



BACHELOR OF SCIENCE IN PHARMACY (B.S.PHARM) Syllabus

I. General Education

COURSE DESCRIPTION

FIL A Komunikasyon sa Akademikong Filipino 3 units

Listening, speaking, reading and writing.

FIL B Masining na Pagpapahayag 3 units

Listening, speaking, reading and writing.

GEAA Arts Appreciation 3 units

Art appreciation is a three-unit course that develops student's ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts in order to hone student's ability to articulate their understanding of the arts. The course also develops student's competency in researching and curating art as well as conceptualizing, and evaluating art productions. The course aims to develop student's genuine appreciation for Philippine art by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture.

GECW The Contemporary World 3 units

This course introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. To this end, the course provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.



GEET Ethics 3 units

The course deals with the principles of ethical behavior in modern society at the level of the person, society, and in interaction with the environment and other shared resources (CMO 20 s213). Students are given opportunities to make moral decision by using dominant moral frameworks and by applying a seven-step moral reasoning model to analyze and solve their moral dilemmas. The discussion will tackle according to tree main elements of the moral experience.

GELES Environmental Science 3 units

This course covers fundamental concepts and principles of ecology. This will provide opportunities for students to apply the concept and theories as bases of setting best solutions to the environment problems that they are facing and thus, deepen their knowledge in environmental science.

GELGS Gender and Society 3 units

This course intends to develop students' critical thinking on the sociological experience of sex, sexuality and gender, how these categories are both constituted by beliefs and social institutions. Students are expected to survey sociological studies of gendered interactions and explore the value of sociological methods for understanding and transforming gendered norms.

GELRS* Religions, Religious Experiences and Spirituality 3 units

This course deals in religion is perhaps one of the most widespread and familiar of human behaviors. For as long as humans have been recognizably human, they have been religious. The course will address them any important metaphysical issues. That is, religious claims often make assertions about the ultimate nature of reality, the existence of souls, an afterlife, and most importantly, the existence of a God or gods. Part of the reason people have such a strong interest in religion is because of the implications religious claims would have on our lives if they are true.



GEMW Mathematics in the Modern World 3 units

Mathematics in the modern world is about a mathematics as a system of knowing or understanding our surroundings. It is similar to an English literature, an introduction to philosophy, or perhaps an introductory psychology. Each of those provides glimpse into the thought; enable us to better understand the word we inhabit. In a similar way, Mathematics in the Modern World provides glimpse into the nature of mathematics and how it is used to understand our world. This understanding, in conjunction with other disciplines, contributes to a more complete portrait of the world. Generally, knowledge of mathematics strengthens the way know, perceive, and understand our surroundings. The central purpose of Mathematics in the Modern World is to explore those facets of mathematics that will strengthen our quantitative understanding of our environments.

GEPC Purposive Communication 3 units

The five skills of communication (listening, speaking, reading, writing and viewing) are studied and simulated in advanced academic settings. The purpose of these combined activities is to enable students to practice strategies of communication with a clear purpose and audience in mind, guided by the criteria of effective communication and the appropriate language.

GEPH Reading in Philippine History 3 units

Philippines History viewed from the lens of selected primary source in different periods, analysis and interpretation. The course aim to expose students of different facets of Philippines History through the lens of eyewitnesses. Rather than rely on secondary materials such as textbook is usual approach in teaching Philippines History, different types of primary sources will used-written (qualitative and quantitative). Oral, visual, audio visual, digital-covering various aspect of Philippines life (political, economic, social, cultural). Students are expected to analyze the selected readings contextually, and in terms of content (stated and implied). The end goal is to enable students to understand and appreciate our rich past by deriving insights from those who were actually present at the time of the event.



GEST Science, Technology, and Society 3 units

The course deals with interaction between science and technology and social, cultural, political, and economic context that shape and are shaped by them. Interdisciplinary course engages students to confront the realities brought by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement. This employs the flipped learning approach wherein students engage in study session as a pre-class activity. In asynchronous class, students are engaged in article readings, group discussions and brainstorming, writing exercises, and oral presentations.

GEUS Understanding the Self 3 units

Ethics deals with principle of ethical in modern society at the level of the person, society, and in interaction with the environment and other shared resources. (CMO 20 s 2013)

Morality pertains to the standards of right and wrong that an individual originality picks from the community. The course discusses the context and principles of ethical behavior in modern society at the level of individual, society, and interaction with the environment and other shared resources. The course also teaches students to make morals decisions by using dominant moral framework and by applying a seven-step reasoning model to analyze and solve moral dilemmas.

