

# DENTAL HYGIENE LEVEL 1 (DHYG1-UD)

## DHYG1-UD 100 Human Microbiology I (2 Credits)

*Typically offered Spring*

This course is a comprehensive overview of the broad and evolving field of microbiology, tracing its development from early cultivation-based determinative bacteriology to modern systematic microbiology. Fundamental characteristics of microorganisms are explored. Through classroom activities and instruction, the basic concepts of microbial susceptibility to disinfectants and antiseptics are described. Fall, Spring FTRK only Fall, Spring FTRK only

**Repeatable for additional credit:** No

## DHYG1-UD 101 General Chemistry I (5 Credits)

General Chemistry I serves as an introductory course in inorganic and physical chemistry designed for science majors, engineers, and students pursuing pre-health professions. The course provides a comprehensive overview of fundamental chemical principles and theories. Key topics include the study of chemistry through definitions, units, and problem-solving techniques; the components and composition of matter; and the stoichiometry of formulas and equations. Students will explore the three major classes of chemical reactions, the properties and behavior of gases as explained by the kinetic-molecular theory, and the principles of thermochemistry, focusing on energy flow and chemical changes. The course also delves into quantum theory and atomic structure, electron configurations, and the periodicity of chemical properties. Additionally, students will learn about different models of chemical bonding, molecular shapes, and intermolecular forces that govern the behavior of liquids, solids, and phase changes. The curriculum is based on 11 chapters from the textbook "Chemistry: The Molecular Nature of Matter and Change, 9th Edition, by Martin S. Silberberg", ensuring a thorough and integrated understanding of the unity underlying the field of chemistry. General Chemistry I Lab Course Description: The General Chemistry (I) laboratory course provides an introduction to basic techniques used in experimental chemistry, as well as a couple of dry labs. The laboratory begins with developing essential laboratory skills, familiarizing students with various glassware, equipment, and specific chemicals, and emphasizing laboratory safety, which must be rigorously observed. Proper laboratory procedures, chemical safety rules, and environmentally sound methods of chemical disposal and waste minimization, which are important components of the course, will be covered in the first week and must be maintained throughout the entire semester. Experiments are chosen to illustrate and reinforce course topics, including but not limited to data analysis, various titrations, chromatography, stoichiometry, thermodynamics, calorimetry, and quantitative analysis of metal ions using methods such as spectroscopy. More details regarding

**Repeatable for additional credit:** No

## DHYG1-UD 102 General Chemistry II (5 Credits)

This course continues from General Chemistry (I) and laboratory, focusing on topics in chemistry as outlined in "Chemistry: The Molecular Nature of Matter and Change, 10th Edition", starting with Chapter 11, Theories of Covalent Bonding. Key subjects include Theories of Covalent Bonding, Intermolecular Forces, Properties of Mixtures, Chemical Kinetics, Chemical Equilibrium, Acid-Base Equilibria, Ionic Equilibria in Aqueous Systems, Electrochemistry, and an introduction to Nuclear Reactions. The laboratory component complements the lecture material, providing hands-on experiments related to these topics. Detailed schedules and descriptions of lab activities will be outlined in the course syllabus. This course is intended to enhance students' understanding of chemical principles and their practical applications, providing a strong foundation for further studies in the sciences

**Repeatable for additional credit:** No

## DHYG1-UD 110 Oral Anatomy (3 Credits)

*Typically offered Spring*

Oral Anatomy provides foundation knowledge of the structure and function of the human dentition, and the development sequence, and the anatomy of associated oral tissues and structures. Opportunities for the application of tooth morphology and terminology to the practice of dentistry are provided during lectures and labs. Lab exercises focus on faculty guided small group interactive study, dental wax-ups, identification of anatomical landmarks on teeth and skulls. In the lab, emphasis is placed on self-assessment during which students reflect on the quality of their work, judge the degree to which it reflects explicitly stated goals or criteria, and revise accordingly. (Fall, Spring-FTRK only)

