

CEBU DOCTORS' UNIVERSITY
GRADUATE SCHOOL
Mandaue City

CURRICULUM

MASTER OF SCIENCE in MEDICAL TECHNOLOGY (MSMT)

I FOUNDATION SUBJECTS ----- -6 units

Educ 100 - Methods of Research... ..3
Educ 101 - Statistics and Epidemiology3

II MAJOR SUBJECTS ----- - 24 units

MSMT 100 – Advanced Biochemistry3
MSMT 101 – Advanced Hematology.....3

MSMT 102 - Advanced Medical Microbiology.....3
MSMT 103 – Advanced Medical Parasitology3

MSMT 104 - Advanced Immunohematology/Blood Banking 3
MSMT 105 - Advanced Immunology and Serology3
MSMT 106 - Advanced Histopathologic and CytologicTechniques3
MSMT 107 –Advanced Clinical Chemistry.....3.

III COGNATES ----- -9 units

MSMT 110 – Laboratory Management/Ethical and Legal Issues3
MSMT 111 - Computer and Informatics..... 3
MSMT 112 – Seminar – Contemporary Issues and Concerns..... 3

MASTER'S THESIS----- -6 units

SUMMARY

Foundation Subjects.....	6
Major Subjects.....	24
Cognates.....	9
Master's Thesis.....	6
Total.....	45

COURSE REQUIREMENTS

Comprehensive Examination
Master's Thesis

COURSE DESCRIPTIONS

FOUNDATION SUBJECTS(6 units)

Educ 100 – Methods of Research (credit:3 units; lecture:54 hours(3 hours/week x 18 weeks)

This course is to expose graduate students to the research process in medical technology through the discussion of the steps and examination of completed research reports. A requirement for submission is a research design on an approved topic

Educ 101 – Statistics and Epidemiology(credit:3 units; lecture:54 hours)

Statistics deals with the collection, organization, presentation, analysis and interpretation of biological information that can be stated numerically. This course uses statistical methods to summarize the data and statistical procedures to reach certain conclusions that can be applied to the field of medical technology. Practical emphasis is given to study design and the interpretation of results in the field of psychology

MAJOR SUBJECTS (credit:24 units)

MSMT 100 - Advanced Biochemistry(credit:3 units; lecture:54 hours)

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.

MSMT 101 - Advanced Hematology(credit:3 units; lecture:54 hours)

It is an in-depth study of the laboratory diagnosis and treatment of the common disorders of red blood cells, white blood cells and hemostasis. Each disease state will be discussed in terms of underlying pathophysiology, clinical features. the use of state-of-art laboratory tests in the diagnosis and differential diagnosis of the conditions and the current management.

MSMT 102 - Advanced Medical Microbiology(credit:3 units; lecture:54 hours)

A study of all types of agents associated with infectious disease (bacteria, rickettsiae and other significant atypical bacteria, virus and fungi) syndromes and procedures for the detection, identification and susceptibility testing of etiologic agents. Emphases are given to new technology, new bacterial agents of infectious diseases, and the evolving interest in public health and preventive medicine.

MSMT 103 - Advanced Medical Parasitology(credit:3 units; lecture:54 hours)

A competency-oriented course which emphasizes both the biological and medical aspects

of parasites of medical importance.

MSMT 104 - Advanced Immunohematology/Blood Banking (credit:3 units; lecture:54 hours)

It is the study of recent advances in blood banking theory, technical practice considerations and regulatory guidelines. Certain clinical situations will be discussed in detail including transfusion reactions and transfusion-transmitted infections.

MSMT 105 - Advanced Immunology and Serology(credit:3 units; lecture:54 hours)

It is the study of current and state-of-art serologic methods in the diagnosis of bacterial, parasitologic, viral and mycological diseases as well as autoimmune and oncologic disorders.

It is also a study that approaches the conceptual and technical advances in immunologic principles and techniques which can be applied to microbial infections, hypersensitivity, organ transplantation, autoimmune diseases and immunodeficiency disorders.

MSMT 106 - Advanced Histopathologic and Cytologic Techniques (credit:3 units; lecture: 54 hours)

An in-depth study of the current methods of specimen collection, preparation, staining, and microscopic examination of tissues and cells. It also includes study of basic disease process and correlation of cellular and tissue pathology.

MSMT 107 Advanced Clinical Chemistry (credit:3 units; lecture and laboratory 108 hours)

Part I – This course deals with the quantitative measurement of biochemical substances found in body fluids(blood) and concepts of metabolism and the quality laboratory analysis of these substances.

Part II – This course deals with advanced study of functions of organs (liver and heart) by measuring particular analytes, and also study clinically significant enzymes, electrolytes, acid-base balance, blood gas parameters and tumor markers and their clinical significance and the quality analysis of these substances. The study then involves Endocrinology, Toxicology and Drug Testing. Endocrinology is about products of a group of structurally and functionally specialized glands and their action in maintaining the clinical integrity of cell environment, while Toxicology is the advanced study of substances introduced exogenously into the body and is apportioned into the areas of detection of drugs of abuse, environmental carcinogens and toxins and monitoring levels of therapeutic drugs, including drug testing centers its local legal and technical mandates, where quality assurance and laboratory safety are emphasized.

COGNATES(credit:9 units)

MSMT 110 – Laboratory Management/Ethical and Legal Issues (credit:3 units; lecture and laboratory: 108 hours)

Part I - Laboratory Management (Theory and Practice) - A study of principles of administration, organization and management with emphasis on the operation of a clinical laboratory. It also includes discussion of problems in laboratory management including the legal and financial aspects of clinical laboratory operations.

Part II - This course discusses the different ethical issues in the field of medical technology. The course provides basic principles of ethics in health and medical technology, morals, and ethical decision-making. It also includes laws relevant to the practice of medical technology.

MSMT 111 – Computer and Informatics(credit:3 units; lecture: 54 hours)

This course is designed to provide graduate students adequate basic knowledge in computer as well as hands-on training in the fundamental skills in computer operations and applications.

MSMT 112 – Seminar-Contemporary Issues and Concerns (credit: 3 units)

This seminar pertains to contemporary issues and concerns in the profession of medical technology. The graduate student will have the opportunity to ask relevant questions, get the answers and interact with experts in their field of specialization.

MASTER'S THESIS (credit:6 units)

Original and in-depth research on medical technology