RIZAL Life and Works of Jose Rizal 3 units

This course is designed to study the life and works Dr. Jose Rizal. It aims to provide an in depth appreciation of the relevance of his socio-political thought in the emergence of nationhood. It deals with an analytical study of Rizal's teaching and literary works particularly the Noli Me Tangere and El Filibusterismo.



THEO 01 Theology 01 3 units

The general linguistics meaning of Tajweed is “excellence and precision”. In specific Islamic terminology, it is defined as the recitation of the Qur’an as it was revealed to prophet Muhammad (Peace be upon him) or more specifically, giving every letter its right observing its correct pronunciation and special qualities as well as proper length, appreciate assimilation. The Qur’an, revealed in Arabic about 610 and 632 AD, is the Holy book of Islam. Muslims consider it to be divine and final word of Allah.

This course will then aid in recognizing the Arabic script and increase the opportunities of every student to Arabic text. It will also focus on strengthening the basic Arabic script. Students will learn of reading and writing Arabic. In order to amplify the teaching of the script, a module is given to the students, mostly beginners, with the aim to teach them to write, read, and understand Arabic script with the opportunity to gain confidence in the four language skills writing, reading, listening and speaking. They will gain increased precision and accuracy in expressing themselves in, oral and written Arabic.

THEO 02 Theology 02 3 units

This course deals with the foundations of religion aim to know Allah, love Him, and obey Him in the manner He pleases. This involves establishing the constants of religion in the soul, instilling the love for the Messenger of Allah, peace be upon him, and following his guidance through intellectual, rational, then psychological and doctrinal approaches. This is divided into four stages: a preliminary stage followed by three progressive levels based on practical applications, reviews, and periodic tests. Our motto here is: What a Muslim cannot afford to be ignorant of in matters of his religion and worldly life.

THEO 03 Theology 03 3 units

This course explores the origins of Islam and the development of its rituals and doctrines to the 21st century. It assumes no previous background in Islamic studies. Students will learn about topics such as the Quran and the Prophet, Islamic law, the encounter of East and West during the Crusades, and Islam in Britain. They will find out how Muslims in different regions have interpreted and lived their religion in past and present. Readings will include not only scholarly works but also material from primary sources, for example the Quran or other religious literature, biographies and chronicles.



PE 101 Movement Enhancement 2 units

This course provides training in different movement patterns and core engagement in conjunction with the principles of healthy eating and physically active life. Students will be able to adapt and transfer the movement competency in different context (i.e use of training equipment.)

PE 102 Fitness Exercise 2 units

This course provides experience in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component.

PE 103 Physical Activities towards Health & Fitness (Path 1) 2 units

This course reintroduces the fundamental movement patterns that consist of non-locomotor and locomotor skills, which are integrated with core training to meet the demands of functional fitness and physical activity performance. Emphasis will be on exercise regression and progression for the enhancement of fitness and the adaptation of movement competencies to independent physical activity pursuits. In conjunction with physical fitness and wellness concepts, exercise, and healthy eating principles, the periodic evaluation will be conducted of one's level of fitness and physical activity, as well as eating patterns to monitor one's progress and achievement of personal fitness and dietary goals.

PE 104 Physical Activities towards Health & Fitness (Path 2) 2 units

This course builds on the foundation of motor skills achieved through core training. It will provide experiences in a variety of exercise programs forth purpose of maintaining and enhancing cardiorespiratory and musculoskeletal fitness (i.e., core stability, muscle strength, endurance and power). It includes speed and agility training with a focus on body coordination and balance. In conjunction with fitness concepts, exercise and healthy eating principles, learners will be able to enhance their fitness through goal setting and application of the exercise principles (i.e., frequency, intensity, time, type, progression, and volume); adapt their movement competencies to independent physical activity (PA) pursuits and periodically evaluate their PA and eating patterns to monitor their progress and achievement of personal fitness and dietary goals.



NSTP 1 CWTS Civic Welfare Training Services 3 units

This course is designed for the development of the students as responsible citizens with a strong sense of nationalism and a profound spirit of volunteerism through programs which will empower them to participate in the betterment of life of the people in the community. It is also designed to prepare them to render selfless service to the nation. Theist Law, Good Citizenship Values, Disaster Risk Reduction, and Environment Protection are integral parts of this course.

