

Table 1: Overall mean and SD for PLO 1A indicators.

PLO 1A Indicators	3rd year mean	4th year mean	Mean	SD	Description
1. Determining biological activities of phytochemical constituents in PMPs	3.33	3.48	3.41	0.11	HC
2. Applying the appropriate method of extraction and purification.	3.08	3.24	3.16	0.11	C
3. Writing and naming chemical formula of pharmaceutical agents.	3.13	3.62	3.37	0.35	HC
4. Classifying inorganic and organic pharmaceutical agents based on properties and structures.	3.17	3.76	3.46	0.42	HC
5. Identifying the uses of organic and inorganic compounds based on structures.	3.21	3.52	3.36	0.22	HC
6. Categorising inorganic and organic substances.	3.38	3.62	3.50	0.17	HC
7. Performing tests for quality and purity of representative drugs in the official monograph.	3.08	3.14	3.11	0.04	C
8. Conducting qualitative methods of analysis for each of the natural products or constituents.	3.00	3.10	3.05	0.07	C
9. Interpreting the results of the different chemical, physical and biological methods of drug analysis.	3.04	3.31	3.18	0.19	C
10. Formulating pharmaceutical dosage forms based on the properties, types and incompatibilities of substances.	3.38	3.34	3.36	0.02	HC
11. Selecting the most appropriate pharmaceutical aid and/or necessity, organic and inorganic compounds to be used in preparing product formulation.	3.29	3.34	3.32	0.04	HC
12. Selecting the most appropriate type of water and/or other appropriate solvents to be used in different compounding situations.	3.25	3.45	3.35	0.14	HC
13. Synthesising simple organic and inorganic compound products.	3.08	3.28	3.18	0.14	C

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Table 1: (continued)

PLO 1A Indicators	3rd year mean	4th year mean	Mean	SD	Description
14. Application of Pharmaceutical Inspection Co-operation Scheme Guidelines and Good Manufacturing Practice for ASEAN Countries in industrial pharmacy practice.	3.29	3.52	3.40	0.16	HC
15. Performing the actual procedure of extemporaneous compounding of TPNs and paper tablets, among others.	3.42	3.28	3.35	0.10	HC
16. Manufacturing different dosage forms based on the basic pharmaceutical principles, processes, methods and techniques.	3.25	3.14	3.19	0.08	C
17. Evaluating the most appropriate container to be used for different dosage forms and in consideration of the characteristics of drugs to be prepared.	3.58	3.45	3.52	0.10	HC
18. Designing the appropriate product packaging including product container, compatibility, label format and product insert.	3.88	3.38	3.63	0.35	HC
19. Labelling the product properly (i.e. legible, comprehensible and complete).	4.00	3.76	3.88	0.17	HC
Grand Mean and SD	3.31	3.41	3.36	0.20	HC

Table 2: Overall mean and SD for PLO 1B indicators.

PLO 1B Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Demonstrating proper handling and storage conditions to ensure stability of the products.	3.78	3.66	3.72	0.09	HC
2. Receiving the prescriptions for drugs properly (e.g. cross-checking the name and identity of the patient on the prescription).	3.78	3.79	3.79	0.01	HC
3. Asking proper screening questions before dispensing.	3.87	3.83	3.85	0.03	HC
4. Assessing the authenticity and validity of the prescription, assessing the accuracy of information in the prescription, and not filling the violative and impossible prescriptions.	3.87	3.83	3.85	0.03	HC
5. Rechecking the original label of the product against the prescription.	3.87	3.86	3.87	0.01	HC
6. Indicating number and date on the prescription accordingly (if completely filled or partially filled).	3.74	3.83	3.78	0.06	HC
7. Issuing medicine to the patient with clear instructions and advice (e.g. Proper reconstitution of powders/granules).	3.74	3.69	3.71	0.03	HC
8. Using consistent and repeated good dispensing procedures in ensuring that errors are detected and corrected.	3.83	3.76	3.79	0.05	HC
Grand Mean and SD	3.81	3.78	3.80	0.06	HC

Table 3: Overall mean and SD for PLO 2A indicators.

