



2025-2026 CATALOG

Effective Date: September 21, 2026

100 London Parkway, Suite 150, Birmingham, AL 35211

Phone: 205-940-7800 / Fax: 205-942-6708

For consumer info visit www.fortis.edu





Table of Contents

Programs	4	DAS - Dental Assisting	13
Dental Assisting	4	DHG - Dental Hygiene	16
Dental Hygiene	5	EL - Electrical Trades	21
Electrical Trades	6	ENG - English	24
Heating, Ventilation, Air Conditioning, and Refrigeration	7	HVR - Heating, Ventilation, Air Conditioning and Refrigeration	24
Medical Assisting	8	MAT - Mathematics	28
Welding Technician	9	MED - Medical Anatomy & Physiology	29
Courses	11	MAS - Medical Assisting	30
Explanation of Course Numbering System	11	MOA - Medical Office Administration	31
AHP - Allied Health Professions	11	PDC - Professional Development	32
BIO - Biology	12	PSY - Psychology	33
CHM - Chemistry	12	SCI - Science	33
COM - Communications	12	SKW - Skilled Workforce Professions	34
CPT-F - CPT-F	13	SOC - Sociology	34
		WLD - Welding Technician	34

Programs

Dental Assisting

Mode of Delivery	Hybrid - Courses delivered online are identified below; all other courses are offered in a traditional on-campus (residential) mode of delivery. Online courses are delivered through a consortium agreement with Fortis College in Centerville, Ohio.
Credential Awarded	Diploma
Contact Hours	1040
Program Quarter Credits	60
Instructional Weeks	48
Total Clock Hours	Including Recognized Homework Hours: 1,635

Objective

The Dental Assistant's role is critical to the delivery of quality dental health care. Advanced technologies and the increasing demand for dental services have resulted in dramatic growth in the industry. The objective of the dental assisting program is to provide quality career education that prepares students not only for seeking entry-level employment in the dental assisting field but also for life-long learning and personal and professional growth.

Description

Dental assistants perform a variety of patient care, office, and laboratory duties. They sterilize and disinfect instruments and equipment, prepare and lay out the instruments and materials required to treat each patient, and obtain and update patients' dental records. Assistants make patients comfortable in the dental chair and prepare them for treatment. During dental procedures, assistants work alongside the dentist to provide assistance. The Dental Assisting curriculum provides a foundation in the health sciences and hands-on training in using the technology necessary to perform tasks typically performed by a Dental Assistant.

Externship

An externship component is included in this program to provide students with the opportunity to apply their knowledge and skills to real-life situations in a dental setting. Students are required to complete the required externship hours and other related learning activities prior to graduation. Students are not paid for work performed at the externship site.

Credentialing Exams

Graduates of this program are eligible for taking the Dental Assisting National Board's (DANB) Radiation Health and Safety (RHS), and the Infection Control Examination (ICE) Examinations.

Career Opportunities

Graduates of the Dental Assisting program are prepared to seek entry-level employment in the office of a licensed dentist, performing tasks such as assisting with procedures, managing/maintaining patient records, and completing other appropriate tasks assigned by the licensed Dentist.

[AHP105](#) [AHP106](#): Online Delivery

Schedule

Morning: 8:00 a.m. – 1:00 p.m. Monday through Thursday

Required externship hours may be scheduled outside of typical class sessions.

Externship hours will be available during typical office hours. Hours are subject to change.

Dental Hygiene

Mode of Delivery	Hybrid - Courses delivered online are identified below; all other courses are offered in a traditional on-campus (residential) mode of delivery. Online courses are delivered through a consortium agreement with Fortis College in Centerville, Ohio.
Credential Awarded	Academic Associate Degree
Contact Hours	2412
Program Quarter Credits	141.5
Instructional Weeks	120
Total Clock Hours	Including Recognized Homework Hours: 2412

Objective

An integral member of the professional dental team, the Dental Hygienist assumes a major role in the prevention of dental diseases for patients. Advanced technology and increased public awareness of preventive health modalities have contributed to the growth of the dental industry. Increased demand for dental services has led to the expansion of roles for hygienists to include clinician, educator, administrator and advocate. The responsibilities of the dental hygienist continue to evolve requiring advanced skills in preventive, educational, and therapeutic dental services. The objective of the dental hygiene program is to train and prepare students in all skills necessary to perform dental hygiene services in a variety of entry-level employment settings.

Description

The Dental Hygiene program prepares students to achieve competency in the delivery of the most current dental procedures and to prepare the individual to pursue a career as a dental hygienist with skills to fulfill responsibilities as practitioner and patient advocate. Students learn to provide preventative, educational, clinical therapeutic services supporting the total health of their patients, control oral disease symptoms, and promote good oral health.

Supervised Clinic

The Dental Hygiene program has a significant component of supervised clinical on campus to allow students opportunities to apply their knowledge and skills on patients. The clinic hours are scheduled throughout the curriculum to fulfill the clinical practice requirements. During the clinical hours, students work under the supervision of an instructor and a licensed dentist.

Academic Progression

In addition to meeting the standards set in the Satisfactory Academic Progress policy, students must complete all concentration courses and prerequisite science courses with a minimum grade of “C+” to be considered passing. Any concentration course below a grade of C+ must be retaken. A student can attempt a concentration course no more than two times. Any student who fails to pass a concentration course after two attempts will be dismissed from the program. A student can only fail one clinical/externship course. If the student should fail a second clinical/externship course, they will be dismissed from the program.

Credentialing Exams

In order to be eligible for employment as a Registered Dental Hygienist (RDH), graduates of the program must successfully pass all applicable exams and receive a license from the State Board of Dentistry. Licensing requirements vary by state, and one such requirement is to pass several credentialing exams. Students must pass the written National Board Dental Hygiene Examination (NBDHE) and a regional or state board examination that includes a clinical component and in some jurisdictions a written component. Most states require passing a written jurisprudence examination administered by the State Board of Dentistry.

Career Opportunities

Graduates of this program are prepared to seek entry-level employment as dental hygienists.

[SCI118](#), [ENG101](#), [SCI120](#), [MAT101](#), [COM205](#), [SOC101](#), [PSY101](#): General Education courses
[SCI118](#), [MED110](#), [MED115](#), [SCI120](#), [BIO205](#), [PDC200](#): Related courses
[ENG101](#), [MAT101](#), [COM205](#), [SOC101](#), [PSY101](#): Online delivery

Schedule

Morning: 8:00 a.m. – 1:00 p.m. Monday through Thursday
Terms are 12 weeks in length. *Courses and course time are subject to change.

Electrical Trades

Mode of Delivery	Residential
Credential Awarded	Diploma
Contact Hours	960
Program Quarter Credits	64
Instructional Weeks	48
Total Clock Hours	Including Recognized Homework Hours: 1,600

Objective

The objective of the Electrical Trades program is to prepare students for a rewarding career as an electrician’s apprentice. The program trains students in the areas of residential, commercial, or industrial electricity. Students are instructed on the important need for safe work habits in the electrical field, and that importance is reinforced throughout the program. The National Electrical Code (NEC) is covered extensively during the course of instruction, with great emphasis on the Code’s guidelines and the importance of following those guidelines. OSHA standards for a safe electrical environment surrounding the workplace are also stressed to students, both as the employee and as a possible employers.

Description

Students start the electrical program with a basic introduction to electrical theory and continually progress to the knowledge of how electricity is produced for everyday use. Even though electrical equipment and products are ever-changing, the theory of electricity has remained constant over the years. This basic knowledge stays with graduates who have a desire to progress further in the electrical field.

