

GRADUATE SCHOOL MISSION STATEMENT

We are a Catholic institution dedicated to advancing the frontiers of knowledge in the theoretical and applied fields through quality graduate education that is comprehensive and responsive to the needs of society. We are committed to the formation of scholars and high level professionals who are ethical, competent, compassionate and committed to the service of the Church, the Nation and the Global Community.

GRADUATE SCHOOL VISION STATEMENT

We envision a Graduate School that stands for excellence and innovation and that will be globally identified for the distinction of its programs and quality of its research.

GRADUATE SCHOOL GOALS

To realize this mission-vision, the Graduate School commits itself within the next five (5) years:

- To develop the intellect and creativity through excellence in instruction, research, and extension work.
- To form scholars and high level professionals in the arts and humanities, the natural and allied health sciences, the social and management sciences who are ethical and who demonstrate competencies functional in both the local and global workplace.
- To hone the professional and social skills, and critical capabilities of students enabling them to become responsible leaders in their careers and community.
- To provide students opportunities to serve the larger community through extension work and community service.
- To produce quality research in the various fields of knowledge that is internationally recognized.
- To recruit Faculty who are acknowledged experts in the field and to complement the teaching staff by inviting international scholars in the various disciplines.
- To build partnerships and linkages between the Graduate School and academic institutions,

industry and government entities at the local and international level.

- To enhance the image and visibility of the Graduate School and its work in both the local and global community.

APPLICATION PROCEDURES

- A. Application for admission to the UST Graduate School is until October 15 for October enrollees, April 5 for Summer enrollees and May 25 for June enrollees.
- B. Application forms for Admission are available at the UST Graduate School, UST Admissions Office & at the UST Graduate School Web Site – <http://www.ust.edu.ph>

REQUIREMENTS:

Certified true copy of Transcript of Records, one (1) colored passport size, recent photo (if any) document(s) attesting to passing a Bar/Board Exam, or being a scholar of any agency.

Two (2) Referral Forms: One(1) for the current (immediate) superior (or Dean, in the case of a school); and the other, for the professor in one specialization (major) subject.

For Foreigners:

All of the above and;

TOEFL English Proficiency and Student Visa Requirements.

ADMISSION REQUIREMENTS

1. Bachelor's Degree in Pharmacy or related courses with a general average of at least 2.0/85% or B.
2. Complete accomplished application and referral forms.

PHILOSOPHY & OBJECTIVES

The graduate study programs in pharmacy lead to a Master of Science in Pharmacy degree designed for both practitioners and non-practitioners. The program put emphasis on research, drug improvement programs and studies of cumulative drug improvements. It aims to encourage graduate students to look forward to the changes and challenges of the future with confidence in their role in the country's total health care delivery system.

CURRICULUM

MASTER OF SCIENCE IN PHARMACY

PRE-REQUISITE SUBJECTS: 6 UNITS

GS 500 - St. Thomas on Critical Thinking

ST. THOMAS ON CRITICAL THINKING is a course on Aristotelian and Symbolic Logic that focuses on the fundamental laws of thought. It provides guiding principles in order to enhance critical and reflective skills that would facilitate correct and responsible judgment and reasoning. It gives an opportunity to be in control of one's thinking activities.

GS 501 - Research Methodology

The Course introduces the student to research concepts relevant to the Natural Sciences. Discussions center on the nature and process of scientific inquiry; the ethical and social responsibilities of the research scientist; and the skills required to do meaningful research in the Natural Sciences. The course also guides the student in the preparation of a scientific review paper or a research project.

CORE SUBJECTS: 9 UNITS

PHR 601 - Advanced Pharmaceutical Chemistry

Chemical characterization of naturally occurring and synthetic medicinal compounds, structuralism, properties, synthesis, reactions and the correlation between chemical structure and biological activity.

PHR 602 - Advanced Pharmaceutical Quality Control

A course focused on the rationale, principles and methods of controlling the quality of a pharmaceutical preparation. It discusses in detail analytical test methods found in compendia together with the corresponding instrumentation. Statistical quality control is presented as a means of evaluating attributes and variables during inspection, in-process and finished product control. It demonstrates how sampling and inspection procedures are integral parts of a valid evaluation process.

PHR 603 - Advanced Biochemistry

This course covers in detail the molecular basis of life, which includes the chemistry of biomolecules, structure function relationship, transformation of matter and energy, storage of genetic information, accession and manipulation.

The course provides the basic concepts in biochemistry and how these concepts can be applied in the biological sciences, health and medicine, agriculture, food and related industries.

PHR 604 - Advanced Pharmacology and Toxicology

The course prepares the graduate students to have a clear understanding and in-depth consideration of the

principles, concepts and molecular mechanism to toxicity. The current statuses of toxicologic principles concerned with public health, drugs, food technology, veterinary medicine and agricultures will be examined.

The course embraces the knowledge of the physico-chemical properties of the toxic agents and toxins, their physiological and biological effects, toxicokinetic/toxicodynamics, safety and hazards of their uses and management of poisoning.

MAJOR SUBJECTS: 15 UNITS

PHR 701 - Statistical Methods in Biology

Discussion of statistical techniques for experiments. Descriptive and inferential statistics, confidence intervals, hypothesis testing, analysis of variance, regression and correlation and bioessay.

PHR 702 - Modern Techniques in Pharmaceutical Chemistry

A rigorous treatment of spectrophotometric, electrometric, chromatographic techniques and other methods of physico-chemical treatment.