PLO 2A Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Complying with the laws, regulations and ethical responsibilities of pharmacists to protect and ensure the well-being of their patients.	3.83	3.79	3.81	0.03	HC
2. Continuing professional knowledge on regulatory policies and laws by keeping abreast to current regulations.	3.71	3.62	3.66	0.06	HC
3. Being involved in the planning and implementations of establishing practical, technical, ethical and regulatory policies within the organisation.	3.50	3.41	3.46	0.06	HC
4. Providing all necessary information regarding the substandard and falsified medical products to support applications or submission.	3.42	3.24	3.33	0.12	HC
5. Reporting and handling adverse events, adverse drug reactions and substandard and falsified medicines.	3.50	3.52	3.51	0.01	HC
6. Evaluating adverse events/adverse drug reactions and submission of findings to regulatory authorities.	3.33	3.52	3.43	0.13	HC
7. Illuminating the role of pharmacist in post marketing surveillance and risk management plan.	3.75	3.66	3.70	0.07	HC
8. Engaging stakeholders to participate in the reporting and managing of adverse effects/adverse drug reactions.	3.33	3.59	3.46	0.18	HC
9. Handling product complaints and product integrity issues.	3.21	3.41	3.31	0.15	HC
10. Sampling randomly from drug outlets which are needed for quality testing.	3.00	3.03	3.02	0.02	C

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Table 3: (continued)

PLO 2A Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
11. Recalling products from the market in accordance with organisational and regulatory policies and procedures.	3.17	3.10	3.14	0.04	C
12. Communicating the recall with regulatory authorities.	3.17	3.00	3.08	0.12	C
13. Ensuring that the organisational policies and procedures implemented by the company are properly documented.	3.46	3.55	3.51	0.07	HC
14. Ensuring that the manufacturing and quality controls conform consistently to the specifications documented in the registration file.	3.29	3.28	3.28	0.01	HC
15. Obtaining documents required to ensure compliance of business operations.	3.54	3.45	3.50	0.07	HC
16. Enacting the laws relevant to the pharmacy practice into day-to-day activities.	3.79	3.76	3.78	0.02	HC
Grand Mean and SD	3.44	3.43	3.44	0.24	HC

Table 4: Overall mean and SD for PLO 2B indicators.

PLO 2B Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Enacting the code of ethics for pharmacists relevant to the pharmacy practice into day-to-day activities.	3.83	3.79	3.81	0.03	HC
2. Applying knowledge of personal, social, ethical and moral principles of the pharmacy practice.	3.88	3.83	3.85	0.03	HC
3. Practicing what a Filipino pharmacist took oath to do in concordance with ethics and morality.	3.92	3.86	3.89	0.04	HC
4. Working ethically and effectively in the practice areas of pharmacy.	3.75	3.83	3.79	0.05	HC
5. Engaging in lifelong learning with a passion to keep current with national and global developments in general and with pharmacy and health developments.	3.83	3.86	3.85	0.02	HC
Grand Mean and SD	3.84	3.83	3.84	0.04	HC

Table 5: Overall mean and SD for PLO 3 indicators.

PLO 3 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Actively participating in the functions and adhering to policies of the Pharmacy and Therapeutics Committee.	3.58	3.59	3.58	0.00	HC
2. Applying knowledge of the roles and responsibilities of other health care team members to patient care.	3.79	3.79	3.79	0.00	HC
3. Developing a good network and readily approaching peers, co-workers and/or superior for assistance as necessary.	3.83	3.79	3.81	0.03	HC
4. Collaborating with other members of the health care team to achieve optimal patient outcomes across the continuum of care.	3.88	3.83	3.85	0.03	HC
5. Communicating effectively in counseling patients and/or the patient's caregiver about the patient's medication following the correct process.	3.83	3.83	3.83	0.00	HC
6. Contributing to the development of a health vigilance system within the organisation.	3.63	3.72	3.67	0.07	HC
7. Communicating to the regulatory authorities, any changes in the formulations, manufacturing process, testing procedures and supplier of raw materials and other pertinent details of a registered product.	3.42	3.55	3.48	0.10	HC
Grand Mean and SD	3.71	3.73	3.72	0.14	HC

Table 6: Overall mean and SD for PLO 4 indicators.

PLO 4 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Interpreting laboratory test and physical assessment results.	3.50	3.41	3.46	0.06	HC
2. Evaluating the patient's need to identify the amount of education and type of information needed to optimise medication use.	3.79	3.69	3.74	0.07	HC
3. Relating various physiologic and pathophysiologic conditions of normal and special populations to effects in pharmacokinetics of drugs.	3.67	3.55	3.61	0.08	HC
4. Identifying problems arising from abnormalities of endocrine functions.	3.38	3.38	3.38	0.00	HC
5. Describe risk factors for hypertension and the impact on cardiovascular diseases/conditions such as angina, arrhythmia and congestive heart failure.	3.79	3.69	3.74	0.07	HC
6. Designing and documenting accurately a medication counseling plan to address the needs of individual patients and a monitoring plan towards the desired therapeutic outcomes.	3.75	3.79	3.77	0.03	HC
7. Providing appropriate drug information based on prescription to achieve the goal of treating the infectious disease.	3.88	3.76	3.82	0.08	HC
8. Providing usable information to patients/customers relating to natural products which are used as ingredients of herbal supplement.	3.63	3.62	3.62	0.00	HC
9. Identifying and prioritising patient problems and medication-related needs.	3.88	3.83	3.85	0.03	HC
Grand Mean and SD	3.69	3.64	3.67	0.16	HC

Table 7: Overall mean and SD for PLO 5 indicators.

