



8H310 Anatomy & Physiology (R)

1 credit

Gr: 11-12

8H311 Anatomy & Physiology (H)

8H312 Anatomy & Physiology IB (H) (only at GHS)

Prerequisite: Biology, and a second science credit. Recommended prerequisite: a course from the Health Science Career Cluster

Description: The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis. The course is designed to build a knowledge base for those students who wish to pursue a medically related career. **[Science credit]**

8J240 Counseling and Mental Health (R)

1 credit

Gr: 11-12

Prerequisite: Principles of Human Services or Principles of Health Science

Description: This course is an introduction to mental health services, careers, historical agencies and current issues, and the difference between functional and dysfunctional behaviors. Students are expected to apply knowledge of ethical and legal responsibilities, limitations and the implications of their actions. Students will develop an awareness of the factors that affect mental health by exploring traditional and emerging treatment modalities.

8H975 Emergency Medical Technician Basic (DC) D

2 credits

Gr: 12



GRCTC

Prerequisite: Regular or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: **This Dual Credit Course, Emergency Medical Technician (EMT) - Basic** instructs students to meet and exceed standard knowledge needed to be a valid Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The student will gain in-depth experience, and the opportunity to apply for training and/or certification in Emergency Medical Technician - Basic at the GRCTC. The Emergency Medical Technician Basic trains the student in Anatomy and Physiology of Trauma, Illness and Disease. Student will learn the steps from dispatch, assessment, transport and report. Communication, medical legal principles, and to function within the scope and care of the patient. Students will sit for the National Certification exam for EMT-Testing and additional immunizations may be required by the cooperating health care facility or training stations. **For Dual Credit** the Student must also apply to DCCCD and be enrolled in the EMSP 1501 EMT and 1160 Clinical-Emergency Medical Technician class with El Centro College. The High School teacher is adjunct with El Centro College of Allied Health. Student will be required to submit a background check and a drug screen. Student must complete an interest form. Course requirements to be met.

8L300 Forensic Science (R)

1 credit

Gr: 11-12

Prerequisite: Biology and Chemistry

Description: To receive credit in science, students must meet the 40% laboratory and fieldwork requirement identified. Forensic Science is a course that uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, homicide, and the psychology of criminal behavior. Students will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, and blood spatter analysis. Students will learn the history, legal aspects, and career options for forensic science. **[Science credit]**

8H300 Health Science - Clinical (R)

2 credits

Gr: 11-12

8H305 Health Science - Clinical (DC) D

Prerequisite: 16 years of age, and Principles of Health Science and Biology or MST Principles of Health Science and Biology, along with an interest application into this program

Description: (Health course waiver option) this course is for students seriously interested in a healthcare career. It is designed to provide for the development of advanced knowledge and skills. Students will have in class hands-on experiences for continued



knowledge and skill development. The course may be taught by different methodologies which may include clinical rotation. Students may spend classroom periods in a hospital or other healthcare facilities. The co-curricular CTSO (HOSA) organization provides the opportunity for the student to be active in competitions, community service projects, and to develop leadership skills. Testing, including drug screenings, background checks and additional immunizations may be required by the cooperating health care facility. Health Care facilities require the student has personal medical insurance. Fees including but not limited to: clinical rotation insurance, drug and TB testing/screening, Flu shot, uniform, and HOSA. This course will require an interest application and acceptance into this program. **For Dual Credit** the Student must also apply to DCCCD and be enrolled in the HPRS 2231 General Health Professions class through El Centro College. Teacher is adjunct with El Centro College of Allied Health. Student must complete an interest form. Course requirements to be met.