Core classes in Electrical Trades, such as Alternating Current Theory (A.C.), A.C. Motors and Controls, and Three Phase Power and Transformers, provide fundamental content knowledge. Lab class instruction offers the hands-on opportunity to develop skills necessary for graduates to enter the workforce as entry-level electricians, electrical apprentices, or electrician helpers. The program’s students have knowledge of conduit bending, motors and controls, electrical schematic interpreting, and troubleshooting techniques, all desirable talents in a prospective employee to employers.

Career Opportunities

Upon successful completion of the program, graduates are prepared to seek entry-level employment in the electrical trades, such as apprentice electrician, electrical apprentice, electrician’s helper, electrician helper, or electrician apprentice. Cable puller and unindentured apprentice.

Schedule

Morning: 8:00 a.m. – 1:00 p.m. Monday through Thursday
Evening: 6:00 p.m. – 11:00 p.m. Monday through Thursday

Heating, Ventilation, Air Conditioning, and Refrigeration

Mode of Delivery	Residential
Credential Awarded	Diploma
Contact Hours	960
Program Quarter Credits	64
Instructional Weeks	48
Total Clock Hours	Including Recognized Homework Hours: 1,600

Objective

The objective of the program is to provide the student with the skills and knowledge required for entry-level employment in the Heating, Ventilation, Air Conditioning, and Refrigeration industry. The program is designed to be comprehensive in nature, including extensive hands-on training, covering service for residential and commercial refrigeration, gas and oil furnaces, heat pumps, electric furnaces, and air conditioning equipment.

Program Description

The Heating, Ventilation, Air Conditioning & Refrigeration program is designed for persons interested in a career in the field of climate control systems, focusing on learning objectives identified as the key knowledge points for an HVACR Technician. The student will be adept at using a variety of tools to work with refrigerant lines and air ducts. They use voltmeters, thermometers, pressure gauges, manometers, and other testing devices to check airflow, refrigerant pressure, electrical circuits, burners, and other components. Upon graduation from the HVACR program, students will be required to take and pass the EPA certification exam. Students receive a diploma and will have the knowledge necessary for an entry-level position in the field of heating, air conditioning and/or refrigeration service in both residential and commercial sites.

Program Mission

The objective of the program is to provide the student with the skills and knowledge required for entry-level employment in the Heating, Ventilation, Air Conditioning, and Refrigeration industry. The program is designed to be comprehensive in nature, including extensive hands-on training, covering service for residential and commercial refrigeration, gas and oil furnaces, heat pumps, electric furnaces, and air conditioning equipment.

Career Opportunities

The graduate is prepared to seek entry-level employment in HVACR including but not limited to the service technician, installation technician, and apprentice heating technician.

This occupation has a bright outlook (expected to grow rapidly in the next several years, will have large numbers of job openings, or are new and emerging occupations).

Schedule

Morning: 8:00 a.m. – 1:00 p.m. Monday through Thursday
Evening: 6:00 p.m. – 11:00 p.m. Monday through Thursday

Medical Assisting

Mode of Delivery	Hybrid - Courses delivered online are identified below; all other courses are offered in a traditional on-campus (residential) mode of delivery. Online courses are delivered through a consortium agreement with Fortis College in Centerville, Ohio.
Credential Awarded	Diploma
Contact Hours	780
Program Quarter Credits	46
Instructional Weeks	36
Total Clock Hours	Including Recognized Homework Hours: 1,225

Objective

Medical Assistants play an integral part in performing administrative and clinical tasks that support the work of physicians and other healthcare professionals. With changes in the healthcare industry, the need for well-trained Medical Assistants has grown significantly. The objective of the Medical Assisting program is to provide training for those who wish to work in the clinical and administrative areas of health care and enable students to gain knowledge and skills necessary for entry-level employment in a healthcare setting.

Description

The Medical Assisting program includes administrative and clinical competencies expected for entry-level positions in a health care setting. Students develop skills in front office administration with an introduction to health insurance and basic billing practices. The back-office portion focuses on direct patient contact and typical clinical and laboratory skills, such as minor clinical procedures, EKG, phlebotomy, injections, and lab screenings. Students also learn to observe Universal Precautions, OSHA regulations, HIPAA requirements, confidentiality, and the legal aspects applicable to any allied health environment.

Duties of medical assistants vary from office to office depending on office location, size, and specialty. In small practices, medical assistants are usually "generalists," handling both administrative and clinical duties. They report directly to an office manager, physician, or other health practitioner. Those in large practices tend to specialize in a particular area under the supervision of a department administrator/ practice manager.

Externship

An externship course is included in this program to provide students with the opportunity to apply their knowledge and skills to real-life situations in a healthcare setting. Students are required to complete the required externship hours and other related learning activities prior to graduation. Students are not paid for work performed at the externship site.

Credentialing Exams

Students in their final quarter are eligible to take National Health career Association’s (NHA) Certified Clinical Medical Assistant (CCMA) exam.

Career Opportunities

Upon satisfactory completion of the training, students are prepared to seek entry-level positions as medical assistants performing the medical procedures, lab techniques, and front office duties described above.

[AHP105](#), [AHP106](#), [MOA110](#), [MOA115](#), [MOA120](#) *Online Delivery*

Schedule

Morning: 8:00 a.m. – 1:00 p.m. Monday through Thursday
Evening: 6:00 p.m. – 11:00 p.m. Monday through Thursday
Required externship hours may be scheduled outside of typical class sessions.
Externship hours will be available during typical office hours. Hours are subject to change.

Welding Technician

Mode of Delivery	Residential
Credential Awarded	Diploma
Contact Hours	960
Program Quarter Credits	64
Instructional Weeks	48
Total Clock Hours	Including Recognized Homework Hours: 1,600

Objective

Welding technology is widely used in a variety of modern industries, including but not limited to infrastructure construction, high-rise building construction, shipbuilding, and energy and transportation. The objective of the Welding Technology program is to prepare students to seek entry-level employment or advance their careers in welding and industrial repairs.

Description

Welding encompasses study in electrical, metallurgy, chemistry, physics, design, and mechanical engineering. Welders may work on various structures, including but not limited to bridges, buildings, pressure vessels, and heat exchangers. This would include welding items such as nuclear systems, boilers, storage vessels, transmission and transportation vehicles for water, land, air, and space travel, and production and processing machines of all types. The curriculum provides students with a foundation in welding techniques, skills, welding mathematics, and career development. The successful graduate is trained to enter the welding profession as an entry-level welder.

Credentialing Opportunities

The Welding Technician program prepares students to take welding certification exams.

Career Opportunities

The graduate is prepared to seek entry-level employment in positions such as Aluminum Welder, Brazer, Fabrication Welder, Fabricator, Fitter/Welder, Maintenance Welder, Mig Welder, Solderer, Arc Operator, Welder, and Welder Fitter/Fabricator.

Schedule

Morning: 8:00 am – 1:00 pm Monday through Thursday
Evening: 6:00 pm – 11:00 pm Monday through Thursday

Courses

Explanation of Course Numbering System

The first three letters identify the subject area. For example, AHP represents courses in the Allied Health Professions subject area. The first number represents the level of the course: 100 series courses are generally first academic year courses or do not have prerequisite requirements; 200 series courses are generally second academic year courses, or the course requires completion of a prerequisite.

