

UNIVERSITY OF SANTO TOMAS

Faculty of Pharmacy

Bachelor of Science in Clinical Pharmacy – Course Prospectus with Descriptions

First Year – First Term / Semester

Abbreviation

Title

Lec. Units

Lab. Units

Pre-Requisites



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CHEM 100 General Inorganic Chemistry

Description The lecture deals with the fundamental concepts of matter, its properties and chemical behavior in relation to their atomic and molecular structure. It also includes the changes which matter undergoes and the energy associated with it. The laboratory provides opportunities to gather experimental data and explore various aspects of descriptive and theoretical chemistry.

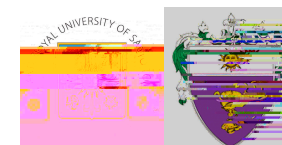
The course focuses on the properties, structure and changes of matter and its relation to chemical reactions and energy transformations.

At the end of this course, the students are expected to perform analyses of chemical concepts which emphasize creation of solutions to problems and prepare students for future professional practice, as well as environmental, ethical and social awareness. The experiments are designed to apply fundamental laboratory operations and techniques that illustrate the various principles and theories in the lecture.

ENG 1 INTRODUCTION TO COLLEGE ENGLISH

Description The course enhances the students' mastery of the basic communication skills in listening, speaking, reading, and writing.

Interactive activities have been designed to develop critical thinking and collaboration among students.



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FIL 1 KOMUNIKASYON SA AKADEMIKONG FILIPINO (Communication for Academic Filipino)

Description Ang Filipino 1 ay isang metalingguguhang pag-aaral ng Filipino. Nakaunanghiang, gamit ang mga kahalagahan ng Filipino sa akademikong larangan.

Sa pamamagitan ng itinatag na mga aklat, inaahang maipakita sa mga mag-aaral ang mga nangangailangan ng Filipino sa akademikong larangan.

Malililingat ang mga kahalagang pang-akademikong Filipino sa larangan ng komunikasyon sa akademikong larangan.

Filipino 1 is a metalinguistic study of Filipino language which focuses on the structure, usage, nature and its value in the academic field.

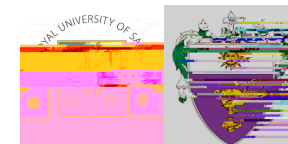
Using the interactive and multidisciplinary approach, it is expected to identify and discuss the fundamental concepts of Filipino and to develop the higher language / communication skills in a critical discourse.

MATH 101 COLLEGE ALGEBRA

Description This is a Mathematics course for freshmen, dealing with the fundamental principles and applications of algebra. It begins with sets, the number system, and algebraic expressions.

Focus is given on operations on polynomials, one-variable linear equations and inequalities, quadratic equations, two-variable linear equations, systems of linear equations, and functions and relations.

At the end of the course, students should develop the values of accuracy, analytical thinking and logical reasoning.



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PHIST PHILIPPINE HISTORY

Description This course discusses important events in the history of the Philippines from the earliest period to the contemporary.

The course focuses on the interrelationship of important factors that were responsible for the formation of Philippine, nationhood, the state and the country's economy; how the past affected the country's present and how will it help contribute to its future.

The students are expected to develop an awareness of how events and factors affected the development of the nation and to appreciate how events in the past affected their daily lives.

PHL 2 LOGIC

Description This course exposes the students with the fundamental concepts and principles in the study of human behaviour, sensory modalities, perception, consciousness, and motivation, emotion, stress and health and personality theories

This course provides the students with a broad, eclectic understanding on the importance of understanding human behaviour by addressing the wide range of issues and problems encountered in everyday life.

Each student is expected to apply basic psychological concepts and principles in understanding and enhancing human behaviour.



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THY 1 CONTEXTUALIZED SALVATION HISTORY

Description This Course is a critical and reflective look into the different moments of God's intervention in the history of humanity, gradually disclosing Himself and His plan of salvation through persons and events, until this revelation reached its fullness in the incarnation of His Son, our Lord Jesus Christ.

