knowledge of compliance, workplace safety, and professional ethics into both modules and internship activities.</p> |  | <p>D. Pharm acovigilance system and reporting</p> <p>E. Pharm aceutical supply chain management</p> <p>F. Procur ement, storage , and distrib ution practic es</p> | <p>report adverse events?</p> <p>How do <b>procurement, storage, and distribution practices</b> maintain the integrity of pharmaceutical products across the supply chain?</p> |  |  |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

#### E. Course Requirements

|   |                                              |
|---|----------------------------------------------|
| 1 | 300 hours of rotation in industrial pharmacy |
| 2 | Internship Logs                              |
| 3 | Module Worksheets                            |
| 4 | Exit Report                                  |
| 5 | Special Project                              |
| 6 | Exit Exam                                    |

#### F. Assessment Plan (formative and summative evaluation)

## SAMPLE ASSESSMENT PLAN

| COURSE ASSESSMENT PLAN       |                                                                                                              |
|------------------------------|--------------------------------------------------------------------------------------------------------------|
| Assessment Component         | Course Learning Outcomes                                                                                     |
|                              | CLO1                                                                                                         |
| Preceptor Evaluation (60%)   | Standardized evaluation form                                                                                 |
| Exit Exam (10%)              | Multiple-choice, case-based, and essay-type questions                                                        |
| Exit Report (7.5%)           | Rubric-based assessment (relevance, completeness, delivery, visual aids, Q&A)                                |
| Special Project (7.5%)       | Rubric-based assessment (problem identification, comprehensiveness of SOP, stakeholder integration, clarity) |
| Worksheet (10%)              | Module worksheets (cGMP, QA, Pharmacovigilance, Supply Chain) + GCP certificate submission                   |
| Daily Logs (5%)              | Reflective entries                                                                                           |
| FORMATIVE ASSESSMENT METHODS |                                                                                                              |
| Worksheets<br>Mentoring      |                                                                                                              |

*Summative = assessment of learning*

## SAMPLE FORMATIVE ASSESSMENT

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Activity<br><b>1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Creating a Curriculum Vitae and Cover Letter |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WORKSHEET (INDIVIDUAL)                       |
| Name: _____ Section: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                              |
| <b>Instructions:</b> <ul style="list-style-type: none"> <li>• Attach your <b>Curriculum Vitae (CV)</b> and a <b>Cover Letter</b> addressed to the company or organization where you are applying for an internship. You may choose any <b>industrial pharmacy company</b> (e.g., manufacturing, quality assurance/quality control, regulatory affairs, or research and development).</li> <li>• Make sure your CV and cover letter are <b>tailored to the specific role</b> you are applying for.</li> <li>• After completing your documents, answer the common interview questions below. Please keep your answers <b>brief (maximum of 3 sentences each)</b> and, where possible, support them with <b>specific examples from your coursework, projects, or organizational experiences</b>.</li> </ul> |                                              |
| <b>What are your strengths and weaknesses?</b><br><i>(Tip: Focus on strengths that match the role and weaknesses that you are actively working to improve.)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                              |
| <div style="border: 1px solid black; height: 80px; width: 100%;"></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                              |
| <b>Describe a time when you successfully worked as part of a team.</b><br><i>(Tip: Think of a group project, organizational activity, or lab work. Explain your role and the outcome.)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                              |
| <div style="border: 1px solid black; height: 40px; width: 100%;"></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                              |

*Formative = assessment for learning*

| G. References                                                                                                                                                               |                                                                                                                                                    |
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| 1                                                                                                                                                                           | Government of the Philippines. (2016). Republic Act 10918: The Philippine Pharmacy Act. Manila: Government of the Philippines.                     |
| 2                                                                                                                                                                           | Philippine Association of Colleges of Pharmacy (PACOP) Manual for Industrial Pharmacy Practice (2022).                                             |
| 3                                                                                                                                                                           | Salenga RL, et al. (2015). Philippine Practice Standards for Pharmacists. Manila: Philippine Pharmacists Association.                              |
| 4                                                                                                                                                                           | University of Arkansas Medical Science. (2021-2022). Advanced Pharmacy Practice Experience (APPE) Manual.                                          |
| 5                                                                                                                                                                           | University of Findlay College of Pharmacy. (2020-2021). Doctor of Pharmacy Advanced Pharmacy Practice Experience (APPE) Resource Manual.           |
| H. List of Faculty                                                                                                                                                          |                                                                                                                                                    |
| 1                                                                                                                                                                           | Imelda G. Peña, RPh, MS, DrPH<br>Professor 7<br>Department of Clinical, Social and Administrative Pharmacy<br>Email: idpena@up.edu.ph              |
| 2                                                                                                                                                                           | Jean Flor C. Casauay, RPh, MS<br>Assistant Professor 7<br>Department of Clinical, Social and Administrative Pharmacy<br>Email: jccasauay@up.edu.ph |
| 3                                                                                                                                                                           | Adrian Chester P. Uy, RPh, RChT<br>Instructor 4<br>Department of Clinical, Social and Administrative Pharmacy<br>Email: apuy5@up.edu.ph            |
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| UPM-(ISO college code)-TP-01<br>Revision 0                                                                                                                                  |                                                                                                                                                    |
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