AHP - Allied Health Professions

AHP101: Introduction to Health Professions

In this course students will gain an overview of health professions and learn the basics of medical terminology, life support, and infection control. Students will also learn directives and guidelines set forth by government agencies for healthcare facilities and professionals. To help students transition successfully into college environment, this course also explores learning strategies such as reading and critical thinking, test-taking, and using computer technology for resources and class assignments.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

AHP105: Medical Terminology

This course will introduce students to the terminology associated with medical language. To function effectively in the health professions, students must understand The Anatomy of Word Construction, including prefixes, suffixes, root words and medical abbreviations. Through laboratory assignments, terminology relative to the body systems is presented to help the student understand medical terminology. In addition to studying the medical terminology, the course briefly covers disease processes and treatment modalities such as psychiatry, oncology, radiology and nuclear medicine. This introductory course provides a basis for a more in-depth study of human anatomy and physiology.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

AHP106: Medical Anatomy and Physiology

Students are introduced to anatomical structures and physiological function of the human body. This course defines the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, digestive, urinary, lymphatic, and reproductive systems. Practical laboratory experiences included in the course provide a survey of basic anatomy and physiology which is the foundation for a career in health professions.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

AHP206: Ethics and Jurisprudence

This course prepares the allied health student to manage the moral, legal, and administrative challenges encountered in clinical and non- clinical settings. Principles and standards of practice are presented as well as ethical issues and challenges associated with a professional health care career. The ethical values presented provide a basis for an appropriate decision-making model.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

BIO - Biology**BIO205: Microbiology**

The microbial world is composed of an incredibly diverse group of microorganisms. Many are distinguished by their remarkable ability to cause human disease. This course is a study of microorganisms and the manner in which they affect health; characteristics, growth requirements, methods of transfer and reactions of the body toward invading organisms; principles underlying immunity; food, water, industrial and ecological microbiology. Therefore, this course will also include host defense mechanisms that interact with microorganisms. At the end of this course, you will understand what types of diseases viral, fungal, and bacterial pathogens can cause. Furthermore, you will know the general mechanisms of how they cause disease.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

CHM - Chemistry**CHM101: Chemistry**

This course provides the foundations of chemistry. Topics include the fundamentals of matter, structure, and elemental interactions. Emphasis has been placed on compound formation, acid and base reactions, and organic chemistry as it relates to nutrients.

Credits	4
Clock Hours	60
Lab Hours	30
Lecture Hours	30
Prerequisites	None

COM - Communications**COM205: Effective Communication**

This course introduces the students to communication with the goal of helping them become more effective in verbal and nonverbal communication and managing interpersonal and group communication. The course focuses on applying practical principles to one's daily life, in both formal and informal settings. Through the analysis of psychological, social, cultural, and linguistic factors that influence person-to-person interactions, students receive feedback and learn strategies for improving their own communication.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

CPT-F - CPT-F

CPT-F: Certified Phlebotomy Technician

Students are introduced to the roles, responsibilities, and professionalism of phlebotomists. Safety and infection control, HIPAA, and ethics as they pertain to phlebotomy are discussed. Venipuncture and dermal puncture will be performed. Students will learn and demonstrate the proper methods for blood specimen collection, handling and processing. The practice of phlebotomy will be discussed. Standard precautions, transmission-based precautions, and body systems will be reviewed.

Clock Hours	80
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DAS - Dental Assisting

DAS110: Fundamentals of Dental Assisting

This course presents the foundational principles of the dental assisting profession, the science of dentistry, and an introduction to dental communications. The course includes the roles and functions of the dental team, and laws affecting ethics and the practice of dentistry. Students will gain a working vocabulary that includes terminology related to oral, dental, and head and neck anatomy, and histology. Students will be introduced to dental office communication and business operating systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DAS116: Infection Control

This course presents the background, importance, and practical application of disease transmission prevention and infection control in dentistry. This includes infection prevention and control practices, the chain of infection, standard and transmission-based precautions, barriers, and use of personal protective equipment (PPE), and strategies for preventing the spread of infectious disease to healthcare workers and patients. Also presented is an introduction and comprehension of regulatory agency guidelines.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DAS120: Dental Procedures and Techniques

This course presents the foundation of chairside dental assisting in the delivery of dental care to include dental instrument identification and use, and moisture and pain control methods. Patient information and assessment skills detailed are patient information and assessment, an understanding of oral diagnosis and treatment planning process, the needs of the special needs and the medically compromised patient, principles of pharmacology, assisting in a medical emergency, patient assessment, and oral pathology.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS110

DAS125: Dental Materials and Lab Techniques

This course presents the fundamentals of materials used in restorative dentistry including laboratory techniques and procedures. The properties of dental materials are covered such as restorative and esthetic materials, liners, bases, and bonding materials, cements, and impression materials. Labs will cover applications and uses of dental materials.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS110

DAS130: Dental Restorative Procedures

The goal of this course is to introduce students to the practices in dentistry, and the foundations of radiography, radiation safety, infection control and quality assurance involving dental radiography. The student should be able to describe dental procedures including: general dentistry, restorative dentistry, fixed prosthodontics, provisional coverage, removable prosthodontics, and implant dentistry.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS110

DAS135: Dental Radiology

This course provides lecture and laboratory-based instruction on the exposure and processing techniques of diagnostic dental films. Radiographic instruction includes intraoral x-ray, panoramic x-rays, and an overview of digital x-ray systems. Using a radiographic simulator, students will develop a portfolio of radiographs they have taken to demonstrate competence in exposing, processing and mounting intra and extra oral radiographs on a variety of patient types.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS110

DAS140: Dental Office Procedures and Billing

This course will prepare students for administrative tasks in a dental office. Students are provided with an overview of dental office management systems: the computerized dental practice, information management, patient scheduling, recall systems, inventory management, and dental office business equipment. Managing dental office finances entails financial arrangements and collection procedures, insurance processing, and accounts payable and accounts receivable. Students are introduced to dental practice management software where the students input patient information, schedule appointments and handle billing. The rules and function of the Health Insurance Portability and Accountability Act of 1996, Administrative Simplification, as it applies to the dental healthcare system, are reviewed. Career development techniques along with the importance of professional oral and written communication in the dental office are also examined.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DAS145: Dental Specialties and Expanded Functions

In this course, students will explore expanded dental assistant functions within the dental specialties endodontics, periodontics, oral and maxillofacial surgery, pediatric dentistry, and orthodontics. The basics of coronal polishing and dental sealants are presented along with advanced instruction on radiography.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS135

DAS151: Dental Capstone

This course provides a comprehensive review of program contents to prepare for applicable certification examinations. Students are also given an opportunity to review clinical skills acquired throughout the program. Students will develop a portfolio of radiographs they have taken to demonstrate competence in exposing, processing and mounting intra and extra oral radiographs on a variety of patient types. Professional ethics and local jurisprudence issues and regulations associated with Dental Assisting are presented.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS135

DAS190: Externship I

This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the direct supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed is not to be paid. Students will be required to meet at the campus a total of 10 hours, 1-1/2 hours a week to review the extern experience and competency checklist.

Credits	6
Clock Hours	160
Lecture Hours	10
Externship Hours	150
Prerequisites	All Coursework

DAS195: Externship II

This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the direct supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed is not to be paid. Students will be required to meet at the campus for a total of 10 hours, 1 1/2 hours a week to review the extern experience and competency checklist.