NSTP 2 CWTS Civic Welfare Training Services 3 units

The Civic Welfare Training Service (CWTS) 2 is a sequel to CWTS 1. It is designed to immerse students in activities that will arm them with the capability to contribute in the upliftment of the general welfare and the quality of life of the community and the enhancement of its facilities especially those that are devoted to improving the health, environment, entrepreneurship, safety, recreation and morale of the citizens.

LIT A Philippine Literature 3 units

A three unit course which offers a study of Philippines Literature using a thematic approach that accommodates different perspectives of the Filipino experience. This course aims to equip students with the skills to comprehend and participate in the evolution and progress of building, a cultural identity through the study and appreciation of Philippine Literature.



II. Professional Education

COURSE DESCRIPTION

BIO 1 Pharmaceutical Botany with Taxonomy 3 units lecture / 2 units lab

This course is an introduction to the scientific study of plants and their value as an integral part of ecosystem and the pharmaceutical field.

CHM 1 Pharmaceutical Inorganic Chemistry (with Qualitative Analysis) 3 units lecture / 2 units lab

This course covers pharmaceutical inorganic chemistry, an area of study concerned with essential and non-essential elements, metal ions, metal complexes and radiopharmaceuticals with their clinical applications.

PPRAC 1 Perspectives in Pharmacy 3 units lecture

This course orients the students with the science and practice of the Pharmacy profession.

PBS 2 Human Physiology with Pathophysiology 3 units lecture / 1 unit lab

This course is designed to introduce the fundamental concepts of body functions both in normal and diseased states to maintain homeostasis.

PCARE 1 Introduction to the Health Care System 2 units lecture

This course is designed to introduce the basics of Health Care System and its importance in delivering health care services based on health needs of target population.

PCHEM 2 Pharmaceutical Organic Chemistry (With Quantitative Analysis) 2 units lecture / 2 units lab

This course is intended to provide understanding of the principles and concepts of organic chemistry. It also includes classical and modern semi-micro laboratory techniques in handling, preparing, separating, purifying, identifying and characterizing organic compounds.



Notre Dame of Jolo College

JOLO, 7400 SULU, PHILIPPINES

PPRAC 2 Pharmaceutical Calculations and Techniques 2 units lecture / 1 unit lab

This course deals with the theories and principles in pharmacy calculation as applied in traditional and specialized practice settings and within operational and research areas in pharmacy practice.

**PPRAC 3 Introduction to Pharmacy Administration, Management and Leadership
2 units lecture**

This course is designed to teach the concepts, principles and fundamentals of Pharmaceutical Management and Leadership.



III. Professional Education

COURSE DESCRIPTION

PBS 3 Pharmaceutical Biochemistry 3 units lecture / 1 unit lab

This course deals with concepts and principles of chemical constituents of the living cells and their structures, functions and the processes that the biomolecules undergo. It also covers the application of the said concepts to pharmacy and other medical fields.

PBS 4 Pharmaceutical Microbiology and Parasitology 2 units lecture / 2 units lab

This course deals with the study of medically important microorganisms and parasites. The introductory part gives an overview of the brief history and recent developments in Microbiology that are important in pharmaceutical industry. Basic concepts on microbial cell structure, microbial growth and control, principle of disease and epidemiology and basic immunology were also introduced. Characteristics other microbes such as fungi, viruses, prions, helminths and protozoans are also covered in this course. Discussions of the diseases by body system are given at the latter part of the course with emphasis in chemotherapy and basic microbial methods for the etiologic agents' potential diagnosis.

PBS 5 Complementary and Alternative Medicine 1 unit lecture

This course is designed to enable the students to understand their role in the practice of complementary and alternative medicine/integrative medicine domains that are commonly used by Filipinos in medical healthcare; those which are cost-effective, recognized by the government, a local and global trend, and a basis for scientific research in improving the quality of life of the individuals and the community as a whole.

PBS 6 Pharmacology 1 3 units lecture

This course deals with the basic principles and concepts of pharmacology which includes the review of pathophysiology and the basic pharmacokinetic and pharmacodynamics properties of drugs acting on the central and autonomic nervous systems (including drugs of abuse), respiratory and gastrointestinal systems.

PTECH 1 Pharmacy Informatics 2 units lecture / 1 unit lab

This course covers the various methods of gathering and using drug and health-related information from various electronic and non-electronic sources using different websites, search engines, and mobile application.



