

## HS - Health Sciences

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Courses numbered 100 to 299 = *lower-division*; 300 to 499 = *upper-division*; 500 to 799 = *undergraduate/graduate*.

### **HS 290. Foundational Human Anatomy and Physiology (5).**

*General education math and natural sciences introductory course.*

Designed to give students a foundational understanding of the anatomy and physiology of the human body. Emphasizes the basic anatomy of each body system and develops an understanding of normal human physiologic processes of each system. Students are challenged to begin thinking clinically so as to prepare them for a future in health professions. In correlation with lectures, lab sessions are required weekly to provide a hands-on understanding of the content. Students may receive credit for only one of the following: HS 290 or BIOL 223.

### **HS 301. Clinical Pharmacology (3).**

Surveys therapeutic terms, drug actions, dosage, toxicology and application of drugs in the clinical setting. Prerequisites: BIOL 223 or HS 290 or equivalent, and CHEM 103 or 211 or equivalent or instructor's consent.

### **HS 315. Head and Neck Anatomy (2).**

An in-depth study of the landmarks, muscles, nerves and vascular supply of the head and neck region. Prerequisites: BIOL 223 or HS 290, and enrollment in dental hygiene program.

### **HS 331. Principles of Dietetics & Nutrition (3).**

A study of human dietetic and nutritional needs in the clinical setting. Covers composition and classification of foods, vitamins and their function, food and public health laws, and nutrition under special conditions. Gives a detailed application of dietetic and nutritional knowledge applied to various clinical conditions.

### **HS 400. Introduction to Pathophysiology (4).**

Focuses on the essential mechanisms of disordered function which produce common diseases. Discusses some common diseases, but as examples of the basic processes covered, not as a part of an exhaustive inventory. Presents health professionals with accessible, usable and practical information they can broadly and quickly apply in their clinical or laboratory experience, or use as a basic pathophysiology course before taking the more specific professionally related pathophysiology courses. Prerequisite: BIOL 223 or 534 or HS 290.

### **HS 550. Kidney Function and Disease for Health Professions: Glomerular Filtration and Renal Blood Flow (1).**

First in a series of four courses developed for students preparing for health professional programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science) who have a desire to expand their background in kidney physiology before entering these fields. Prerequisite: BIOL 223 or HS 290.

### **HS 551. Kidney Function and Disease for Health Professionals: Tubular Processing of Glomerular Filtrate (1).**

Second in a series of four courses developed for students preparing for health professional programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science) who have a desire to expand their background in kidney physiology before entering these fields. Prerequisite: HS 550.

### **HS 552. Kidney Function and Disease for Health Professionals: Regulation of Extracellular Fluid Osmolarity (1).**

Third in a series of four courses developed for students preparing for health professional programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced

degrees in the sciences (e.g., biology, exercise science) who have a desire to expand their background in kidney physiology before entering these fields. Prerequisite: HS 551.

### **HS 553. Kidney Function & Disease for Health Professionals: Potassium, Kidney Diseases & Diuretics (1).**

Fourth in a series of four courses developed for students preparing for health professional programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science) who have a desire to expand their background in kidney physiology before entering these fields. Prerequisite: HS 552.

### **HS 560. Cranial Nerves I: Embryology (2).**

First in a series of two courses developed for students who have a desire to expand their background on the cranial nerves before entering a health professional field (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degree in the sciences (e.g., biology, exercise science). Prerequisite: BIOL 223 or HS 290.

### **HS 561. Cranial Nerves II: Anatomy & Physiology (2).**

Second in a series of two courses developed for students who have a desire to expand their background on the cranial nerves before entering a health professional field (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degree in the sciences (e.g., biology, exercise science). Prerequisite: BIOL 223 or HS 290.

### **HS 570. Neuroscience for Health Professionals: Peripheral Nervous System (1).**

First in a series of four courses developed for students preparing for health professions programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science, biochemistry) who have a desire to expand their background in neuroscience before entering these fields. Prerequisite: instructor's consent.

### **HS 571. Neuroscience for Health Professionals: Ascending and Descending Pathways (1).**

Second in a series of four courses developed for students preparing for health professions programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science, biochemistry) who have a desire to expand their background in neuroscience before entering these fields. Prerequisite: HS 570 or instructor's consent.

### **HS 572. Neuroscience for Health Professionals: Brainstem and Cerebellum (1).**

Third in a series of four courses developed for students preparing for health professions programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science, biochemistry) who have a desire to expand their background in neuroscience before entering these fields. Prerequisites: HS 570, 571.

### **HS 573. Neuroscience for Health Professionals: Forebrain (1).**

Fourth in a series of four courses developed for students preparing for health professions programs in a variety of settings (e.g., nursing, physician assistant, physical therapy, medical degrees), or advanced degrees in the sciences (e.g., biology, exercise science, biochemistry) who have a desire to expand their background in neuroscience before entering these fields. Prerequisites: HS 570, 571, 572.

### **HS 600. Advanced Clinical Anatomy (5).**

Structured to present the human body using a regional approach. Emphasis on learning gross anatomy with a clinical mindset. In addition to lectures, the students use prosected cadavers, skeletal specimens, radiographic films and anatomical models. Designed for those students who desire to pursue a degree within health professions and who would

like to deepen their knowledge of human anatomy and its application to clinical scenarios. Prerequisite: BIOL 223 or HS 290.

**HS 700. Gross Anatomy (6).**

3 Classroom hours; 9 Lab hours. Study of the structure of the human body emphasizing integration of anatomical information with human functional abilities. Prerequisites: four semesters of biological sciences and instructor's consent.

**HS 710. Applied Clinical Pharmacology (3).**

Discusses clinical applications of selected drug classes commonly prescribed in the primary care setting as well as the follow-up management of common chronic diseases. Discusses pharmacological managements as to pharmacokinetics, dosages, mechanisms of action (at molecular and systemic levels), side effects, drug interactions, contraindications, therapeutic use and expected outcomes. Emphasizes the practical application of this knowledge in various patient populations of all ages as well as rational drug selection and monitoring. Methodology includes lecture presentations, group discussions, clinical case studies, assessment of recent literature, homework assignments, quizzes and exams. Prerequisites: HS 301, admission to graduate health professional program or PA professional program, or instructor's consent.

**HS 711. Pharmacological Management of Acute and Chronic Diseases (3).**

Discusses the clinical application of specific categories of drugs used in the treatment of several common acute and chronic diseases. Presents pharmacokinetics, mechanisms of action, dosages, side effects and monitoring parameters of medications as they are used in these diseases and in various patient populations. Facilitates clinical application of this knowledge through case studies, class discussions and reviews of the latest medical literature. Prerequisites: admission to graduate nursing program and department consent, or completion of HS 710 and admission to PA professional program.