Credits	6
Clock Hours	160
Lecture Hours	10
Externship Hours	150
Prerequisites	All Coursework

DHG - Dental Hygiene

DAS114: Radiology I

Credits	4
Clock Hours	60

DHG100: Nutrition

This course is a basic orientation to the principles of nutrition. Topics include digestion, carbohydrates, proteins, lipids, the utilization of energy and metabolism. The role of vitamins, minerals and nutrients are emphasized and their role in maintaining healthy oral tissues. The role of the dental hygienist in nutritional assessment and counseling are highlighted.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DHG104: Introduction to Dental Hygiene Lab I

This course presents the didactic and laboratory components of pre-clinical dental hygiene theory. A firm foundation in infection control procedures, dental hygiene process of care, client assessment, deposit and disease indices, oral infection control, and disease prevention is highlighted. In preparation for advancing to patient care, the following topics are presented: CPR and management of medical emergencies, OSHA regulations, Bloodborne Pathogens standard, Hazard Communication standard, and CDC guidelines. Students will gain clinical experiences through student partner clinical experiences.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MED110 and MED115

DHG105: Introduction to Dental Hygiene Lab II

This combination lecture-laboratory course is designed to introduce the student to the dental hygiene care environment and to present basic instrumentation skills and techniques. The principles of instrumentation, ergonomic standards, and preparation for the educational and therapeutic patient services are presented in detail. Students will practice on typodonts in the lab then progress to student-partner experiences in the clinic.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG104

DHG110: Anatomy, Histology, and Embryology of Facial Structures I

This course presents the anatomy, histology and embryology of the human facial structures and presents a comprehensive coverage of the anatomy of the head and neck and surrounding hard and soft tissues.

Credits	4
Clock Hours	60
Lab Hours	20
Lecture Hours	40
Prerequisites	MED110 and MED115

DHG111: Anatomy, Histology, and Embryology of Facial Structures II

Information presented in this course is designed to develop a firm foundation for the dental hygiene student in morphology and function of the head, neck, and oral structures. Topics presented include the formation of the face (nervous system, muscles, etc.) development and growth of the jaws and the origin and stages of tooth and root formation and development.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG110

DHG112: Process of Care I

This course builds on the foundations of [DHG104](#) and [DHG105](#). The focus is the elements of the Dental Hygiene Process of Care. As part of an introductory approach to implementing more advanced dental hygiene services, topics include risk assessments, patients with medical, physical, and psychological conditions as well as the dental hygiene treatment modifications for those patient communities. In addition, the theoretical foundation for preventive counseling, ultrasonic and sonic instrumentation, and instrument sharpening are presented.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG111 & DHG105

DHG114: Dental Radiology

This course provides lecture and laboratory-based instruction on the exposure and processing techniques of diagnostic dental films. Students will also learn the basic principles of radiation physics and the concepts of radiation safety in the dental office. Radiographic instruction includes intraoral x-ray, panoramic x-rays, and an overview of digital x-ray systems. Using a radiographic simulator, students will develop a portfolio of radiographs they have taken to demonstrate competence in exposing, processing and mounting intra and extra oral radiographs on a variety of patient types.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DHG197: Dental Hygiene Clinic

This course is designed to enable beginning dental hygiene students to assess the systemic and oral health of the client and allow for the delivery of clinical dental hygiene preventive and therapeutic care appropriate at the novice or [DHG100](#) level.

Credits	4
Clock Hours	120
Clinical Hours	120
Prerequisites	DHG105

DHG198: Dental Hygiene Clinic

This course is designed to enable beginning dental hygiene students to assess the systemic and oral health of the client and allow for the delivery of clinical dental hygiene preventive and therapeutic care appropriate at the novice or [DHG100](#) level.

Credits	4
Clock Hours	120
Clinical Hours	120
Prerequisites	DHG197

DHG199: Dental Hygiene Clinic

This course is designed to enable beginning dental hygiene students to assess the systemic and oral health of the client and allow for the delivery of clinical dental hygiene preventive and therapeutic care appropriate at the novice or [DHG100](#) level.

Credits	4
Clock Hours	120
Clinical Hours	120
Prerequisites	DHG198

DHG200: Dental Materials

This course is an integrated lecture laboratory course that introduces students to the dental laboratory environment. It focuses on the nature, qualities, composition, and manipulation of materials used in dentistry. The primary goal of this course is to enhance the student's ability to make clinical judgments regarding the use and care of dental materials based on how these materials react in the oral environment. Lecture topics include dental material standards, dental material properties, and impression materials. Classifications for restorative dentistry, direct restorative materials, indirect restorative materials, removable dental prostheses, sealants, and implants are also covered in this course. Students will have hands-on laboratory experience in the proper manipulation of dental materials commonly employed in dentistry.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG111 , DHG105

DHG212: Process of Care II

This course is designed to present to the dental hygiene student an overview of more advanced clinical competencies including debridement concepts, instrumentation strategies, and pain control strategies. The techniques of pain control include noninvasive and behavioral strategies, the principles of local anesthesia administration and nitrous oxide sedation as allowed by state law. Didactic and lab sessions are presented for the clinical skills associated with chemotherapeutics, dentinal hypersensitivity, and advanced instrumentation.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG112

DHG220: Periodontology I

The intent of this course is to acquaint the dental hygiene student with the fundamentals of periodontology. Topics include the basics of the epidemiology, anatomy, physiology, neurology, lymphatics, and hematology of the periodontium in health and disease. A detailed discussion of the classification and etiology of periodontal diseases (periodontitis and gingivitis) is presented as well as clinical and radiographic assessments and systemic conditions affecting pathology.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG105 , DHG111

DHG230: Health Promotion

This course is designed to emphasize the role of the dental hygienist in health promotion, as educator and resource person. The knowledge and experiences will assist the dental hygiene student in developing and enhancing interpersonal communication skills necessary to interact effectively with patients from diverse populations and communities. An introduction to cultural diversity and competency as it relates to patient management is present. A participatory segment of this course explores the various methods used in health promotion and disease prevention programs (e.g., educational strategies, group and individual processes, community approaches). These education methods are tailored for diverse settings and populations. Topics include community efforts in tobacco cessation counseling programs and nutritional counseling.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DHG240: General Oral Pathology

This course presents processes of inflammation, wound healing, repair, regeneration, and immunological responses. Topics include oral manifestations of systemic diseases, genetics, and developmental anomalies of the oral cavity. In addition, commonly encountered diseases and disorders of the head and neck will be covered. Emphasis will be placed on recognizing the differences between the pathological and normal tissues.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG111

DHG250: Pharmacology and Pain Control

This course is designed to provide the student with a knowledge and understanding of basic pharmacology specific to clinical situations and with emphasis on dental hygiene practice. The pharmacology of pain control is presented in detail.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

DHG297: Advance Dental Hygiene Clinic

This course is designed to refine the psychomotor instrumentation skills of dental hygiene students. Students are expected to complete oral assessment and delivery of dental hygiene services in an independent manner. The students will have experiences with special care patient populations, pediatric clients and radiologic interpretations. Treatment plans will be written with more comprehensive components. An emerging portfolio of foundational competencies is expected at the completion of this course.

Credits	4.5
Clock Hours	144
Clinical Hours	144
Prerequisites	DHG199

DHG298: Advanced Dental Hygiene Clinic

This course is designed to refine the psychomotor instrumentation skills of dental hygiene students. Students are expected to complete oral assessment and delivery of dental hygiene services in an independent manner. The students will have experiences with special care patient populations, pediatric clients and radiologic interpretations. Treatment plans will be written with more comprehensive components. An emerging portfolio of foundational competencies is expected at the completion of this course.