The whole history of salvation has for its central figure the person of Jesus Christ. Hence, salvation history, in its very nature, is Christocentric. It is in Jesus that the entire history of humanity finds meaning. It is also to him that history tends. Because of this, all events and persons in the history of salvation are seen in the light of the person of Jesus, apart from whom they have no value. The course shall make use of the Sacred Scriptures as its primary source since it is the Bible that contains the record of God's interventions with humanity and the testimonies of the members of early Church about their encounters with Jesus.

The course, therefore, inevitably involves the actual reading of Sacred Scriptures in class in order to discover how God's Word, enveloped in human words, continues to communicate to humanity today; and at the same time to facilitate a dialogue between the text of the Bible and the day-to-day life of the Thomasian students.



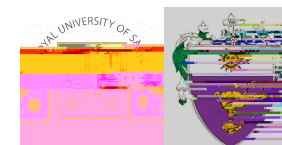
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|---------------------|--|-------------------|-------------------|-----------------------|
| ENG 2 | Reading and Thinking Skills for Academic Study | 3 | 0 | ENG 1 |

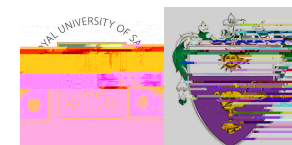


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FIL 2 PAGBASA AT PAGSULAT TUNGO SA PANANALIKSIK (Reading and Writing Towards Research)

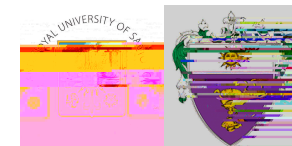


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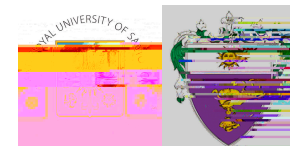
PHARCHM 1



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COMP 103 INTRODUCTION TO COMPUTER WITH APPLICATIONS

Description The students should perform an academic excellence that shows their expertise. To become more critical thinking by solving skills using their innovative ideas and methods of different applications programs and to get more productive and accountable, students must develop new knowledge and understanding that will contribute for sustainable development through the processes of inquiry, research and innovation.

The students need to demonstrate creative application of concepts and methods that geared towards the advancement of various fields of pharmacy. Demonstrate critical applications of concepts, theories and principles in pharmacy using logical and systematic methods to provide practical solutions to real life professional situations and to generate insights and new knowledge that will contribute to sustain the development for the prevention, diagnosis, mitigation and treatment of diseases of man and animals.

Students must need to evaluate their performance in File management skills in using Windows and apply the Application skills in internet, MS Word, MS Excel, MS Powerpoint, MS Publisher, and Macromedia Flash. To demonstrate and practice the different application skills in using the basic application programs that make use in developing their creativity. And to improve and become responsible on the data handled as to recognize the competency, commitment and compassion of an individual.

HETAR HEALTH ECONOMICS WITH TAXATION AND AGRARIAN REFORM

Description The course deals with the application of concepts and principles of economics in health and medical care, supply and demand, evaluation of health programs and interventions, the health finance and the health sector. Students are expected to engage in economic research related to pharmaceutical health care.

INTERN 1 INTERNSHIP 1: COMMUNITY PHARMACY

Description



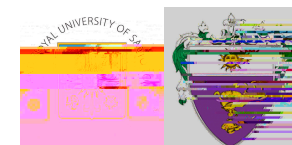
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PHAR 3 PHARMACEUTICAL DOSAGE FORMS

Description This course introduces the stude



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|--------------|--|------------|------------|---------------------|
| MATH 600 | Biostatistics | 2 | 1 | MATH 101 |
| PH-BIOCHEM | Pharmaceutical Biochemistry | 3 | 2 | CHEM 100, CHEM 200 |
| PH-MCR-PRS | Pharmaceutical Microbiology and Parasitology | 3 | 2 | |
| PHAR 5 | Hospital Pharmacy | 2 | 1 | PHAR 3 |
| PHYS 201 | General Physics | 4 | 1 | MATH 101 |
| SCL 3 | The Social Teachings of the Church | 3 | 0 | PHL 5, THY 1, THY 2 |
| PE | Physical Education 4 | (2) | 0 | |
| NSTP | Literacy Training Service (LTS) II / Civic Welfare Training Service (CWTS) II * This is an elective. Either LTS or CWTS is chosen by the student. * Take ROTC in the first year. | (3) | 0 | |
| TOTAL | | 17 | 7 | |

MATH 600 BIostatistics

Description The course deals with the collection, organization, presentation, analysis, evaluation, interpretation, formulation and testing of hypotheses and formulation of generalizations and inferences involving biological data, especially those concerning health care, preventive medicine, clinical and laboratory tests.



