



## Santa Rosa City Schools Course Proposal: Introduction to Healthcare

Proposal Submitted By: Debi Cardozo

**Needs Statement:** Discuss how this course fits into your Site and/or the District's goals. Attach minutes of meetings where this course was approved at site or district leadership meetings.

Elsie Allen High School is expanding CTE programs offerings to provide students additional opportunities to explore livable-wage, high-demand and high-growth careers for the region. This course provides an introduction to the healthcare industry sector and provides students with the foundational knowledge necessary to continue their education with a focus in Public and Community Health. This course is also an a-g approved course, which will support providing students greater access to postsecondary options upon graduation.

This course was reviewed and approved by the CTE Department Chairs on Tuesday, February 28, 2023.

**Graduation Requirements:** Specify which requirement is met. (High School only)

a-g Elective and CTE

**UC a-g Requirements:** Specify which requirement is met. (High School only)

College-Preparatory Elective (G)

**Explain the rationale for course addition or modification. How does this fit in with district/site goals. If this course is replacing a current course, which course is it replacing and why? Will this course require new sections? Be explicit.**

This course will serve as an introduction course for a new Public and Community Health CTE Program. Health care is a high-wage, high-demand, high-growth industry sector for the region.

## Explain the measurable learning outcomes

Students will be introduced to the healthcare industry and be able to explore central concepts and principles of the following topics: medical history, terminology, patient safety, hospital practices, public and community health, and health care careers. Medical knowledge is obtained through studies of growth and development, anatomy and physiology, first aid, and vital signs. Essential skills such as professionalism, teamwork, leadership, time management, and goal setting are discussed and practiced. Students will also be able to apply their learning in real world scenarios.

*Please see the detailed course design below for detailed learning outcomes.*

## Course Description (To be used in the course catalog)

The course is the introductory course for the Public and Community Health CTE Program. Students will learn basic information on many aspects of health care to provide a solid foundation of medical history, terminology, patient safety, hospital practices, and health care careers. Medical knowledge is also obtained through studies of growth and development, anatomy and physiology, first aid, and vital signs.

## Detailed Course Design

(Course design should include the objectives, activities, assessments, and standards to be addressed in this course.)

This course aligns to the CTE Model Curriculum Standards for the Health Science and Medical Technology industry sector.

### **History and Trends of HealthCare**

Students will understand the major historical events, inventions, and people of healthcare, such as Hippocrates and elements of his Hippocratic Oath. Additionally, they will be able to describe the evolution of the belief of the cause of disease, and to anticipate future trends and changes in health care. The various types of alternative medicine will also be studied and analyzed focusing on their principles, practices, and effectiveness. Students will be able to recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment and know the relationship and use of an integrated healthcare delivery.

### **Key Assignments**

After an introductory discussion, the Frontline “Alternative Fix” video is viewed with an accompanying worksheet. The video is discussed in depth in relation to beliefs, practices, effectiveness (shown with scientific studies), and funding. The class participates in practicing an alternative medical therapy by performing the

exercises in a “Qigong for Beginners” video. Finally, each student researches a different method of alternative medicine and composes a 2 page analysis of the beliefs, practices, and effectiveness of that method (students will be required to use at minimum 3 credible online sources). Additionally, they will present orally in a 2-3 minute classroom presentation.

### **Personal and Professional Qualities of a HealthCare Worker**

Students will be able to explain the factors that contribute to good physical health, as well as to identify causes of stress and develop a stress reduction toolbox to promote good emotional/psychological health. They will be able to create a profile of personal and professional traits and attitudes of a successful health care worker. Additionally, students will understand and be able to discuss the importance of active listening and factors that interfere with listening, and the benefits of teamwork and styles of leadership. The importance of professional skills such as time management, professional appearance, and resume creation/maintenance will also be introduced. Students will recognize and practice components of an intake assessment relevant to patient care, conduct basic interviews to acquire new knowledge (e.g., medical and family histories). and identify and summarize major life events as they impact health care practices and patient outcomes.