PLO 5 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Identifying relevant drug interactions based on pharmacokinetic principles.	3.92	3.83	3.87	0.06	HC
2. Probing what the doctor has told the patient about the drug that has been prescribed.	3.75	3.72	3.74	0.02	HC
3. Asking proper relevant screening questions before dispensing.	3.88	3.76	3.82	0.08	HC
4. Providing non-drug related counselling (e.g. health and wellness maintenance) before dispensing.	3.83	3.83	3.83	0.00	HC
5. Preventing relevant drug interactions based on pharmacokinetic principles.	3.83	3.76	3.80	0.05	HC
6. Resolving relevant drug interactions based on pharmacokinetic principles.	3.79	3.72	3.76	0.05	HC
7. Proposing drug delivery system and routes of administration suitable for individualised therapeutic objectives (including economic considerations).	3.75	3.59	3.67	0.12	HC
8. Evaluating the medication regimen of the patient.	3.83	3.76	3.80	0.05	HC
9. Addressing medication-related problems.	3.71	3.86	3.79	0.11	HC
10. Suggesting modifications in dosing and dosage regimens, when necessary, in normal and special populations and using data from Therapeutic Drug Monitoring.	3.54	3.72	3.63	0.13	HC
11. Designing dosing regimens in standard and special populations including those with altered physiological states and economic considerations.	3.38	3.66	3.52	0.20	HC
12. Developing/initiating therapeutic plans.	3.63	3.69	3.66	0.05	HC
13. Evaluating drug therapy for appropriateness, effectiveness, safety, adherence and affordability.	3.83	3.86	3.85	0.02	HC

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Table 7: (continued)

PLO 5 Indicators		3rd year mean	4th year mean	Mean	SD	Description
14	Evaluating the evidence-based treatment plan for patients with renal disorders based on race, concomitant disease, drug adverse effects & drug interactions.	3.75	3.62	3.69	0.09	HC
15.	Evaluating the treatment plan for patients with GI disorders based on the etiology of ulcer & motility disorders.	3.54	3.62	3.58	0.06	HC
16.	Evaluating the treatment plan for patients with auto-immune disorders, dermatologic and hematologic disorders.	3.46	3.52	3.49	0.04	HC
17.	Evaluating the treatment plan for patients with hypertension based on race, concomitant disease, drug adverse effects & drug interactions.	3.71	3.62	3.66	0.06	HC
18.	Following up and monitoring the outcomes of therapeutic plans.	3.75	3.62	3.69	0.09	HC
19.	Strictly follow a proper system of arrangement of drugs and supplies.	3.75	3.76	3.75	0.01	HC
20.	Identifying and tagging high alert medicines and sound alike look alike ones.	3.79	3.83	3.81	0.03	HC
Grand Mean and SD		3.72	3.72	3.72	0.11	HC

Table 8: Overall mean and SD for PLO 6 indicators.

PLO 6 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Assigning priorities to task in accordance with goals and objectives to manage efficiently time and other resources.	3.67	3.66	3.66	0.01	HC
2. Properly doing the role of pharmacist in purchasing and inventory management.	3.58	3.83	3.71	0.17	HC
3. Implementing changes to improve own practice or incorporating learning into practice.	3.67	3.79	3.73	0.09	HC
4. Performing the functions of as deemed necessary (e.g. planning, leading, organising and controlling).	3.58	3.76	3.67	0.12	HC
5. Applying the appropriate and suitable management approaches.	3.13	3.17	3.15	0.03	C
6. Solving conflicts using appropriate resolution management strategies suitable for the situation.	3.54	3.66	3.60	0.08	HC
7. Identifying, respecting corporate hierarchies and observing proper channel of communication.	3.46	3.86	3.66	0.29	HC
8. Promoting strong team relationship in practice setting.	3.75	3.66	3.70	0.07	HC
9. Understanding training needs and development.	3.75	3.86	3.81	0.08	HC
10. Conducting performance evaluation by using relevant tools.	3.63	3.76	3.69	0.09	HC
11. Levelling expectation by solving, judging and managing a situation in a given setting or practice area.	3.63	3.83	3.73	0.14	HC
Grand Mean and SD	3.58	3.71	3.65	0.17	HC

Table 9: Overall mean and SD for PLO 7 indicators.