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PH-BIOCHEM PHARMACEUTICAL BIOCHEMISTRY

Description Biochemistry is a distinct discipline which seeks to investigate the basic processes of life and explain them in molecular terms. It discusses the complete structures of biomolecules, their behavior during metabolic reactions and their impact on medicine, health, nutrition, and environment. The course prepares pharmacy students to use the principles of biochemistry in understanding and appreciating related major pharmaceutical courses.

The course deals with the structure and function, isolation, purification and characterization of biomolecules: carbohydrates, proteins, lipids and nucleic acids, transmission and expression of genetic information, and generation and storage of metabolic energy.

At the end of the course, students are expected to explain at the molecular level structure and function of biomolecules, describe molecular processes in heredity and expression of genetic information and illustrate metabolic pathways and their control. Students are also expected to demonstrate various research techniques and skills in the qualitative and quantitative analyses of biomolecules.

PH-MCR-PRS PHARMACEUTICAL MICROBIOLOGY AND PARASITOLOGY

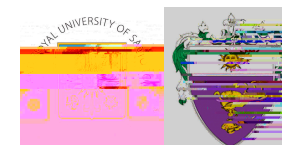
Description

PHAR 5 HOSPITAL PHARMACY

Description An introductory course to pharmacy as a hospital department and a patient-oriented unit, which will include how it relates to total hospital operation.

Focus is on the hospital, hospital pharmacy, and medication safety and control.

At the end of the course, the students are expected to analyze core concepts



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PHYS 201 GENERAL PHYSICS

Description Physics 201 is a general physics course for Biology students aimed to develop both an understanding of fundamental concepts and principles in general physics, and logical problem



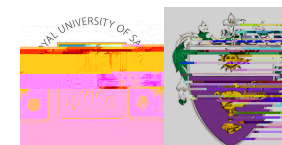
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Third Year – First Term / Semester

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|---------------------|--|-------------------|-------------------|------------------------------|
| INTERN 2 | Internship II: Hospital Pharmacy | 1 | 1 | PHAR 5 |
| LIT 102A | Philippine Literatures | 3 | 0 | None |
| PHAR 4 | Physical Pharmacy | 3 | 1 | CHEM 200, PHAR 3, PHYS 201 |
| PHARCARE 2 | Public Health | 3 | 0 | PHARCARE 1, PH-MCR-PRS |
| PHARCHM 2 | Pharmacy and Chemistry of Organic Medicinals | 3 | 1 | PH-BIOCHEM, PHARCHM 1 |
| PHBS 1 | Biopharmaceutics and Pharmacokinetics | 3 | 0 | BIOSCI 3, PH-BIOCHEM, PHAR 3 |
| PHL 4 | Philosophy of Man | 3 | 0 | PHL 2 |
| SA | Socio-Anthropology | 3 | 0 | None |



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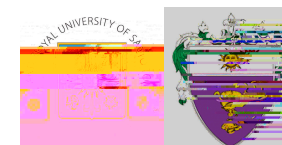
LIT 102A PHILIPPINE LITERATURES

Description The course is designed to develop among students an awareness, appreciation, and critical view of the depth and breadth of our country's literature in order to foster among them the desire for truth, love for country and nature, and respect for peoples and cultures, which will eventually constitute a competent, compassionate, and committed Thomasian.

The course is focused on representative literatures from the regions, tackling the wide array of Filipino encounters and experiences that are expressed through themes such as gender, racial identity, class and history.

The students are expected to write a critique on a Filipino novel, epic, drama or any other genre. They are also expected to transform or adapt Philippine literary texts into other art forms or media.