### **Key Assignments**

Activities include team brainstorming and presentation about personal and professional characteristics, a personality test, a time log and evaluation to improve time management, discussion of stress triggers and formation of a toolbox of responses to manage stress, and a team survival scenario. The communication activity is done in two's. One student discusses a topic for three minutes while the partner practices active listening. Next, the listener summarizes the information for one minute without judgment, comment, agreement, or disagreement. Each student synthesizes major points to partner communication. Students will compose a 2-3 page essay discussing three characteristics of a successful health care professional, and how the student feels they currently meet or fall short of those, along with a plan to strengthen each in the future. The plan must have the following elements: identified areas to research, specific skills and next steps to fill in the identified gaps. Personal resume creation. Students will use information collected from lecture material and a guest speaker (local health care administrator) to create a personal resume. This resume will later be utilized for mock interviews and job applications.

### **Infection Control**

Students will be able to identify the categories of micro organisms and give a disease-causing example of each. They will combine this knowledge with an understanding of the six links in the chain of infection and how to break each link, as well as the differentiation between antisepsis, disinfection, and sterilization in order to formulate policies and procedures that decrease the risk of the spread of infection. The principles of chemical disinfection, sterile packaging, and patient isolation will be stressed in relation to patient and health care provider health and safety. Additionally, students will learn and practice the use of personal protective equipment, the proper procedure to change a sterile dressing, and aseptic hand washing technique. Students will also be aware of the factors and consequences of

a bio terrorism attack. Student will learn how to comply with protocols and preventative health practices necessary to maintain a safe and healthy environment for patients, health care workers, coworkers, and self within the health care setting, describe the infection control cycle with consideration of the various types of microorganisms, demonstrate use of facility policies and procedures of infection control while performing patient care and evaluate potential causes and methods of transmitting infections and how to apply standard precaution guidelines.

### **Key Assignments**

Students will write an action plan on bioterrorism which will include the controlling of the substance, evacuation/safety procedures, notification and prevention in the future. Students will walk through a simulated lab (in the classroom) with multiple infection control failures. They will be asked to write an incident report identifying the errors in infection control, how each error should be handled, and appropriate procedures to be used in the future. A central issue of infection control in health care is adequate hand washing. The topic is discussed with a worksheet documenting knowledge of vocabulary, purpose, types of washing, limitations to attaining asepsis, and when, where, and how to wash (WHO guidelines). After watching videos of various types of health care hand washing (aseptic sanitizer or soap and water, sterile surgical scrubbing), the students work with a partner to compare techniques. After applying fluorescent "germ" hand paint, one student washes their hands in the usual fashion and the partner uses the aseptic method. Using a blacklight, the clean hands are inspected for residual "germs". The results demonstrate the effectiveness of proper washing and the importance of not wearing rings or nail polish.

### **Patient Privacy**

Students will be able to define privileged communications and understand how they apply to health care. In addition, they will be able to identify and explain the 18 elements of Protected Health Identifiers (PHI), and define the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and how it provides confidentiality for health care information. With this knowledge students will then learn the legal regulations and violation penalties that apply to health care records. Students will understand the significance of nontraditional approaches to health care in relationship to delivery systems, illustrate the value of preventive and early intervention in relationship to health care practices and be able to describe the importance of reimbursement systems in relationship to the delivery of patient care.

### **Key Assignments**

Students will research a litigation case in which patient privacy was violated. Students will complete an essay that includes a summary of the allegation, a description of the acts of violation, the outcome of the litigation, and a description of policies and procedures that should be utilized to avoid such litigation in the future. Students will present their findings and conclusions, along with recommendations of how the violation could have been avoided. There will be several medical professional guest speakers to learn about health care careers.

### **Medical Terminology and Military Time**

Students will be able to use basic medical abbreviations, define prefixes, suffixes, and word roots that form many medical terms, and to elaborate and define basic medical acronyms. They will also understand the importance of accuracy in medical records, order, and treatment plans. Additionally, students will understand, translate, verbalize, and express time using the 24-hour military clock which is the standard clock used in health care facilities. Students will know the definition, spelling, pronunciation, and use of appropriate terminology in the healthcare setting, how to use medical terminology in patient care appropriate to communicate information and observations, accurately spell and define occupationally specific terms related to health care and know the basic structure of medical terms.