PLO 7 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Performing opportunity assessment with deep understanding of environment and its opportunities.	3.75	3.79	3.77	0.03	HC
2. Following the concepts of entrepreneurship as a spirit frame by understanding dilemmas of an entrepreneur.	3.58	3.72	3.65	0.10	HC
3. Performing the concepts of a complete entrepreneur by understanding holistic attributes of an entrepreneur and the necessities of being creative and innovative.	3.50	3.76	3.63	0.18	HC
4. Performing the competence of a successful entrepreneur by understanding the concepts of self-mastery, situational mastery and enterprise mastery.	3.42	3.72	3.57	0.22	HC
5. Applying SWOT analysis in concordance with Porter's analysis.	3.75	3.72	3.74	0.02	HC
6. Performing benchmarking by understanding item/store improvement, basic factors and creating position articulations.	3.42	3.59	3.50	0.12	HC
7. Performing the integration of all entrepreneurial marketing concepts by demonstrating competence in business appraisal.	3.42	3.52	3.47	0.07	HC
8. Utilising relevant and innovative concepts of entrepreneurship.	3.63	3.72	3.67	0.07	HC
9. Performing the habits (e.g. disciplined, open-minded, confident, among others) of successful entrepreneurs.	3.71	3.69	3.70	0.01	HC
10. Applying the working knowledge of the principles of entrepreneurship to analysis and problem solving.	3.67	3.62	3.64	0.03	HC
11. Applying concepts of business plan by understanding the concepts and importance of pharmaceutical business plan.	3.63	3.69	3.66	0.05	HC
12. Performing contents of the summary and business description and drafting a business plan.	3.54	3.72	3.63	0.13	HC

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Table 9: (continued)

PLO 7 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
13. Applying concepts of Pharmaceutical Industry Analysis by reviewing Porter's Analysis and political, economic, social, technological and ecological analysis.	3.33	3.76	3.55	0.30	HC
14. Utilising pharmaceutical entrepreneurship concepts on a broader context.	3.54	3.69	3.62	0.10	HC
15. Conducting financial analysis to guide allocation and use of organisational resources.	3.50	3.55	3.53	0.04	HC
16. Performing financial analysis of different aspects of the business.	3.42	3.62	3.52	0.14	HC
17. Creating a viable business plan that will increase the pharmaceutical venture chances of success.	3.50	3.69	3.59	0.13	HC
18. Illustrating and discussing the pharmaceutical health care industry and the health care business in the country.	3.71	3.69	3.70	0.01	HC
19. Identifying the core pharmaceutical marketing concepts.	3.63	3.72	3.67	0.07	HC
20. Applying pharmaceutical marketing strategy in building customer relationships by strategic planning, marketing process and marketing effort.	3.67	3.66	3.66	0.01	HC
21. Performing pharmaceutical marketing in both traditional and non-traditional way.	3.58	3.62	3.60	0.03	HC
Grand Mean and SD	3.57	3.68	3.62	0.08	HC

Table 10: Overall mean and SD for PLO 8 indicators.

PLO 8 Indicators	3 rd year mean	4 th year mean	Mean	SD	Description
1. Understanding the importance of research in the different fields of practice of pharmacy.	3.88	3.93	3.90	0.04	HC
2. Demonstrating competence in research, technical writing and data analysis in the workplace.	3.83	3.72	3.78	0.08	HC
3. Writing the different parts of research manuscript.	3.83	3.76	3.80	0.05	HC
4. Conducting research in accordance with existing protocols related to pharmaceutical sciences, education and practice.	3.75	3.83	3.79	0.05	HC
5. Integrating relevant information from literature and studies or devising methodologies operationally.	3.75	3.72	3.74	0.02	HC
6. Critiquing contents of a published research manuscript based on established criteria.	3.75	3.69	3.72	0.04	HC
7. Presenting and defending the said research paper to a technical panel.	3.88	3.86	3.87	0.01	HC
8. Disseminating the results of the said research at a level appropriate to the level of capacity of the audience.	3.79	3.79	3.79	0.00	HC
Grand Mean and SD	3.81	3.79	3.80	0.06	HC

Table 11: Overall mean and SD for PLO 9 indicators.

PLO 9 Indicators	3rd year mean	4th year mean	Mean	SD	Description
1. Understanding and contributing to existing policies, laws, interventions and programs that address public health issues.	3.79	3.76	3.78	0.02	HC
2. Appreciating the roles of pharmacists in a collaborative health care setting in addressing public health issues.	3.88	3.90	3.89	0.02	HC
3. Applying concepts, methods, strategies, interventions in addressing public health issues and concerns.	3.71	3.76	3.73	0.04	HC
4. Providing appropriate pharmaceutical care services to the patient and the community (e.g. patient counselling, medication review and medication reconciliation among others).	3.88	3.79	3.83	0.06	HC
Grand Mean and SD	3.81	3.80	3.81	0.07	HC