BIOLOGY (BIO)

BIO 100 Anatomy & Physiology I
4 Class Hours, 4 Quarter Credit Hours
This course presents a comprehensive study of the structure and function of the human body as a whole, emphasizing the normal which will serve as a background for the application of scientific principles both in everyday life and in the work of various health disciplines. Systems covered include integumentary, skeletal, muscular, nervous, and endocrine with respect to both histological and gross anatomy.

BIO 101 Anatomy and Physiology I Lab
4 Lab Hours, 2 Quarter Credit Hours
Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with histological experimentation. Units covered are concerned with general introductory material, the skeletal, muscular, endocrine, and nervous systems.

BIO 107 Comprehensive Anatomy and Physiology I and Lab
4 Class Hours, 4 Lab Hours, 6 Quarter Credit Hours
This course is a comprehensive study of the anatomy (structure) and physiology (function) of the human body and is recommended for students of the nursing program. Based on the interrelationship of related concepts, students will master the complementary nature that anatomy has to physiology. Topics will include orientation to the body as a whole, skin, bones, joints, muscles, nerves and glands. Laboratory practice includes the study of tissues by using microscopic examinations and the dissection of animal specimens, along with histological experimentation. Units covered are concerned with general introductory material, the skeletal, muscular, endocrine, nervous, and sensory systems.

BIO 116 Introduction to Biology
3 Class Hours, 2 Lab Hours, 4 Quarter Credit Hours
This is a survey course intended to provide students with a firm foundation in the scientific method of inquiry. Basic biologic topics presented will include the nature and history of scientific study, diversity of organisms, basic cellular structure and function, evolution, population biology, plant biology, ecology, reproduction/development, and genetics. Scientific literacy will be developed, providing the student with an appreciation of and ability to interpret ongoing scientific research.

BIO 120 Anatomy & Physiology II
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: BIO 100
This course is a continuation of Anatomy & Physiology I, concentrating on the circulatory, respiratory, digestive, urinary, and reproductive systems.

BIO 121 Anatomy and Physiology II Lab
4 Lab Hours, 2 Quarter Credit Hours
Prerequisites: BIO 101
Emphasis is placed on association, correlation, critical thinking and overview of the body as a whole functioning unit, with units covering circulatory, respiratory, digestive, urinary, and reproductive systems.

BIO 122 Microbiology and Lab
3 Class Hours, 2 Lab Hours, 4 Quarter Credit Hours
The morphology, physiology and pathology of microbial organisms are covered along with dynamics of microbial populations. Emphasis is placed on disease causation and implications for health care providers.

BIO 127 Comprehensive Anatomy and Physiology II and Lab
4 Class Hours, 4 Lab Hours, 6 Quarter Credit Hours
Prerequisites: BIO 107
A continuation of Anatomy and Physiology I, this course concentrates on the in-depth coverage of the circulatory, respiratory, digestive, urinary and reproductive systems, from the Nursing perspective. In the laboratory portion of the course, emphasis is placed on association, correlation, critical thinking and overview of the body as a whole functioning unit and of the interrelationship of the systems of the body.

BIO 130 Pharmacology
3 Class Hours, 3 Quarter Credit Hours
Presentation of the basic concepts of pharmacology with emphasis on the biological factors affecting the action of drugs, factors modifying drug response, and drug interactions. Basic fundamental principles of chemistry are covered as necessary background material.

BIO 131 Pathophysiology
2 Class Hours, 2 Quarter Credit Hours
Prerequisites: BIO 100 and BIO 101 and BIO 120 and BIO 121
An introduction to the process of disease and its effects on the body and the basic responses of cells, tissues, and organ systems to these disorders. General phenomena such as inflammation, immune response, and carcinogenesis will be considered as well as a survey of disorders common to the clinical setting characteristic of the various organ systems using a system by system approach.

BIO 133 Pharmacology for the Practical Nurse
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: NRP 130 and NRP 131 and NRP 134 and NRP 135 and (SS 271 or PS 201
Corequisites: NRP 240, NRP 241, NRP 242, NRP 243
This course examines the complex role of the nurse regarding safe and effective medication administration. Pharmacological terms and concepts are introduced as they inform the safe administration of medications. Students calculate drug dosages, explore evidence- based standards for medication administration, and reflect on the legal and ethical implications of drug administration. The quality and safety competencies identified by the Quality and Safety Education for Nurses (QSEN) projects are integrated throughout the course

BIO 243 Pharmacology for the RN
4 Class Hours, 4 Quarter Credit Hours
Corequisites: NUR 240, NUR 241
This course examines the complex roles and responsibilities of the registered nurse in the safe and effective administration of medications to patients across the lifespan. The course will use a systemsbased approach with the incorporation of pathophysiology, pharmacology, dosage calculation, and the nursing process. Students will also explore the subject of pharmacology through evidence-based standards of pharmacology and medication administration, QSEN considerations, legal and ethical aspects of safe medication administration, and critical thinking through active clinical application scenarios. There will also be an emphasis on patient safety and monitoring the effects of pharmacotherapeutic agents.

BIO 310 Survey of Human Anatomy and Physiology
4 Class Hours, 4 Quarter Credit Hours
This survey course prepares students to enter the Rehabilitation Sciences by providing a basic understanding of how the body functions and adapts. All systems in the human body will be presented, with particular emphasis on those systems most commonly affected by disabilities.

BIO 374 Pathophysiology: A Clinical Approach
4 Class Hours, 4 Quarter Credit Hours
This course presents the background and critical thinking skills essential for the holistic model of pathophysiologic principles within a systems framework related to the biological, psychological, social, and spiritual dimensions of health, including cultural and developmental determinants across the lifespan. Its emphasis is focused on the mechanisms and concepts of selected pathological disturbances to the human body and the specific pathological conditions that effect the functioning of the system involved as well as its impact on all other body systems. The application of selected principles from the physical and social sciences are incorporated throughout the course. Emphasis is placed on assisting students to develop clinical reasoning skills that prepare them to provide care safely and with a commitment to quality.

BIO 376 Pathophysiology: A Clinical Approach for Nurses
4 Class Hours, 4 Lab Hours, 6 Quarter Credit Hours
This course presents the background and critical thinking skills essential for the holistic model of pathophysiologic principles within a systems framework related to the biological, psychological, social, and spiritual dimensions of health and nursing care, including cultural and developmental determinants across the lifespan. Its emphasis is focused on the mechanisms and concepts of selected pathological disturbances to the human body and the specific pathological conditions that effect the functioning of the system involved as well as its impact on all other body systems. The application of selected principles from the physical and social sciences are incorporated throughout the course. Emphasis is placed on assisting students to develop clinical reasoning skills that prepare them to provide nursing care safely and with a commitment to quality.

BIO 440 Functional Neuroscience
4 Class Hours, 4 Quarter Credit Hours
Prerequisites: BIO 100 and BIO 101 and BIO 120 and BIO 121 or (BIO 107 and BIO 127)
This course provides students with an advanced understanding the anatomy and physiology of the central and peripheral nervous systems and how disorders in these systems affect a person’s ability to function in everyday life. Topics include special senses, motor control, perceptual and cognitive processing and emotion.