### **Key Assignments**

Students will be asked to select a medical term that includes a prefix, suffix, and root word. They will create a visual display and will present it to the class. The student will need to break the term down into its three components and explain the origin and meaning for each. Additionally, they will need to give examples of how each of the three components could be used to make up a term with a different meaning. This will demonstrate the student's knowledge of the meanings of prefixes, suffixes, and root words, as well as their ability to accurately arrange components for term creation. Students will compose an essay discussing how medical terminology creates a consistent written language and what importance that carries for health care professionals and medical documentation. Tables, worksheets, and discussion of the elements of a typical medical record set the foundation. A template of a patient history and physical examination will be explained, and various patient records are examined and discussed. Practice and repetition are done through two games/activities, BINGO and a word-part matching. For the word-part matching activity, each student is given multiple cards each containing a suffix, prefix, or word base. They have time to verify the meaning of their word-parts. Next, they have a limited amount of time to work with other students and their cards to create medical terms.

### **First Aid**

Students will understand the necessity, elements, and provision of first aid. They will learn to identify the signs and symptoms and the management of sudden illnesses including heart attack, stroke, fainting, convulsions, and diabetic reactions. Students will be able to demonstrate first aid for bleeding, shock, poisoning, burns, heat or cold exposure, bone, joint, other specific organ injuries, as well as cardiopulmonary resuscitation. In addition, students will be able to demonstrate the application of dressing and bandages while observing safety precautions. Students will understand the basic structure and function of the human body and relate normal function to common disorders, know basic human body structure and function in relationship to specific care between prevention, diagnosis, pathology, and treatment, describe basic stages of growth and development, recognize common disease and disorders of the human body, and compare normal function of the human body to the diagnosis and treatment of disease and disorders.

### **Key Assignments**

CPR/AED/First Aid scenario response. Students will be placed in groups and given a random emergency scenario and asked to perform any and all of the required responses. They will work on CPR mannequins, and have access to first aid supplies and an AED. Students will evaluate their partners with a rubric and assist in their development prior to the graded portion of their demonstration. Students should select a national or world wide organization that provides first aid to the public (i.e. American Red Cross, Reach Out WorldWide) and research the type of services they provide, the training their volunteers/employees have, and the opportunities available to volunteer/work within that organization. They will then present their findings in a research report (minimum of 2 citations), as well as a presentation to the class that includes visual aides.

### **Safety**

Students will know the purpose and basic contents of the Occupational Safety and Health Administration Hazardous Chemicals Standards and Blood Borne Pathogen Standards. They will understand the importance of good body mechanics in order to prevent injury, and basic patient safety practices. In addition, students will learn the correct response to laboratory emergencies, and about fire safety equipment and fire response. Students will also be able to describe hospital emergency/evacuation plans, discuss various emergency scenarios, and apply this to a school emergency situation. Students will use various manual and mechanical decontamination and sterilization techniques and procedures and learn how to document and analyze sanitation and infection control procedures.

### **Key Assignments**

Students will be placed into groups and be assigned one element from the objectives (i.e. Blood borne pathogens standards, fire safety equipment, hospital emergency/evacuation). They will be asked to prepare a class presentation with visual aides. This presentation should include a review of the element, a demonstration of procedures, and a role play scenario for the class. Additionally, the group will need to produce a single page reference handout for their element, utilizing easy to follow instructions and language neutral graphics/illustrations.

### **Vital Signs**

Students will be able to list, describe, and define the importance of the four main and five ancillary vital signs, including the normal values, measurement, and medical problems related to pulse and blood pressure. They should also understand the difference between a sign and a symptom. Students will know the various sites, methods, and measurement systems (Celsius and Fahrenheit) for measuring temperature, as well as understanding the causes of abnormal temperature readings and finding including calibration. Students will know how to apply mathematical computations used in the health care delivery system, apply mathematical computations related to health care procedures (metric and household, conversions and measurements), and analyze diagrams, charts, graphs, and tables to interpret health care results.

### **Key Assignments**

Students will be given one of the vital signs and will compose a research paper and presentation. The paper should include how to locate and accurately measure the

vital sign, what could cause a malfunction in the measuring process, what the measurements mean for the health of the patient, and what disease or disorder could be indicated by an abnormal reading. The students will present their findings in a presentation that includes a live or video demonstration of how to measure the vital sign.