**Repeatable for additional credit:** No

## DHYG1-UD 112 Principles of Dental Hygiene I Lecture (2 Credits)

*Typically offered Spring*

Principles of Dental Hygiene I (didactic and clinical) is an introductory course for the dental hygiene student, designed to introduce and integrate scientific knowledge, skills and judgments necessary for prevention of diseases of the teeth and surrounding tissue. Manual skills will be developed through laboratory and clinical experiences. (Co-requisite or Prerequisite: Human Anatomy and Physiology I, Oral Anatomy; Co-requisite: Principles of Dental Hygiene I Clinic) (Fall, Spring-FTRK only)

**Repeatable for additional credit:** No

## DHYG1-UD 113 Principles of Dh I Clinic (2 Credits)

*Typically offered Spring*

Principles of Dental Hygiene I Clinic is an introductory course for the dental hygiene student, designed to introduce and integrate scientific knowledge, skills and judgments necessary for prevention of diseases of the teeth and surrounding tissue. Manual skills will be developed through laboratory and clinical experiences.

**Repeatable for additional credit:** No

## DHYG1-UD 114 Anatomy & Physiology I (3 Credits)

*Typically offered Spring and Summer*

This course is designed to introduce the basic principles of anatomy and physiology to nursing and allied health students. Following an introduction to the organization of the human body, basic chemistry, and basic cell biology, Anatomy and Physiology examines the histology, gross anatomy and functions of organs of the integumentary, skeleton, muscular, and nervous systems. (Fall, Spring-FTRK only, Summer)

**Repeatable for additional credit:** No

**DHYG1-UD 114L Anatomy & Physiology I Lab (1 Credit)**

The laboratory is an opportunity for you to gain first-hand knowledge and experience with the anatomical and physiological concepts. The course complements and reinforces the lecture through the use of laboratory experiments that focus on closer examination of the body's components. Following an introduction to the organization of the human body, basic chemistry, and basic cell biology, the laboratory examines the histology, gross anatomy and functions of organs of the integumentary, skeleton, muscular, and nervous systems.

**Repeatable for additional credit:** No

**DHYG1-UD 115 Radiology (2 Credits)**

*Typically offered Spring*

This didactic course is designed to provide the student with knowledge of ionizing radiation, the basic principles of x-ray generation, image formation, biological effects of radiation, radiation protection, infection control, intraoral and extraoral radiographic techniques, digital radiography, CT scanning dental imaging, MRI dental imaging, quality assurance, patient management, film processing, film mounting, radiographic anatomy, radiographic interpretation, and legal considerations in dental radiography. The technique laboratory component of the course is designed to provide the student with the practical skills and knowledge necessary to expose digital periapical and horizontal/vertical bitewing radiographs utilizing conventional and ORA XCP instruments. Students will also learn to operate the digital radiographic computer system currently used at the college. Additionally, the workshop laboratory component will provide the students with activities including labeling the components and stating the functions of the dental x-ray tube; mounting; panoramic exposure sequence; and practice in interpreting radiographic errors and anatomic landmarks on intraoral and panoramic radiographs. (Co-requisites: Principles of Dental Hygiene I Lecture and Clinic) (Fall, Spring-FTRK only, Summer-ADV STD only)

**Repeatable for additional credit:** No

**DHYG1-UD 116 Chemistry for Allied Health (4 Credits)**

*Typically offered Spring*

Chemistry is the study of the nature of substances and their transformations. Chemistry for Allied Health is designed to introduce you to the basic concepts and terminology of general chemistry (chemistry of matter), organic chemistry (chemistry of carbon, mainly), and biochemistry (chemistry of biology), physical chemistry, and to provide a foundation for courses in nutrition, physiology, and dental materials that you use in dental hygiene.s. (Fall, Spring)

**Repeatable for additional credit:** No

**DHYG1-UD 117 Clinical Practicum Level I (0 Credits)**

*Typically offered Fall, Spring, and Summer terms*

Designed for those students who are away from the dental hygiene clinic for no more than one year, fail Principles of Dental Hygiene I Lecture have completed Principles of Dental Hygiene I from another dental hygiene program prior to return to patient care. (Fall, Spring, Summer)

**Grading:** Ugrd Dental Pass/Fail

**Repeatable for additional credit:** No

**DHYG1-UD 118 Advanced Standing Clinical Practicum (0 Credits)**

Through laboratory, discussion and independent study, the student is provided the opportunity to review and practice all clinical skills in delivering dental hygiene treatment to proficiency. This is a restricted course and is limited to Dental Hygiene Advanced Standing students only.