PHAR 4 PHYSICAL PHARMACOLOGY



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PHARCHM 2 PHARMACY AND CHEMISTRY OF ORGANIC MEDICINALS

Description The course deals with chemical characterization of naturally occurring medicinal compounds, structurism, properties, synthesis, reactions and the correlation between chemical structure of bioactive constituents and biological activity and its clinical application, and current therapeutic agents. Analyzes the chemistry of organic medicinals which focuses on the chemical nomenclature, characterization of naturally occurring and synthetic medicinal compounds, properties, synthesis and reactions, structure-activity relationship in correlation with the biological activities and clinical application of drugs, and current therapeutic agents.

PHBS 1 BIOPHARMACEUTICS AND PHARMACOKINETICS

Description A study of the intrinsic, formulation, physiologic and pathologic factors affecting bioavailability of drugs from drug products.

Focus on drug absorption, distribution, metabolism, excretion, and how these processes are modified by different factors affecting the presence and action of the drug in the biologic system.

Students are expected to rationalize the design of drug delivery systems in relation to dose, dosage form and clinical efficacy and to explain the construction of a dosing regimen in relation to optimizing therapeutic outcomes.

PHL 4 PHILOSOPHY OF MAN

Description This course explores significant philosophical principles and theories affecting the human existence.

It focuses on Thomistic and Phenomenological/Existential philosophical frameworks concerning man's embodied subject



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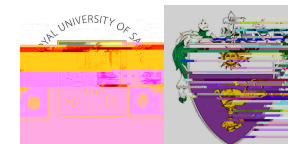
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SA SOCIO-ANTHROPOLOGY

Description The course explores selected fundamental concepts in the study of Philippine society and culture, and its relation to the global world using basic theories, research methodologies, and substantive issues defining the scientific practices of Sociology and Anthropology as social sciences.

The course exposes students to the unique use of the sociological imagination and anthropological worldview in understanding



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PHAR 6 PHARMACEUTICAL MANUFACTURING

Description This course introduces the students to study and analysis of the basic principles, methods and technology involved in the design and production of various pharmaceutical dosage forms and delivery systems. It focuses on current Good Manufacturing Practices (cGMP), drug product development, different unit operations including equipment and the manufacture of pharmaceutical products.

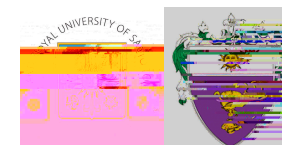
At the end of the course, students are expected to design a product formulation with processing and packaging procedures based on the physico-chemical properties of a drug substance and in accordance with the cGMP.

PHARCARE 3 COMMUNICATION AND INTERPERSONAL SKILLS

Description This course introduces students to the core concepts of patient-centered communication as basic support to the implementation of pharmaceutical care.

It focuses on the aspects of interpersonal relationships through communication skills that enhance the clinical efforts of pharmacist in establishing therapeutic relationships and alliances with patients, physicians and other healthcare providers.

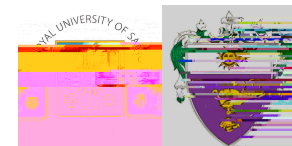
At the end of the course, students are expected to



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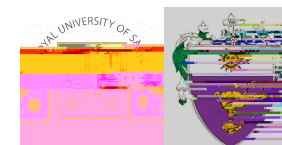
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Fourth Year – First Term / Semester

| Abbreviation | Title | Lec. Units | Lab. Units | Pre-Requisites |
|---------------------|--|-------------------|-------------------|-----------------------|
| INTERN 3 | Internship III: Manufacturing Pharmacy | 1 | 1 | PHAR 6 |



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Description This course emphasizes the importance of information technology in searching, gathering, analyzing and providing drug and health-related information. It deals with the application of skills to logically and scientifically respond to drug and health-related inquiries from the members of the health care team through the use of available information databases and other information resources.

It focuses on methods of gathering, integrating and managing drug and health-related information from various sources and on acquiring both the skill set and the strategic approach necessary to search, identify, analyze, synthesize and apply healthcare information in a variety of pharmaceutical practice.

Students are expected to have a complete understanding on the concepts necessary for responding to drug and health-related inquiries. Students are also expected to be able to apply the skills in searching, gathering and analyzing information from various resources and synthesize all information and come up with a response to drug and health-related inquiries.

PHAR 11 PRINCIPLES OF PHARMACY ADMINISTRATION AND MANAGEMENT I

Description The course offers beginning pharmacists the knowledge and theories of management and its application to the various pharmacy practices.