Credits	4.5
Clock Hours	144
Clinical Hours	144
Prerequisites	DHG 297

DHG299: Advanced Dental Hygiene Clinic

This course is designed to refine the psychomotor instrumentation skills of dental hygiene students. Students are expected to complete oral assessment and delivery of dental hygiene services in an independent manner. The students will have experiences with special care patient populations, pediatric clients, and radiologic interpretations. Treatment plans will be written with more comprehensive components. Students will complete a periodontal case treatment plan and presentation of results. An emerging portfolio of foundational competencies is expected at the completion of this course.

Credits	4.5
Clock Hours	144
Clinical Hours	144
Prerequisites	DHG298

DHG312: Process of Care III

This capstone course is intended to furnish the upper-level dental hygiene student with an opportunity to demonstrate competency in the process of care for diverse patient populations. Utilizing case studies, students assess findings, formulate a dental hygiene diagnosis, plan, implement and evaluate intervention strategies for a variety of diverse communities. Selected projects provide opportunities for proficiency in critical thinking skills and evidence-based decision making. Students will take a simulation of the written Dental Hygiene National Board Examination.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG212

DHG314: Radiology II

This course is a continuation of [DAS114](#) and builds on the foundations of basic radiology. Topics include additional experiences in digital radiography, intraoral photography, and extra oral radiography. Advanced topics include: interpretation of films, complex exposure techniques and the clinical management of patients with clinical or systemic issues. During the clinical portion of this course, students are assigned to the radiology clinic/lab and provide selected imaging services.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DAS114

DHG320: Periodontology II

The intent of this course is to present the field of periodontics to the dental hygiene student. Based on the foundation of the introductory course, the student will survey the diseases and disorders of the periodontium and the surgical and non-surgical therapies. Students will gain experience with autonomous decision making of evidence-based treatment planning and case management. Strong emphasis is placed on the role of the dental hygienist as a periodontal therapist in the recognition, treatment, and prevention of periodontal diseases.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG220

DHG330: Community Oral Health

This course introduces the history and principles of community dental health and health care delivery systems. Topics include the prevention of oral disease, development of public policy, and implementation of community efforts to enlighten the public. Issues surrounding access to care, managed care, private practice, independent practice, as well as trends in dental insurance reimbursement are presented. In addition, students will gain insight into research design and statistical methods and evaluation. Selected and current topics in international healthcare are presented. The student will participate in a community-based program from the planning stage through to evaluation to apply the ADPIE principles through individual experiences.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	DHG105 , DHG111

EL - Electrical Trades

ELC110: Principles of Electricity

This course is designed to present basic concepts of electricity. Topics covered in the course include electrical safety, electrical theory, circuits, measuring instruments, alternating currents, transformers, and more. Students will develop skills that support introductory electrical theory and principles that are required in the construction and maintenance industries.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

ELC115: Low Voltage Principles and Standards

Students learn about the wiring and standards of low voltage electrical systems in this course. Topics covered include types of conductors and cables, the grounding and bonding of electrical systems, pathways and spaces, an introduction to the National Electrical Code (NEC) and the Articles that affect the low voltage industry, listing and labeling, standards agencies, and an overview of audio systems and their components. By the end of this course, students will be familiar with the wiring and standards of low voltage electrical systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC120: Electronics for Electricians

In this course students explore how electronics theory is applied in the electrical field. They learn about electronic devices commonly found in industry, how components and circuits work, what they do, and how they are tested. Soldering circuit boards is also covered. By the end of this course, students will be able to install, troubleshoot, replace and/or repair many of the electronics systems found in a home or industrial environment.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC125: National Electrical Code Principles

In this course students become familiar with the terminology, presentation, and format of the National Electrical Code and the Articles therein. They learn about NEC provisions dealing with one family and multifamily dwellings. By the end of this course, students will be familiar with the NEC.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC130: National Electrical Code Applications

This course is a continuation of the study of the National Electrical Code. The course focuses on commercial locations. Students calculate the receptacle load for non-dwelling buildings. Also covered are the Articles for hazardous locations, special occupancies, and specific equipment. By the end of this course, students will be familiar with commercial applications covered by the NEC.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC125

ELC135: Residential Circuitry and Design

The focus of this course is on the wiring of a typical residence in accordance with the requirements set forth by the National Electrical Code. Topics covered include safety while working with electricity, wiring methods, and conductor sizing. Students wire a residence, room by room, circuit by circuit.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC140: Residential Construction and Branch Circuits

This course focuses on circuit layout and wiring diagrams. Students wire a residence room-by-room, circuit-by-circuit. By the end of this course, students will be familiar with the tasks and responsibilities that professional residential electricians face on a daily basis.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC145: Electricity Essentials: Three Phase Power and Transformers

In this course, students gain knowledge of transformers, three-phase power systems, and their connections. They become familiar with the operation of single-phase transformers and three-phase transformers. Students will also practice calculating values of voltage and current. By the end of this course, students will have foundational knowledge and skills relating to three-phase power and transformers.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC150: Motor Controls

In this course, students explore the types and functions of motor controls. Topics include: circuit layout, connections and symbols, control pilot devices, basic control circuits, AC reduced voltage starters and multispeed controllers. By the end of this course, students will be familiar with the different types of motor controls and their functions.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC155: Motor Controls Maintenance

In this course students are provided with a review of DC and AC motors. They are introduced to motor control circuits, solidstate starters and controls, programmable logic controllers, basic controller troubleshooting and variable speed drives. By the end of the course, students will be able to describe various types of motor controls, their makeup, and their utilization.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC160: Commercial and Industrial Circuits

In this course, students will learn to interpret symbols used in commercial construction drawings. They will learn how to select proper conductors, electrical boxes, and raceways. They will also learn the importance of over-current protection and will determine minimum branch circuits. Students will calculate feeder loading, learn about feeder component selection, and panel boards. By the end of the course, students will be able to evaluate and work on both commercial and industrial circuits.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC165: Commercial and Industrial Controllers

In this course, students are introduced to commercial and industrial loading schedules, electrical installation requirements, panel board criteria, service entrance equipment, and grounding. Students will also learn about lamps and luminaire characteristics, electronic drives, and PLCs. By the end of this course, students will be familiar with the equipment and methods used to supply power to commercial and industrial buildings and to control power within them.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ELC170: Home Integration

This course explores Digital Home Technology Integration (DHTI) emphasizing the latest high-tech home network systems. Students focus on the components that culminate into an integrated, whole-home unified system. They become familiar with the installation, programming, troubleshooting, and maintenance techniques used to put together wired and wireless home systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	ELC110

ENG - English

ENG101: English Composition

Writing skills are essential to professional success. In this course students learn the major aspects of writing, beginning with components of the essay, and ending with full essays of different modes of composition. Students go through the various writing stages and strategies and learn to adapt them to their own writing and learning preferences. They also acquire skills for generating ideas, preliminary outlining, topic selection, and drafting while learning to revise, rewrite, and polish structure and style for effective communication.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

HVR - Heating, Ventilation, Air Conditioning and Refrigeration

HVR105: Thermodynamics

In this course students become familiar with the principles and theory of thermodynamics and how they apply to the HVAC-R industry. The components and features of the HVAC-R system are introduced. Students will also be introduced to Manual “J” calculations. At the conclusion of this course students will have a basic understanding of heat, pressure, temperature, conduction, and radiation.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR110: Practical Applications of Electricity

This course delivers the practical applications of electricity in relation to the Heating, Ventilation, Air Conditioning (HVAC) systems & the electrical panels. Topics include basic principles of electricity, circuits, interpreting wiring diagrams, the principles of electric motors and testing, troubleshooting, servicing, maintaining, and installing HVAC electrical components. Students will be focusing on alternating current circuits, proper wiring of electrical boards, the application of electrical laws to practical wiring applications and safety in the process.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR115: HVACR Controls