**Repeatable for additional credit:** No

**DHYG1-UD 120 Anatomy & Physiology II (3 Credits)**

*Typically offered Fall, Spring, and Summer terms*

This course is designed to introduce the basic principles of anatomy and physiology. Following an introduction to the organization of the human body and several body systems in Anatomy and Physiology I, this continuation course examines the histology, gross anatomy and functions of organs of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems and autonomic nervous system. (Spring, Summer FT only)

**Repeatable for additional credit:** No

**DHYG1-UD 120L Anatomy & Physiology II Lab (1 Credit)**

*Typically offered Spring*

This is the laboratory component of Anatomy and Physiology II. It is designed to get experience with anatomical and physiological concepts that are covered in lecture. This course examines the histology, gross anatomy and functions of organs of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems and autonomic nervous system.

**Repeatable for additional credit:** No

**DHYG1-UD 121 Principles of Dh II Lecture (2 Credits)**

*Typically offered Spring and Summer*

The Principles of Dental Hygiene II-Lecture course is a continuation of Principles of Dental Hygiene I-Lecture and Pre-Clinic. This course is designed to develop further fundamental (core) knowledge and skills needed to practice evidence-based dental hygiene care including participation in research and an integrated case presentation. Principles II uses a conceptual framework of the process of hygiene care which moves from assessment, diagnosis, planning, and implementation to evaluation and documentation. Through classroom instruction and activities, students enlarge their understanding of systemic disease processes and the integral link to oral health, critical thinking and communication skills, and patient-centered attitudes. Advanced techniques and emerging technologies in educational, preventive and therapeutic services are covered with emphasis on special needs and medically complex patients. Also, the principles of motivational interviewing (MI) are incorporated into patient care management. (Prerequisites: Principles of Dental Hygiene I Lecture and Clinic) Co-requisite: Principles of DH II Clinic (Spring, Summer-FTRK only)

**Repeatable for additional credit:** No

**DHYG1-UD 122 Prin of Dent Hygiene II Clinic (2 Credits)**

*Typically offered Spring and Summer*

This course is a continuation of Principles of Dental Hygiene I Lecture and Clinic. The emphasis of this course will be placed on application and further development of professional knowledge and refining Dental Hygiene skills in the treatment of patients.. (Prerequisites: Principles of Dental Hygiene I Lecture and Clinic; Co-requisite: Human Anatomy & Physiology II) (Spring, Summer-FTRK only)

**Repeatable for additional credit:** No

**DHYG1-UD 123 Dental Materials Lec (3 Credits)***Typically offered Spring and Summer*

The Dental Materials lecture and laboratory is designed to introduce the student to the names, uses, properties, characteristics, composition, and manipulation of the dental materials used in the practice of Dentistry. Standards for selection of material, specifications and ADA guidelines will be discussed as well as biological considerations in the selection and utilization of dental materials. Through required readings, lectures, powerpoint presentations and laboratory activities the dental hygiene student will acquire knowledge and skills needed to perform the following; taking of alginate impressions, pouring and trimming diagnostic study casts, mouth guard and whitening tray fabrication, rubber dam placement and removal, matrix band placement and removal, placement and removal of periodontal dressing, suture removal, manipulation of cements, bases, liners and impression materials and placement of sealants and amalgam and composite restorations. Upon completion of the course the dental hygiene student will have gained knowledge in the science of dental materials to utilize in his/her assessment, treatment and education of patients. (Prerequisites: Chemistry for Allied Health, Principles of Dental Hygiene I Lecture and Clinic) (Spring, Summer-FTRK only)