PBS 7 Pharmacognosy and Plant Chemistry 3 units lecture / 2 units lab

This course deals with the study of the classification, physical and chemical properties, and pharmacological and pharmaceutical uses of natural drugs (Including Philippine medicinal plants). It also covers the biosynthesis, extraction, isolation, purification and identification of drug constituents.

**PCHEM 3 Pharmaceutical Analysis 1 (Quantitative Pharmaceutical Chemistry)
3 units lecture / 1 unit lab**

This course is designed to apply the principles of pharmaceutical analysis in the evaluation of drugs and drug products.

**PCHEM 4 Pharmaceutical Analysis 2 (Instrumental Methods of Analysis)
2 units lecture / 1 unit lab**

This course is designed to apply the principles of pharmaceutical analysis in the evaluation of drugs and drug products.

**PCHEM 5 Pharmaceutical and Medicinal Organic Chemistry
3 units lecture / 1 unit lab**

This course is designed to provide basic knowledge of medicinal chemistry and concepts of drug design.

**PHARM 1 Pharmaceutical Dosage Forms, Drug Delivery Systems and Medical
Devices 2 units lecture / 2 units lab**

This course deals with the basic principles and technologies applied in the preparation of pharmaceutical dosage forms and drug delivery systems; as well as the utilization of medical devices for optimum drug delivery.

PHARM 2 Physical Pharmacy 2 units lecture / 1 unit lab

This course deals with the physicochemical principles underlying dosage forms and drug delivery systems' design and manufacture; and drugs' bioavailability.

**PCARE 2 Dispensing I (Dispensing Process, Reading & Interpreting the Prescription
and other Medicine orders) 1 unit lecture / 1 unit lab**

This course is designed to introduce the concepts of basic dispensing and techniques to pharmacy students that govern this important facet of the professional practice of pharmacy.



1V. Professional Education

COURSE DESCRIPTION

PH RES 1 Pharmacy Research Methods w/ Statistics 3 units lecture

This course is designed to develop the students with the skills needed for the systematic conduct of research and to deepen the understanding of basic statistics in application to pharmacy and pharmaceutical sciences.

PH RES 2 Pharmacy Research and Thesis Writing 1 unit lecture / 2 units lab

This course is designed to augment the course Pharmacy Methods of Research with statistics with the end goal of fully developing the competencies needed by the students in the systematic conduct of research.

PBS 8 Pharmacology II 3 units lecture / 1 unit lab

This course deals with the basic pharmacokinetic and pharmacodynamics and pharmacotherapeutic principles about drugs acting in the cardiovascular, renal, hematologic, and endocrine systems, and agents that target invaders and neoplasms. It also deals with basic concepts and skills on using animal models in testing for pharmacologic activity of a substance.

PCARE 3 Dispensing II (Medication-related problems, medication safety, Medication counselling and other Pharmacy services) 2 units lecture / 1 unit lab

This course deals with the application of concepts of dispensing, dispensing techniques and the ethical policies that govern this important facet of the professional practice of pharmacy. It deals with the different prescription order assessment, drug use review, and design tailored-fit counselling techniques to ensure medication safety.

PCARE 4 Clinical Pharmacy and Pharmacotherapeutics 1 3 units lecture

This course is designed to provide the student with an understanding of concepts of evidence-based medicine using variety of information sources during evaluation and comparison of various approaches to address health care issues for basic self-care, and the pathophysiology and therapeutic strategies for management of the diseases in the autonomic system, neurologic nervous system and psychiatric nervous system.



PCARE 5 Clinical Pharmacy and Pharmacotherapeutics 2 3 units lecture

This course is designed to provide the student with an understanding of the pathophysiology and the therapeutic strategies for management of the diseases in the field of cardiology, nephrology, respiratory, cardiology and endocrinology.

PHARM 3 Biopharmaceutics and Pharmacokinetics 3 units lecture

This course deals with the study of the intrinsic, formulation, physiologic, and pathologic factor affecting bioavailability of drugs from drug products.

PHARM 4 Pharmaceutical Manufacturing (with Regulatory Pharmacy, Quality Assurance and CGMP) 2 units lecture / 2 units lab

This course is designed to introduce pharmacy students to the concepts and theories of pharmaceutical manufacturing and CGMP to produce quality, safe and effective pharmaceutical products.

PHARM 5 Drug Discovery and Development 2 units lecture

This course is designed to discuss the fundamental concepts, stages, and some important advancement in the field of drug discovery and development.