### **Nutrition and Diets**

Students will be able to define nutrition, and understand the effects of good and bad nutrition on the body including diseases resulting from poor nutrition. They will be able to name and describe the six groups of essential nutrients, their food sources, and their functions in the body. Students will understand the nutrition from ingestion to elimination, including the structures and functions (anatomy and physiology) of the digestive tract. Additionally, students will learn how to use body mass index charts, graphs, and calculations to determine level of health. They will use that information to determine ideal weight, calculate daily required calories, and create a sample diet based on their findings. Students will also learn the elements and purposes of various therapeutic diets.

### **Key Assignments**

After learning about nutritional elements and digestive tract structure and function, the students will complete a laboratory assignment. They will find their body mass index by calculation and graphic determination, and this value will be used to calculate daily required calories. Then caloric tables with protein, carbohydrate, and lipid content are to be used to create a healthy well balanced diet to meet the caloric intake. Students will submit a laboratory report detailing their procedures and data, as well as a reflection composition explaining how they felt about the laboratory results, and how it has impacted their thoughts on their personal nutrition and health status. Students will be given additional "mock" profiles and will be asked to follow the same laboratory process, and then make recommendations for caloric intake and planning based upon dietary goals of the mock profile.

### **Noninfectious Diseases**

Students will learn the definition and medical terminology for the following non-infectious diseases: high blood pressure, hypertension, cholesterol - HDL/LDL, heart disease, strokes, cancer, and diabetes. With each non-infectious disease, the students will be introduced to the medical instrument used to get and interpret results, what the causes and warning signs are for disease prevention, and the appropriate medication used to manage each disease. Through these discoveries, students will also learn the possible lifestyle effects each disease has, giving them a new perspective on how to help others when serving in the role as a Community Health Worker.

### **Key Assignments**

Students will develop their critical thinking and analytical skills while completing the one page case study and providing one-on-one counseling for their patient actor. The students will receive a patient case study, analyzing and interpreting the blood pressure, cholesterol, and triglyceride numbers. The students will work with a partner to practice their basic counseling skills, providing accurate heart disease

information and interpreting the numbers for the patient actor. During the counseling session, the student will work with the patient actor to develop goals for managing his or her heart disease, providing a copy of a wellness care plan to the patient actor upon completing the counseling session.

### **Human Growth and Development**

Students will be able to identify the physical, mental, emotional, and social development goals for each of the seven main life stages. They will learn Erikson's eight stages of psychosocial development, and Maslow's Hierarchy of Needs. Additionally, students will understand the purpose of hospice care, and the services available, as well as be able to describe the five stages of grieving in relation to dying patients. Students will identify practices to prevent injuries and protect health, for self and others (i.e., seatbelts, helmets, and body mechanics), know how to access available wellness services (i.e., screening, exams, and immunizations), utilize culturally appropriate community resources, and recognize complementary and alternative medicine as practiced within various cultures.

### **Key Assignments**

To gain knowledge and understanding of the many growth and developmental events of human life, two class created human life time lines are developed. An introductory discussion of the meaning and measurement of growth and development precedes the activity. One time line focuses on newborn to early childhood development (0-5) and the other covers the period from late childhood to late adulthood. Events are identified by the students; the events are investigated with online searches, textbook information, and printed milestone charts, graphs, and reports; a determination of what type of process(es) are involved (e.g. physical, mental) is made; and the information is plotted on the timeline. Students will create their own Maslow Hierarchy of Needs Triangle. They should include at each level what currently satisfies that need, or what they would require to fulfill that need. In addition to the pictorial Triangle students will compose a 2 page paper explaining each of the 5 triangle levels. They should describe why they chose the elements leading to fulfillment of that need, and explain how they plan to keep or obtain those things.

### **Geriatric Care**

Students will be able to differentiate between the myths and facts of aging, including the ability to identify physical changes of aging for the body systems. They will also be able to identify and describe methods of providing care to the elderly, and list factors that can cause psychosocial changes in the aging population. Additionally, students will be able to recognize confusion and disorientation in the elderly and know the causes and effects of these problems.