In this course students gain a basic understanding of the principles and theory of controls used in the HVACR industry. Students will apply electrical and energy theory to applications; learn control components, the basics of troubleshooting, and types of electric motors. At the completion of this course the student will be prepared to use Ohms law to analyze circuits, identify types of mechanical, electromechanical, and electronic controls to sense and control temperature, level, flow, and pressure, the use of basic electrical troubleshooting techniques, and identify types of motors and state their characteristics.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR120: Controls, Motors, and Motor Controls

In this course, students will be introduced to direct digital controls (DDCs): control applications, types of control systems, and components. The application of motors: safety, voltages, environments, insulation, bearings, and drives. Motor controls: safety, control devices, motor protection, and troubleshooting electric motors. Upon completion of this course the student will be prepared to explain control terminology, describe electronic control components, explain service factor amperage (SFA), full load amperage (FLA), and rated load amperage (RLA); and describe motor applications.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR125: Refrigerants

This course introduces the physics of the basic refrigeration cycle, refrigerants, the pressure and temperature relationship, and pressure-enthalpy to the student. The methods and principles associated with evacuation, recovery and charging of refrigeration and air conditioning equipment are explored. At the completion of this course students will be prepared to identify the main components in a refrigeration cycle, use a pressure temperature chart, measure superheat and sub-cooling, plot a pressureenthalpy diagram, correctly recover, evacuate, and charge an air conditioning or refrigeration system within compliance of EPA608 guidelines, identify refrigerants, and determine the temperature application

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR130: Residential Air Conditioning

In this course students become familiar with indoor air quality and major air conditioning system components including: condensers, compressors, accumulators, suction lines, evaporators, metering devices, receivers, suction-, discharge-, liquid- and condensate lines. How equipment is selected using manual J heat gain and heat loss calculations are explored. At the end of this course the student will have a foundation of indoor air quality issues and methods that can address these issues. The student will be able to speak about use of manual J to apply proper selection of equipment and installation and use of major air conditioning components.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR135: Commercial Air Conditioning

This course focuses on the installation, start-up, and operation of commercial air-conditioning equipment. High- pressure, lowpressure, absorption chilled-water systems, cooling towers and pumps, operation, maintenance, and a troubleshooting of chilled water air conditioning systems, commercial packaged rooftop equipment, economizers, variable air volume, variable refrigerant flow and variable air flow system will be covered. Upon completion of this course students will be able to recognize components and types of commercial air conditioning systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR125

HVR140: Commercial Refrigeration Concepts

Commercial Refrigeration Concepts provides the student with a basic understanding of the components, methods, principles, and troubleshooting associated with HVAC-R equipment used in commercial HVAC-R systems. Topics include the major components, controls and accessories used in refrigeration systems, the identification of appropriate systems for given applications, and diagnosis and service of refrigeration systems. At the end of this course, students will be able to define, describe and identify the concepts, functions, components and troubleshooting strategies involved in commercial refrigeration.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR125

HVR141: Industrial Refrigeration and Commercial Air Conditioning

Credits	4
Clock Hours	60

HVR145: Industrial Refrigeration

Industrial Refrigeration provides the student with a basic understanding of the components, methods, and principles associated with transport refrigeration and in large-scale industrial facilities. Topics include methods of refrigerated transport, and the components, processes and troubleshooting of chillers, cooling towers and chilled water air conditioning systems. At the end of this course, students will be able to define, describe and identify the concepts, functions, and components involved in servicing transport- and industrial-style refrigeration systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR125

HVR150: Electric Heat and Heat Pumps

Students are introduced to the principles and theory of electric heat and heat pump systems. Focus is on the equipment and controls of electric heating and how to maintain, test, and troubleshoot electrical problems. This course also provides students with a basic understanding of the principles and theory of heat pumps. The equipment and controls of air-source and geothermal heat pumps are covered. At completion of this course the student should be prepared to identify the components, trace electrical schematics, describe operating sequence, perform basic maintenance and tests in troubleshooting electric heat and heat pump systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR105

HVR155: Gas Heating Systems

Gas Heating Systems exposes students to the theory of gas combustion and gas heating equipment and controls. Throughout the course students gain practical knowledge of gas furnaces along with safety considerations, and students will implement techniques used for troubleshooting, maintaining, and installing gas-heating equipment. After successfully completing this course, students will have the knowledge and skills necessary to begin supervised service and maintenance as well as installation of gas heating systems.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

HVR161: Regional Systems

The Regional Systems course allows a custom approach to the needs of each region of the country. Where heating with oil is not a common heating method, or where State or regional certifications are required, this course can be tailored to the needs of each school. Oil heating introduces students to the equipment and controls of oil heating components. Solar Energy teaches the integration of solar energy systems to the HVAC industry. The installation and operation of Mini-Splits are discussed, along with installation and tune-up techniques for single and multi-split heat pump systems. Zoning Controls teaches the operation and wiring of ducted zone systems. Duct Fabrication gives hands-on experience with the most common air distribution techniques. And the Natural Gas Technician provides specific regional instruction on gas pipe sizing, combustion air requirements, and venting for natural gas appliances.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR105

HVR165: HVAC System Performance

This course provides the student with the basic principles for the design and installation of HVACR equipment and how these practices ensure proper system performance. The principles and theory of airflow requirements, indoor air quality, duct design, load calculation, and sheet metal fabrication are covered in this course. Manual "J" will be introduced. At the completion of this course the student will be prepared to develop a basic load calculation resulting in a properly sized system, recognize good installation practices and analyze system performance.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR105

HVR170: Water-Based Heating Systems

Water-Based Heating Systems introduces students to the equipment and controls of hot water and steam-based heating systems, as well as the strategies used to reduce indoor air pollution. Throughout the course students will gain valuable knowledge and experience with safety procedures, tools, piping, valves, and control systems used with water- based heating systems, and the tools and components used for providing indoor quality air. After successfully completing this course, students will have the knowledge and skills necessary to begin supervised maintenance and repair of water-based heating systems and be able to explain procedures used to create indoor quality air.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR105

HVR175: HVAC Troubleshooting and Service Calls

This course provides the student with the basic principles for troubleshooting HVACR equipment. The methods for repairing problems identified in HVACR equipment are practiced. The focus is on HVACR service calls for residential and commercial equipment. At the completion of this course, the student will be prepared to make service calls for troubleshooting and repairing problems in basic HVACR equipment.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR105 , HVR125

HVR180: EPA Certification Preparation

This course provides an extensive review of refrigeration and air conditioning systems fundamentals and lab practical. The Core, Type I, Type II, and Type III certifications will be covered. Emphasis will be placed on the safe and proper handling of refrigerants in compliance with Section 608 of the Clean Air Act. At the end of this course the student will be prepared for the EPA Certification—Universal Exam.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	HVR140

MAT - Mathematics

MAT101: College Mathematics

This is an introductory college mathematics course with the goal of teaching students to think mathematically and solve realworld problems by applying mathematical concepts and principles. Emphasis will be placed on numeration, whole numbers, fractions, mixed numbers, and decimals. Also included are the concepts of variables, algebraic techniques, ratios, proportions, solving simple equations in one variable, percent, basic geometry, solving applied problems, and operations with integers.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

MAT110: Applied Mathematics

This course provides students with an introduction and review of basic mathematical concepts by associating math with events that occur in their lives and on the job site. The course is designed to develop and reinforce students' mathematical reasoning abilities. It also builds a knowledge basis for students, which they can apply in the classroom and workplace. Whole numbers, fractions, decimals, and percentages are introduced, reviewed, and applied to life and job site events. Measurement in English and metrics are introduced and calculated. Pre-algebra and algebra concepts are explained, reviewed, and used to solve problems and equations. Practical plane geometry, solid figures, triangle trigonometry, and trigonometric ratio are introduced, discussed, and computed. Statistical analysis is introduced and calculated.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MTH101: College Mathematics

This course provides the foundations of mathematics. Topics include fractions, decimals, basic algebra, and geometry. Emphasis has been placed on applications that model real-world situations and estimation.