8H302 Health Science - Theory (R)**1 credit****Gr: 11**

Prerequisite: 16 years of age, and Principles of Health Science and Biology or MST Principles of Health Science and Biology, along with an interest application into this program

Description: [Waiver for required Health offered for this course] this one credit course is for students seriously interested in a healthcare career. It is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will have in class hands-on experiences for continued knowledge and skill development. Because clinical rotation sites are limited this course allows a student that is not in clinical to still pursue a pathway in the Health Science cluster. Students completing this class are eligible to continue on to a Practicum of Health Science course their senior year. This course will require an interest application and acceptance into one of the Practicum of Health Science programs after completion of this course.

8H910 Health Informatics (R)**1 credit (Spring)****Gr: 11-12**

Prerequisite: Prerequisites: Business Computer Management I and Medical Terminology

Description: The Health Informatics course is designed to provide knowledge of one of the fastest growing areas in both academic and professional fields. The large gap between state of the art computer technologies and the state of affairs in health care information technology has generated demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries, while managing the vast amount of data generated by these systems.

8O790 MST Biotechnology (H)**1 credit****Gr: 11-12****MST**

Prerequisite: Prior completion of one credit in a STEM or Health Science cluster course required and successful completion of Biology and Chemistry

Description: [MST only at NGHS] Students taking this course in 11th grade must take concurrently with Physics. This course provides an overview of biotechnology, bioengineering, and related fields. Topics include genetics, cell structure, proteins, nucleic acids, and the impact of immunological events in biotechnology. Students further study the increasingly important agricultural, environmental, economic, and political roles of bioenergy and biological remediation: the roles of nanoscience and nanotechnology in biotechnology medical research: and Future trends in biological science and biotechnology. **(CTE course offering advanced science credit and the advanced course for PLTW Biosciences)**

8H720 MST Health Science - Clinical (H)**2 credits****Gr: 11-12****8H725 MST Health Science - Clinical (H) (DC) ****MST**

Prerequisite: 16 years of age, and Principles of Health Science and Biology or MST Principles of Health Science and Biology, along with an interest application into this program

Description: [MST only at NGHS]. This course is for students seriously interested in a healthcare career. It is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will have in class hands-on experiences for continued knowledge and skill development. Students may spend split time between the classroom period and a



health care facility. Students will have the opportunity to investigate and observe a large variety of health care areas rather than a single health care field. The co-curricular (HOSA) organization provide the opportunity for the student to be active in competitions, community service projects, and to develop leadership skills. Testing, including drug screenings, background checks and additional immunizations may be required by the cooperating health care facility. Fees including but not limited to: clinical rotation insurance, drug and TB testing/screening, Flu shot, background check, uniform, and HOSA. This course will require an interest application and acceptance into this program. **For Dual Credit** the Student must also apply to DCCCD and be enrolled in the HPRS 2231 General Health Professions class through El Centro College. Teacher is adjunct with El Centro College of Allied Health. . Student must complete an interest form. Course requirements to be met.

8H740 MST Medical Microbiology (H)**1 credit****Gr: 11-12****MST**

Prerequisite: Biology and Chemistry. Recommended prerequisite: a course from the Health Science Career Cluster.

Description: [MST only at NGHS] The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases. **(Science credit option)**

8H760 MST Medical Terminology (R)**1 credit****Gr: 11-12****8H765 MST Medical Terminology (DC) D****MST**

Prerequisite: Principles of Health Science

Description: [MST only at NGHS] A course designed to develop a working knowledge of the language of medicine. Students acquire word-building skills by learning prefixes, suffixes, roots, and abbreviations. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care. MST courses will require an application and acceptance into the magnet program. **For Dual Credit** the Student must also apply to DCCCD and be enrolled in the Medical Terminology class with El Centro College. The High School teacher is adjunct with El Centro College of Allied Health

8H770 MST Pathophysiology (H)**1 credit****Gr: 11-12****8H775 MST Pathophysiology (H) (DC) D****MST**

Prerequisite: Biology, and Chemistry Recommended prerequisite: a course from the Health Science Career Cluster

Description: [MST only at NGHS] Topics included in this course include homeostasis, biological and chemical processes at the cellular level, and examining cells, tissues, organs and systems for the detection of neoplasia. Pathogenic organisms will be studied, as will methods of transmission, prevention, and treatment. Symptoms and effects of disease on the patient will also be studied. MST courses will require an application and acceptance into the magnet program. **(Science credit option) For Dual Credit** the Student must also apply to DCCCD and be enrolled in the Pathophysiology class with El Centro College. The High School teacher is adjunct with El Centro College of Allied Health.