Understanding of functions of management and the concepts, theories and techniques in the field of organizational behavior and its application to pharmacy practices.

At the end of this course, the students are expected to understand concepts of management and administration, the management functions and their use in organizational effectiveness and efficiency, the role of management principles, functions, and information systems in pharmacy practice.



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RTW 2 RESEARCH AND THESIS WRITING 2

Description Introduces students to the core concepts of research and methodologies applicable to pharmaceutical investigations. Focus is on the rigors of topic selection and development as well as presentation and defense of output.

Students are expected to write a thesis reflective of technical/technological expertise and values of a pharmaceutical scientist.



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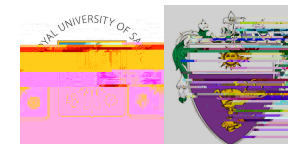
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PHISTCONS PHILIPPINE HISTORY AND CONSTITUTION

Description This course discusses significant events in the history of the Philippines from the early period to contemporary, the Philippine Government and the fundamental law that governs the land.

SCL 9 MARRIAGE AND FAMILY

Description The course Marriage and Family an inter -

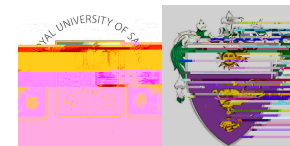


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Fifth Year – First



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PHAR 15 DRUG DISEASE AND MANAGEMENT II

Description A course on rational therapeutics by presenting contemporary drug therapy to prepare student pharmacists in their role in the health care system.

The course includes the general principles of disease management, understanding medical terminology and procedures including interpretation of laboratory data, appropriate drug selection based on clinical practice guidelines including pharmacoeconomic considerations and protocols covering common diseases, Malignant disorders including Cancer Supportive Therapy, special populations (Neonates, Pediatrics & Geriatrics), Obstetric-Gynecologic & Urologic Disorders including Sexual Health, Infectious Diseases.

The students are expected to employ their knowledge of drugs in the management of disease which adheres to the principles of pharmaceutical care.

PHAR 17 ADVERSE DRUG REACTION

Description This course is designed for clinical pharmacy students who shall be responsible for monitoring the occurrence of adverse reactions during drug therapy.

It will enable the student to develop an increased understanding and clinical knowledge of the common, severe, fatal and rare adverse reactions caused by drugs and their circumstances with emphasis on prevention, recognition, detection, mitigation, treatment and reporting of these events.

The students are expected to demonstrate knowledge on the principles and goals of medication safety including procedures in pharmacovigilance.



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PHAR 12 PHARMACEUTICAL MARKETING AND ENTREPRENEURSHIP

Description The course offers beginning pharmacists the knowledge and theories of marketing and entrepreneurship and its application to the various pharmacy practices.

This course will give more emphasis on the functions of marketing management process, decisions and strategies that can be applied to the different pharmacy practices and the necessary knowledge and skills needed to be successful entrepreneurs.

Students are expected to engage in reflective and critical analysis of actual cases and scenarios and affecting pharmaceutical pharmacy marketing and entrepreneurship. At the end of this course, the students are expected to understand concepts of marketing and entrepreneurship, the business organizational effectiveness and efficiency, marketing decisions, and skills needed to be successful entrepreneurs.

PHAR 19 PATIENT MEDICATION AND ASSESSMENT

Description The course deals with the factors affecting the design of patients' therapeutic regimens with respect to pharmacologic interventions.

The course focuses on the design of medication regimens specifically for patients with multiple pathologic conditions requiring polypharmacy.

The students are expected to engage in purposeful and logical analysis of prescription ingredients alone or in combination and how these are justified or modified in light of rational drug use and consideration of patient, clinical and drug factors, and expected outcomes.

PHARJUR PHARMACEUTICAL JURISPRUDENCE AND ETHICS



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Description Introduces students to pharmaceutical jurisprudence and ethical duties of pharmacist.

Provides insight and understanding of penal provision affecting the standards, accessibility and control of pharmacy practice, education, food, drugs, cosmetics and medical devices.

Students are expected to engage in reflective and critical analyses of actual cases and scenarios affecting pharmaceutical practice and profession.