Credits	4
Clock Hours	60
Lab Hours	30
Lecture Hours	30
Prerequisites	None

MED - Medical Anatomy & Physiology

MED110: Anatomy and Physiology I

This course introduces students to the normal structure and function of the human body. This course emphasizes the primary and accessory structures associated with cells, human tissues, integumentary system, musculoskeletal system, cardiovascular system, lymphatic system, and respiratory system. The understanding of complex principles among and between body systems will be clarified with the use of collaborative learning techniques, hands-on laboratory assignments and group exercises.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MED115: Anatomy and Physiology II

Upon completion of this course, students will understand the general anatomical principles of human body systems. Study will focus upon digestive system, urinary system, nervous system, endocrine system, and reproductive system. Students will also understand the complex interaction between organ systems through the integrating principle of homeostasis and how loss of homeostasis leads to malfunction and disease of the body.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MED110

MAS - Medical Assisting

MAS110: Clinical Procedures and Techniques

This course is an introduction to clinical procedures performed in the medical office. Students practice obtaining vital signs and medical histories, maintaining exam rooms, preparing for, and assisting with routine and specialty exams, and performing diagnostic testing, including eye and respiratory testing. OSHA standards, communication techniques, cultural diversity, charting, patient education, therapeutic modalities, assistive devices, and nutritional and wellness concepts are also covered.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MAS115: Laboratory Procedures and Techniques

This course introduces basic medical laboratory techniques, diagnostic imaging tests, and cardiac diagnostic tests performed in the medical office. Laboratory terminology and the medical assistant's responsibility in specimen collection and processing, including urine, blood, microbiology and immunology testing, and phlebotomy, are discussed. Safety, infection control, and OSHA guidelines are reinforced. Quality assurance, laboratory mathematics, and federal and state regulations regarding clinical laboratories are also addressed.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MAS110

MAS120: Human Diseases and Pharmacology

This course will introduce the students to the common diseases that affect the body systems. A review of body systems along with the causes, signs, symptoms, and treatments of the diseases will be discussed. Students will learn about the medications used as treatments. An emphasis on drug action, classification, patient education, and common side effects of these medications will be provided.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MAS125: Invasive Clinical Procedures

Students learn terminology and skills related to medication administration and assisting with minor surgery. Pharmacology principles and math, elements of prescriptions, TB and allergy testing, phlebotomy, and surgical supplies and instruments are discussed, along with the medical assistant's role in assisting with surgical procedures. Emergency preparedness concepts and the medical assistant's role in medical emergencies are reinforced. Safety, infection control and federal regulations regarding medications and surgical procedures are addressed.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MAS110

MAS135: Certification Review and Career Development

This course provides a review of all skills acquired during prior Medical Assisting classes, including injections and phlebotomy. Through a comprehensive review, the student will prepare to sit for the national certification exam. Career development and employment seeking related topics will be discussed, including cover letters, resumes, applications, and professionalism during interviews, answering interview questions, appropriate follow-up after the interviews, and continuing education. Life skills and professional behavior will also be addressed.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MAS110

MAS190: Externship

This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the direct supervision of a preceptor on the site. Through the externship experience, students gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed is not to be paid.

Credits	6
Clock Hours	180
Externship Hours	180
Prerequisites	All program courses

MOA - Medical Office Administration

MOA110: Medical Office Procedures

Students gain a working knowledge of reception procedures and office management skills utilized in the medical environment. Knowledge and skills related to scheduling appointments, written and oral communication including telephone techniques, reception duties, and emergency procedures are introduced. Basic psychological concepts that relate to patient care are discussed. Students will learn how computers impact the medical office environment. In addition, administrative terminology, legal, ethical and safety concepts related to the medical office will be addressed.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MOA115: Medical Records and Insurance

Students explore the fundamentals of paper and electronic medical record management, fee determination, billing methodology, and collection processes. Students perform basic bookkeeping, coding, and third-party billing procedures. Financial management of the medical office and various medical insurance plans are discussed along with related terminology and legal regulations.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MOA120: Electronic Health Records

This course focuses on the various aspects of electronic health records and practice management systems including standards, setup, administration, patient charts, office visits, clinical tools, templates, and administrative financial functions. Other topics covered include tests, procedures, and diagnosis codes, and administrative utilities. Students will gain invaluable real-world experience through the use of EHR/PM software. Taken as a whole, this course is designed to provide each student with the necessary tools needed to be successful in the rapidly growing field of electronic health records and practice management.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

MOA125: Medical Insurance and Billing

This course builds on the foundational insurance and billing information. Students will learn in-depth concepts regarding health insurance, including the types and sources of health insurance, Medicaid, Medicare, and other carriers. To help understand the billing aspects, students will learn more about the CMS-1500, universal claims form. Legal regulations and ethical issues relating to insurance and claims will be examined.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MOA115

MOA130: Bookkeeping in the Medical Office

Building on the prior coding, billing, and collection information, this course introduces students to medical practice finance and practice management. Terminology and concepts related to accounting, banking, financial records, and payroll records will be discussed. Diagnostic and procedural coding procedures are reviewed, and customer service concepts are addressed. Related legal and ethics issues will be examined.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	MOA115

PDC - Professional Development

PDC200: Career Development

This course is designed to provide the students with career planning and job search techniques and skills. Topics include career exploration, sources for job information, networking, employment applications, cover letters, resumes, and interviewing. Students will develop skills that, along with their education, can lead to achieving personal goals and career success.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

PSY - Psychology

PSY101: Introduction to Psychology

This course is a general introduction to the study of human behavior. The course explores topics such as methods of research, physiological development of the individual, learning, motivation, emotions, cognitive processes, sensation, perception, testing, personality disorders, behavior disorders, and individual differences.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

SCI - Science

SCI118: Chemistry

This course provides the foundations of chemistry. Topics include the fundamentals of matter, structure, and elemental interactions. Emphasis has been placed on compound formation, acid and base reactions, and organic chemistry as it relates to nutrients.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

SCI119: Microbiology

This course is designed to provide an overview of the elements of microbiology. Students will learn of the historical development of microbiology. Various microbiotic life forms will be introduced to the student such as bacteria, viruses, and eukaryotic cells. Students will study the elements of microbial nutrition, ecology, and growth. Lastly the use of microbiology and genetics will be introduced to the student.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

SCI120: Biochemistry

This course provides instruction in the introduction to atomic structure, chemical bonding, states of matter, organic and inorganic chemical reactions, and acids and bases. Virtual laboratory experiences are included in the course.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

SKW - Skilled Workforce Professions

SKW101: Introduction to the Skilled Professions

In this course students will receive an overview of the trades’ professions, and learn the basics of safety, equipment use and a variety of construction prints. Students will learn directives and guidelines set forth by government agencies for the trade’s career field. To help students transition successfully into the college environment, this course also explores learning strategies such as reading, critical thinking, test-taking, and using computer technology for resources and class assignments.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

SOC - Sociology

SOC101: Sociology

Sociology is the systematic study of the relationship between human beings and society. In this course students examine basic sociological principles, concepts, and theories in the context of human culture, societies, the socialization process, and various types of stratification. Students also explore and compare the various historic, cultural, and social frameworks of the world and learn to appreciate unique cultural identities. In addition, this course helps students learn to analyze and interpret historic as well as contemporary social issues in the U.S. and around the world.