8H750 MST Pharmacology (R)**1 credit****Gr: 11-12****8H755 MST Pharmacology (DC) D****MST**

Prerequisite: Principles of Health Science

Description: [MST only at NGHS] Students will gain skills in the classification and study of pharmacological agents to understand the treatment, care, and restoration of the client's health. Students will explore the practical applications of mathematics related to the disease process, dosage calculations, and interaction in therapeutic care. Students will apply math, science and technology principles to interpret technical materials, investigate biological and chemical processes, analyze the impact of pharmaceuticals on the costs of health care, and research and describe the impact of pharmaceuticals on society. MST courses will require an application and



acceptance into the magnet program. **For Dual Credit** the Student must also apply to DCCCD and be enrolled in the Pharmacology class with El Centro College. The teacher is adjunct with El Centro College of Allied Health

8H730 MST Practicum in Health Science (H) **2 credits** **Gr: 12**
8H735 MST Practicum in Health Science (DC) D

MST

Prerequisite: Health Science/Clinical or MST Health Science /Clinical

Description: [MST only at NGHS] The Practicum is designed to give students practical application of previously studied Knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Programs will offer students expanded occupational opportunities at local health care facilities or specialized areas. Students may apply for training and/or certification in one of the following areas EMT (at the GRTC), Pharmacy Tech, CERT, Phlebotomy, Personal Fitness, CNA, CMA, Patient Care Tech, Dental Assistant, EKG or internship. Dual Credit options are only for EMT (at the GCTC), or Basic Skills I and II only. Testing and additional immunizations may be required by the cooperating health care facility. This course will require an interest application and acceptance into this program. **For Dual Credit** the student must also apply to DCCCD and be enrolled in DC. Teacher are adjunct with El Centro College of Allied Health. Student must complete an interest form. Course requirements to be met.

8H701 MST Principles of Health Science (R) **1 credit** **Gr: 10-12**

MST

Prerequisite: Biology I (may be taken concurrently)

Description: [MST at NGHS]. This course includes skills related to the healthcare industry such as taking vital signs, body mechanics, medical terminology and other entry level skills. Course content relates to patient relationships, working environments, ethical and legal responsibilities. Varied health care occupations are explored to aid students in career selection and prepare them for future employment.

8H790 MST Project Lead the Way – Human Body Systems **1 credit** **Gr: 10-11**

MST

Prerequisite: PLTW Principles of Biomedical Sciences

Description: [Math-Science-Technology magnet course offered only at NGHS] Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Manikin; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases

8H792 MST Project Lead the Way – Medical Intervention **1 credit** **Gr: 11-12**

MST

Prerequisite: PLTW Principles of Biomedical Sciences and PLTW Human Body Systems

Description: Investigation of interventions involved in the prevention, diagnosis and treatment of disease. Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection: screen and evaluate the code in human DNA: evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics

8H780 MST Project Lead the Way – Principles of Biomedical Science (R) **1 credit** **Gr: 9-10**

MST

Prerequisite: None

Description: The Principles of the Biomedical Science course is divided into eight units designed to introduce students to the study of the human body and human medicine. Students investigate various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia and infectious diseases. They determine the factor that led to the death of a fictional person, and



investigate lifestyle choices and medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, medicine, and research processes. This course is also under the STEM cluster

8H794 MST Project Lead the Way – Biomedical Innovations (R)

1 credit

Gr: 12

MST

Prerequisite: PLTW Principles of Biomedical Sciences, PLTW Human Body Systems, and PLTW Medical Interventions

Description: This is the final course of the PLTW Biomedical Science sequence, students build on the knowledge and skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21st century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They have the opportunity to work on a n independent project with a mentor or advisor from a university, medical facility or research institution.