PHR 703 - New Product Development and Formulation

A course focused on the practical application of principles, regulations and methods in the development of new products with special emphasis on plant products. It traces the flow of activities from the quality control of active ingredients, preformulation, pharmacologic studies (pre-clinical) formulation and production phase and clinical studies (phase I to III) to post-marketing. Regulatory issues are also presented.

PHR 704 - Radio Pharmacy

The course deals with radioactive decay; production of radionuclides and its generators; labeling, quality control and safety of radiopharmaceuticals and radiopharmacology.

PHR 705 - Antibiotics

Discussion of the natural source of antibiotics, their isolation, industrial production, pharmaceutical preparations and medicinal and industrial uses. Concepts involving the proper use of antibiotics.

PHR 706 - Concepts on Clinical Pharmacy

Patient-oriented pharmacy practice; drug-use, history, medication profile, unit-dose drug distribution, drug-use information and consultation.

PHR 707 - Advanced Phytochemistry

A rigorous study of plant constituents, their structural features which form the basis of their medicinal and pharmaceutical uses, their isolation, purification and identification. It also includes a survey of biochemical processes which are of special interest in understanding metabolic processes in plants.

PHR 708 - Biological Products and Specialties

A study of the chemical, physical and biochemical properties of hormones, vitamins and other nutritional products relevant to pharmaceutical practice. Consideration of the pharmaceutical aspects of the biologic preparation in current clinical use, including enzymes, blood and its derivatives, hematologic preparation, etc.

PHR 709 - Advanced Microbiology

This lecture and laboratory course presents advanced studies of microorganisms and their role and applications in the environment, in the human society and in our body. It will discuss different groups of microbial life particularly bacteria, their structural and metabolic diversity, their growth and control, and their genetics and evolution. Particular interests will be given to recent techniques employed, both conventional and molecular, in microbiology as well as recent developments in this field of study, more specifically on systematics and evolution, physiology, and ecology.

PHR 710 - Regulatory Affairs

It focuses on the practical application of government regulations and strategies with special emphasis on the management of the registration process of pharmaceutical products, cosmetics, medical devices and food. It deals with liaison with regulatory agencies and relationships with internal corporate departments such as quality management, marketing and medical affairs. Some exercises and projects involve actual scenarios within the pharmaceutical industry.

PHR 711 - Special Topics – Statistical Quality Assurance

Statistical quality assurance is establishing the confidence that the desired characteristics of materials, methods, machines and men are consistently and reliably met through mathematical data evaluation of the degrees of attributes and repeated measurements of variables.

COGNATE SUBJECTS: 3 UNITS

Any related course that has substantial bearing on Thesis.

OTHER REQUIREMENTS

Written Comprehensive Examinations (WCE)
TW I - 3 units (Thesis Proposal)
TW II - 3 units (Research Colloquium)
TW III - 3 units (Thesis Defense)

Total = 42 Units

UST GRADUATE SCHOOL ADMINISTRATION OFFICIALS AND FACULTY SET-UP

LILIAN J. SISON, Ph.D.
Dean

JOSÉ ANTONIO E. AUREADA, O.P., S.Th.D.
Regent

MICHAEL ANTHONY C. VASCO, Ph.D.
Faculty Secretary

CARLOS P. GARCIA, Ph.D.
Director for Graduate Research

GRECEBIO JONATHAN ALEJANDRO, Ph.D.
Supervising Scientist, Science Laboratories

ROMUALDO DEL ROSARIO, Ph.D.
Supervising Scientist, UST Botanical Garden

PRISCILLA TORRES, Ph.D.
Consultant for Pharmacy

PROFESSORIAL STAFF

ALICE AGUINALDO, Ph.D.
FR. JOSE ANTONIO AUREADA, O.P., S.Th.D.
VERONICA CHAN, Ph.D.
BENJAMIN CO, MD
CORAZON MENGUITO, Ph.D.
PETER NG, MD, MPH, PhD
MARIBEL NONATO, Ph.D.
MARINA OSI, Ph.D.
RODOLFO RABOR, M.S.
LILIAN SISON, Ph.D.
ROSALINDA SOLEVILLA, Ph.D.
PRISCILLA TORRES, Ph.D.
WILLIAM TORRES, Ph.D.
MAFEL YSRAEL, Ph.D.

VISITING PROFESSOR

SYED AZHAR SYED SULAIMAN

SUMMARY OF COURSE REQUIREMENTS

Requirements	M.A. units
Pre-requisites	6
Core Subjects	9
Major Subjects	15
Cognates	3
Thesis Writing I	3
Thesis Writing II	3
Thesis Writing III	3
TOTAL	42

SCHOOL CALENDAR

The University of Santo Tomas follows an Academic Year Calendar of two (2) semesters and a summer term.

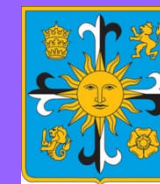
Summer Term: April-May

**For further information, please call,
Tele-Fax: (632) 740-9732 or
Tel. No. (632) 786-1611 loc 8247; 731-5396
Web-http://graduateschool.ust.edu.ph
E-mail: odgs@munl.ust.edu.ph**

**or write to:
The Dean/Faculty Secretary
UST Graduate School
España, Manila, Philippines 1008**

University of Santo Tomas

GRADUATE SCHOOL



GRADUATE PROGRAM

AY 2006 – AY 2011

**Master of Science in
Pharmacy**

España, Manila