### **Key Assignments**

With the information obtained through study of the topic material and additional computer based research work, the students work in teams to create a reality orientation program to improve cognitive and psychomotor function for confused or disoriented patients. The project includes both testing (use of standardized assessments) and activities to improve the performance of the patients. Each plan will include frequency of activities, success criteria and rationale of activity



to be submitted in a 2-3 page medical report that also includes the health history, and evaluation of the patient. Students will also role play the communication of the plan to a mock geriatric patient and family for the class. Students will select one of the "Myths of Aging" presented in class, and they will use a minimum of 2 medical resources to discredit the myth. They will then compose a paper detailing their resources, the information presented to discredit the myth, and a discussion of the dangers of this myth.

### **Human Anatomy and Physiology**

Students will learn terminology used to describe the locations and relationships of body parts, enabling them to identify the basic structures and functions of each body system. They will also understand the six levels of biological structural organization. Additionally, students will understand and be able to explain the basic anatomy and physiology of the cardiopulmonary system.

### **Key Assignments**

After learning the basics of terminology, system organization, and major systems, study is focused on the cardiopulmonary system. The structures and functions are discussed, drawn, and documented. To demonstrate both anatomy and physiology, a cardiac cycle is enacted with home made structural elements (e.g. cardboard box for a heart chamber, red balloon for oxygenated red blood cell) with each student participating by identifying and explaining their assigned elements and related events. Students will be assigned a cardiopulmonary system disease or disorder. They will compose a research paper (minimum of 3 citations) that covers the anatomical and physiological components to the disease or disorder. They will present their findings to the class, with at least one visual aid.

### **Careers in Health Care**

Students will learn the various specialty fields or types of practice in health care, and the basic description and duties of at least 20 different health careers including their acronym or abbreviation, educational requirements and employment opportunities. In building on this information students will learn to differentiate between certification, registration, and licensure allowing for an understanding of the different levels of training and expertise in medical fields. Additionally, students will be able to compare and contrast the educational requirements for various college degrees. Students will recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment and know the relationship and use of an integrated health care delivery system.

### **Key Assignments**

Students will do a research project on a specific selected health care career that includes the following elements: level of education, credentialing, schools or training programs, job description, places of employment, typical salary, and sample job listings. The students will present their findings to the class in a powerpoint presentation, and compose a research paper presenting their findings (minimum of 3 citations).

Budget- budget figures must be included even if they are an estimate.

Projected Costs	Start-up	Ongoing
Personnel (Not to include classroom instructor unless a new section is needed)		
Instructional Material Supplies per student (textbooks, software, etc.)	HealthCare Science Technology: Career Foundations text, instructional materials	Instructional materials
Services (training, equipment maintenance, contracts, etc.)		
Capital Outlay (remodeling, technology, etc.)		
<b>Total Projected Costs</b>	<b>\$8000</b>	<b>\$6000</b>

Instructional Materials- must include estimate for new materials even if none have been selected. Place in chart above.

Type	Publisher	Title	ISBN	Author	Copyright	# Have/Need
Textbook	McGraw Hill	HealthCare Science Technology: Career Foundations	9780078780929	Kathryn Booth	2013	Need - 33

#### Funding Source(s) for Costs and Instructional Materials

Grants (indicate specific grant and grant timeline)	American Rescue Plan Act - CTE Foundation Grant, ends December 2024.
Categorical Funds (include related programs)	
Career Technical Education (must be for an approved CTE course)	Perkins V Grant, Career Technical Education Grant (annual)
Department Funds	


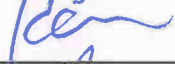



Other (be specific)	
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### Appendix of Additional Documents

**\* Required additional documents include meeting minutes where the course was discussed and approved**

This course was reviewed and approved by the CTE Department Chairs on Tuesday, February 28, 2023.

### District Principal Review and Approvals:

Principal's Signatures	Site	Approved / Not Approved
	MHS	Approved
	SRHS	Approved
	MCHS	Approved
	EAHS	Approved
	PHS	Approved

### District Department Chair Review and Approvals:

Department Chair Signatures	Site	Approved / Not Approved
Bao Alderson	MHS	Approved
Cara M Parlato	EAHS	Approved
Colleen Spiers	MCHS	Approved
Tom Gutsch	SRHS	Approved
Maureen McCabe	PHS	Approved