Credits	4
Clock Hours	40
Lecture Hours	40
Prerequisites	None

WLD - Welding Technician

WLD101: Principals of Welding Technology

This course provides an introduction to welding technology with an emphasis on developing welding safety habits for identifying health concerns and potential hazards; wearing of personal protection equipment, safety inspection of welding equipment, equipment repair and maintenance; and adhering to laboratory principles and rules. Additionally, students will be introduced to the welding certification requirements and practice oxy-fuel, plasma arc, and carbon arc- cutting processes.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

WLD105: Welding Symbol Interpretation and Inspection

This course introduces basic elements of weld sketches, drawings, and welding symbols found in shop drawings, welding prints, and basic welding forms. Emphasis is placed on interpreting sketch and symbol information to fabricate a weldment. Destructive and non-destructive testing methods will be developed through practicing examination, exploring their functionality and usability in the industry, and visually inspecting and measuring welds to identify discontinuities and defects. At the conclusion of this course, students will be able to utilize print reading, inspection, and testing procedures for weldments according to drawings and standards used in the industry.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	None

WLD110: Cutting Processes

In this course, the student is introduced to basic air carbon arc, oxy-fuel, and plasma arc cutting processes. Development of thermal cutting processes including identification of safety hazards (ANSI Z49.1 Safety in Welding, Cutting and Allied Processes), and wearing of protective equipment; proper assembly, maintenance, testing, and use of equipment; and the production of quality cuts. Students will practice a variety of cutting techniques through the practical experience of the laboratory. At the end of this course, students will be able to make basic cuts using a variety of cutting processes.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD115: Shielded Metal Arc-Welding

This course introduces the fundamental concepts and techniques involved with the shielded metal arc-welding process, safety hazards and proper procedures, equipment set up, electrical theory and machine selection, maintenance and repair, qualification testing, electrode selection, and the production of quality groove and fillet welds in the 1G, 2G, 1F, and 2F positions. Students will develop a theoretical understanding of the SMAW process and then build upon that foundation through practical experience in the laboratory where a variety of welding techniques will be taught through practical exercises and reinforced through self and peer inspection. After this course, the student will be able to perform basic SMAW welding processes.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD120: Shielded Metal Arc-Welding Fit and Alignment

This course develops the concepts and techniques involved with the shielded metal arc-welding process, safety hazards and proper procedures, equipment set up, electrical theory and machine selection, maintenance and repair, qualification testing, and electrode selection. Students will develop the production of quality groove and fillet welds in the 1G, 2G, 3G, and 4G, 1F, 2F, 3F and 4F positions. Students will build practical experience in the laboratory where a variety of welding techniques will be practiced and reinforced through self and peer inspection. At the conclusion of this course students will be prepared to perform quality groove and fillet welds using SMAW processes.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD125: Gas Metal Arc-Welding

This course introduces the student to gas metal arc welding processes. Included in GMAW processes is continued development of identification of safety hazards and wearing of proper protective equipment. Assembly, maintenance, repair, and testing of GMAW equipment is introduced; the production of quality groove and fillet welds in the 1G, 2G, 3G, 1F, 2F, and 3F positions are practiced in the labs and reinforced through self and peer inspection. At the conclusion of this course students will be able to perform basic GMAW processes.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD130: Gas Metal Arc-Welding Fit and Alignment

This course develops the concepts and techniques involved with the gas metal arc-welding process, safety hazards and proper procedures, equipment set up, electrical theory and machine selection, maintenance and repair, and qualification testing. Students will develop the production of quality groove and fillet welds in the 1G, 2G, and 3G; 1F, 2F, and 3F positions and students will build practical experience in the laboratory where a variety of welding techniques will be practiced and reinforced through self and peer inspection. Additionally, students will be introduced to production of groove and fillet welds in the 4G and 4F positions and welds utilizing the GMAW spray transfer in a variety of positions.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD135: Flux Core Arc-Welding

This course introduces the fundamental concepts and techniques involved with the flux core arc welding process, safety hazards and proper procedures, equipment assembly, electrical theory and machine selection, maintenance and repair, safety testing, and the production of quality groove and fillet welds in the 1G, 2G, 3G, 1F, 2F, and 3F positions. Students will develop a theoretical understanding of the FCAW process and then build upon that foundation through practical experience in the laboratory where a variety of welding techniques will be taught through practical exercises and reinforced through self and peer inspection.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD140: Flux Core Arc-Welding Applications

This course covers advanced concepts and techniques involved with the flux core arc welding process, as well as content such as safety hazards and proper procedures, equipment assembly, electrical theory and machine selection, maintenance and repair, and safety testing. Additionally, students will produce quality fillet and groove welds in the, 1F, 2F, 3F, and 4F and 1G, 2G, 3G, and 4G positions. Students will develop the FCAW-S process and then build upon that foundation through practical experience in the laboratory where a variety of welding techniques will be taught through practical exercises and reinforced through self and peer inspection.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD145: Gas Tungsten Arc-Welding

This course introduces the concepts and techniques involved with the gas tungsten arc welding process, safety procedures, equipment assembly, electrical theory and machine selection, maintenance and repair, safety testing, electrode selection and preparation, and the production of quality groove and fillet welds in the 1G, 2G, 3G, 4G, 1F, 2F, 3F, and 4F positions. Students will be introduced to GTAW process with carbon steel and Austenitic Stainless Steel and then build upon that foundation through practical experience in the laboratory where a variety of welding techniques will be taught through practical exercises and reinforced through self and peer inspection.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD150: Gas Tungsten Arc-Welding Applications

This course covers concepts and techniques involved with the gas tungsten arc welding process with a focus on the production of quality groove and fillet welds on austenitic stainless steel in the 1G, 2G, 3G, 1F, 2F, and 3F positions and 1G, 2G, 1F, and 2F positions on aluminum. Additionally, this course covers fundamental concepts such as safety hazards and proper procedures, equipment assembly, electrical theory and machine selection, maintenance and repair, safety testing, electrode selection and preparation.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD155: Pipe Welding Techniques

In this course, students are provided with an introduction to welding of pipe using the shielded metal arc welding process (SMAW). Included are electrode selection, equipment setup, and safety procedures. The student will describe equipment and required pipe preparation, perform 1G and 2G welds using various electrodes, and practice up and downhill piping techniques. Students will evaluate their performance abilities to troubleshoot for potential problems. Students will develop interpretation of the AWS coding system and use available materials and equipment properly.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD160: Welding Fabrication Concepts

In this course, students gain a comprehensive overview of metal fabrication techniques. Through lab projects, they practice skills such as using blueprints and taking accurate measurements. Labs allow for gaining competency with fabrication tools, especially automated devices, such as shears, and press brakes. At the end of this course, students will be competent in metal fabrication techniques.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101

WLD165: Welding Certification and Career Development

In this course, students will develop and practice the skills necessary to pass the D1.1 certification test. Pre-testing will be administered at the completion of 30 hours in both GMAW and SMAW. Pretesting identifies students’ readiness for the official Certification Test and provides students with direction for continued lab work and hands on practice. This course will also provide the student with marketable job search techniques and skills.

Credits	4
Clock Hours	60
Lab Hours	40
Lecture Hours	20
Prerequisites	WLD101