80713 MST Scientific Research & Design - World Health (R)

1 credit

Gr: 10-12

80715 MST Scientific Research & Design - World Health (DC) D

MST

Prerequisite: Biology, Chemistry, and IPC or Physics. Recommended prerequisite: a course from the Health Science Career Cluster

Description: [NGHS only]. This course examines world health problems and emerging technologies as solutions to these medical concerns. The course is designed to improve students' understanding of the cultural, infrastructural, political, educational, and technological constraints and inspire ideas of appropriate technological solutions to global medical care issues. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. These investigations must involve actively obtaining and analyzing data with physical equipment, but may also involve experimentation in a simulated environment as well as field observations that extend beyond the classroom. **[Career and Technical Education course offering advanced science credit]**

8H905 Medical Terminology - Front Office (DC) D

1 credit (Fall)

Gr: 11-12



GRCTC

Prerequisite: None

Description: The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology. The Student must also apply to DCCCD and be enrolled in the Medical Terminology class with El Centro College. The High School teacher is adjunct with El Centro College of Allied Health. **This course is part of the Medical Front Office Pathway.** The Student must also apply to DCCCD and be enrolled in the Medical Terminology class with El Centro College. The High School teacher is adjunct with El Centro College of Allied Health. For Medical Front Office Certificate through Richland College, **all courses in Medical Front Office must be Dual Credit to obtain the Medical Front Office Certification.** . Student must complete an interest form. Course requirements to be met.

8H400 Practicum in Health Science (R)

2 credits

Gr: 12

8H405 Practicum in Health Science (DC) D

Prerequisite: Principles of Health Science or MST Principles of Health Science, Health Science/Clinical, or MST Health Science Theory or Health Science Clinical and Biology

Description: The Practicum is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Programs will offer students expanded occupational opportunities at local health care facilities or specialized areas. Students may determine three or four hospital services in which to gain in-depth experience, or apply for training and/or certification in one of the following areas - EMT, Pharmacy Tech, CERT, Phlebotomy, Personal Fitness, CNA, or EKG. Dual Credit options are only for EMT, or Basic Skills only. Testing and additional immunizations may be required by the cooperating health care facility. . Student must complete an interest form. Course requirements to be met.

**8H940 Practicum in Health Science - Certified Nurse Assisting****2 credits****Gr: 12****GRCTC**

Prerequisite: Principles of Health Science or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: This class covers all of the theory and skills required to pass the Certified Nursing Aide (CNA) exam. Texas Certified Nurse Aides are under the jurisdiction of the Texas Department of Aging and Disability Services (DADS). Certified Nurse Aides must complete training and evaluation programs. They must also have acceptable legal and professional backgrounds. . Student must complete an interest form. Course requirements to be met.

8H950 Practicum in Health Science - Dental Assisting**2 credits****Gr: 12****GRCTC**

Prerequisite: Principles of Health Science or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: This Practicum is designed to give students practical application of previously studied knowledge and skills. Programs will offer students expanded occupational opportunities in specialized areas. The student will gain in-depth experience, and the opportunity to apply for training and exams such as the ICE exam for Infection Control and the AMP exam for Anatomy, Morphology and Physiology. Class will include Introduction to Dental Assisting Profession, Ethics, Communication Skills, Infection Control and Hazard Management, Clinical Procedures, Clerical Functions, Concepts in Radiological and Digital Imaging, Dental Anatomy and Dental Science. Testing and additional immunizations may be required by the cooperating health care facility or training stations. Students must be 18 to train for Radiation. Student may be required to submit a background check and a drug screen. Student must complete an interest form. Course requirements to be met.