**Repeatable for additional credit:** No**DHYG1-UD 124 Oral Embryology & Histology (2 Credits)***Typically offered Spring and Summer*

Oral Embryology and Histology provides an understanding of embryology and orofacial development, histology, and the cellular and molecular mechanisms underlying tooth formation. The course is divided into three units, each culminating with a review and an examination. Unit 1 presents the oral cavity, general principles of human embryogenesis, orofacial and tooth development. Unit 2 teaches the development and properties of enamel, dentin, periodontal tissues and alveolar bone. Unit 3 illustrates eruption and exfoliation of teeth, and the biology of dental pulp, salivary glands and temporomandibular joint (TMJ). At the conclusion of the course, the student should understand the oral biology rationale that constitutes the foundation for current therapies in dental hygiene. The student should also have sufficient knowledge in Oral Biology to be successful in those areas of the National Board Examinations.. (Prerequisite: Human Anatomy and Physiology I, Oral Anatomy) (Spring, Summer)

**Repeatable for additional credit:** No**DHYG1-UD 125 CPR Hygiene (0 Credits)***Typically offered Spring*

This AHA BLS course is designed for healthcare professionals and other personnel who need to know how to perform CPR and other basic cardiovascular life support skills in a variety of in-facility and prehospital settings. The course is comprised of an online component that must be completed first before attending one in-person hands on session. Upon completion of all course requirements, participants receive a BLS Provider Course Completion Card which is valid for two years.

**Grading:** Ugrd Dental Pass/Fail**Repeatable for additional credit:** No**DHYG1-UD 129 Periodontics (2 Credits)***Typically offered Spring and Summer*

This course presents to dental hygiene students the theoretical and practical study of the various concepts and methods used in describing, preventing, and controlling periodontal disease. Assessment, etiology, pathology, the histopathology and role of inflammation in periodontal disease, as well as the classifications of periodontal diseases.

(Prerequisites: Principles of Dental Hygiene I Lecture and Clinic; Co-requisite: Principles of Dental Hygiene II Lecture and Clinic) (Spring, Summer-FTRK only)

**Repeatable for additional credit:** No**DHYG1-UD 200 Microbiology II (2 Credits)***Typically offered Spring and Summer*

This course builds upon foundational microbiology concepts with a deeper exploration of microbial structure, function, and diversity. Instruction and course activities related to the classification and identification of bacteria, viruses, fungi, and parasites, as well as microbial genetics, growth, and control are explored. Scientific frameworks examining the host-microbe interactions, immunity, and infectious diseases are discussed. (Prerequisite: Human Microbiology I) (Spring, Summer-FTRK only)

**Repeatable for additional credit:** No**DHYG1-UD 201 Organic Chemistry I and Laboratory (5 Credits)***Typically offered Fall*

This course introduces the foundational principles of organic chemistry, focusing on the structure, nomenclature, properties, and reactivity of carbon-based compounds. Topics include bonding and molecular structure, functional groups, stereochemistry, and reaction mechanisms such as substitution, elimination, and addition. The course covers alkanes, alkenes, alkynes, alkyl halides, alcohols, and other related compounds through Chapters 1–11 of Organic Chemistry by Janice Gorzynski Smith (7th edition, 2024), preparing students for advanced study in organic chemistry (II), biochemistry, and fulfills organic chemistry requirements for pre-dental and pre-medical tracks. The laboratory component introduces essential techniques in organic chemistry through hands-on experiments focused on synthesis, purification, and compound analysis. Students will perform methods such as recrystallization, extraction, and distillation, and will assess compound identity and purity using thin-layer chromatography, gas chromatography, Fourier-transform infrared spectroscopy, and melting/boiling point determination. Detailed schedules and descriptions of lab activities will be outlined in the course syllabus.

**Repeatable for additional credit:** No**Prerequisites:** DHYG1-UD 102.