PPRAC 4 Hospital Pharmacy 2 units lecture / 1 unit lab

The hospital pharmacy practice and the pharmacist's role in the field are continuously evolving. With the Philippine Pharmacy Practice Standards entailing pharmacists to engage in interprofessional collaboration, it is very timely that the pharmacist's work in the hospital be shifted from merely being product-based to a patient-centered one. In response to this, hospital pharmacy practice should not be only concerned with equipping students with skills in drugs dispensing and drug distribution systems but also developing the right attitudes and openness to working with other health care professionals.

PBS 9 Pharmaceutical Toxicology 2 units lecture / 1 unit lab

This course will provide information on the various sources of poisons, exposure routes, and induction of toxicity and evidences of poisoning.



PHARM 6 Cosmetic Product Development (Cosmetic product development, regulation and safety assessment) 2 units lecture / 1 unit lab

This course is designed to apply the principles, methods and technology involved in the formulation of various cosmetic products.

PPRAC 5 Pharmaceutical Marketing and Entrepreneurship 2 units lecture

This course deals with the expanded responsibilities of pharmacists in the pharmaceutical business industry; the dynamics of marketing in the highly volatile pharmaceutical market and the diversity of major marketing decisions on products, price, promotions and place. It also deals with the identification and application of the elements and processes of entrepreneurship. The course offers students the knowledge and theories of marketing and entrepreneurship and its application to the various pharmacy practices.

PPRAC 6 Health Technology Assessment & Health Policy (with Pharmacoeconomics) 2 units lecture

This course is designed to introduce health technology assessment concepts and applications, economic evaluation of pharmaceutical products and services to ensure efficient use of resources.

PPRAC 7 Social & Administrative Pharmacy 1 unit lecture

This course is designed to cover the cognitive and psychological aspect of pharmacy practice as it applies in sociology and its administration.

PPRAC 8 Legal Pharmacy and Ethics 3 units lecture

This course is designed to cover the principles of law and ethics in pharmacy.

PCARE 6 Public Health Pharmacy (with Pharmacoepidemiology) 3 units lecture

This course deals with the integration of pharmacy practice in prevention of disease, promotion of health and prolongation of life in public health settings.



V. Professional Education

COURSE DESCRIPTION

INTERN 1 Experiential Pharmacy Practice in Institutional Pharmacy 2.4 units

Experiential Pharmacy Practice (EPP) – Institutional Pharmacy program aims to provide students with the understanding of how the institutional pharmacies operate in companies that provide pharmaceutical services to their employees and/or their qualified dependents; and relevant opportunities this area of pharmacy practice offers.

INTERN 2 Experiential Pharmacy Internship in Public Health and Regulatory Pharmacy 3.6 units

This area of internship involves the National Regulatory Authority (NRA), the Department of Health (DOH) and community health programs, as providers of supervised and comprehensive exposure to students on the roles and functions of a pharmacist in the health regulatory system. As a public health professional, the pharmacy student is expected to appreciate the contributions of the pharmacist in the improvement of the total health system as part of the interprofessional team to promote effectiveness and efficiency in the delivery of health services in the community and to the country.

INTERN 3 Experiential Pharmacy Practice in Community Pharmacy 6 units

This course is designed to provide student interns the opportunity to gain experience in all aspects of community pharmacy operation which includes current standards, policies, regulatory and operational requirements unique to community pharmacies and provide the intern knowledge on managing a community pharmacy.

INTERN 4 Experiential Pharmacy Practice in Hospital Pharmacy 6 units

This course is designed to provide the student interns the opportunity to experience activities in a clinical setting that will empower them to become future hospital practitioners or managers with critical thinking and patient-oriented service skills. These guidelines take into account differences in the level of pharmacy practice in various setting and also recognize the need to maximize experiential learning in hospital pharmacy for them to become professionally competent.



Notre Dame of Jolo College

JOLO, 7400 SULU, PHILIPPINES

INTERN 5 Experiential Pharmacy Practice in Industrial Pharmacy 6 units

Experiential pharmacy practice in industrial pharmacy provides the students with supervised and comprehensive exposure to the roles and functions of pharmacist in the pharmaceutical industry, cosmetics, herbal/food supplement, veterinary, diagnostics, and medical device industries. It also includes internship in clinical research.

V. Professional Education

COURSE DESCRIPTION

PH SEM 1 Pharmacy Seminar 1 3 units

This course is designed for their review class.

PH SEM 2 Pharmacy Seminar 2 3 units

This course is designed for their review class.