8H980 Practicum in Health Science - Extended Practicum**3 credits****Gr: 12****GRCTC**

Prerequisite: Principles of Health Science or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: The Practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of CTE courses in Health Science. Prerequisite: Biology and Principles of Health, and Health Science Theory. This course must be taken concurrently with Practicum in Health Science to equal 3 credits. Student may be required to submit a background check and a drug screen. Student must complete an interest form. Course requirements to be met.

8H942 Practicum in Health Science – Certified Medical Assistant**2 credits****Gr: 12****GRCTC**

Prerequisite: Regular or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: The Practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of CTE courses in Health Science. The medical assistant is a multi- skilled allied health care professional that specialized in procedures commonly performed in the ambulatory health care setting. Medical Assistants perform both clinical and administrative duties and assist a variety of providers including physicians, nurse practitioners and physician assistants. They typically work in medical offices, clinics, urgent care centers and may work in general medicine or specialty practices. Student may be required to submit a background check and a drug screen. Student must complete an interest form. Course requirements to be met.

8H944 Practicum in Health Science – Patient Care Technician**2 credits****Gr: 12****GRCTC**

Prerequisite: Regular or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: The Practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of CTE courses in Health Science. Doctors, nurses and other healthcare professionals rely on Patient Care Technicians to assist with the critical day-to-day care some patients requires. The student learns to provide hands-on assistance to serve patients' basic needs such



as bathing, feeding, catheter care, etc. Other duties may be to acquire, distribute and administer patient care supplies, perform safety checks and ensure cleanliness in patient rooms, accommodate the special needs of patients accordingly, obtain EKG readings and monitor vital signs, perform phlebotomy procedures, and provide emotional support to patients and families, particularly coping with grief and death. Student may be required to submit a background check and a drug screen. Student must complete an interest form. Course requirements to be met

8H965 Practicum in Health Science -Pharmacy Technician (DC)  **2 credits** **Gr: 12**



GRCTC

Prerequisite: Regular or MST Principles of Health Science, Health Science Theory or Health Science Clinical, and Biology

Description: **This Dual Credit** class will include Pharmacology for Technicians, Pharmacy Law, Ethics and Regulations, Sterile & Nonsterile compounding, Medication Safety, Pharmacy Quality Assurance, Medication Order Entry and Fill Process, Pharmacy Inventory Management, Pharmacy Billing & Reimbursement, Pharmacy Information Systems Usage and Application. Option of an Extended Practicum for Externships at a Pharmacy is under Practicum in Health Science - Extended Practicum. Student may be required to submit a background check and a drug screen. **The Dual Credit** portion of the class is for HPRS 2300 Pharmacology for Health Professions. Students must apply to DCCCD and be accepted to participate in this class. The teacher is adjunct with El Centro College. Student must complete an interest form. Course requirements to be met

8H200 Principles of Health Science (R) **1 credit** **Gr: 10-12**

Prerequisite: Biology I (may be taken concurrently)

Description: [Waiver for required Health offered for this course] this course is required to take (DC) Health Science - Clinical Rotation I or (DC) MST Health Science - Clinical Rotation I (NGHS only). This course includes skills related to the healthcare industry such as taking vital signs, body mechanics, medical terminology and other entry level skills. Course content relates to patient relationships, working environments, ethical and legal responsibilities. Varied health care occupations are explored to aid students in career selection and prepare them for future employment. This one-credit course satisfies the requirement for one-half credit of Health.

8H313 World Health Research (R) **1 credit** **Gr: 11-12**

8H315 World Health Research (DC) 

Prerequisite: Biology and Chemistry. Recommended prerequisite: a course in the Health Science Career Cluster.

Description: The World Health Research course is designed to examine major world health problems and emerging technologies as solutions to these medical concerns. It is designed to improve students' understanding of the cultural, infrastructural, political, educational, and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.