

**MT. DIABLO UNIFIED SCHOOL DISTRICT  
COURSE OF STUDY**

<b>COURSE TITLE:</b>	<b>Medical Science and Terminology</b>
<b>COURSE NUMBER:</b>	<b>008504</b>
<b>CBEDS NUMBER:</b>	<b>7921</b>
<b>DEPARTMENT:</b>	<b>CTE/Health Science</b>
<b>LENGTH OF COURSE:</b>	<b>Year</b>
<b>CREDITS PER SEMESTER:</b>	<b>5</b>
<b>GRADE LEVEL(S):</b>	<b>10th</b>
<b>REQUIRED OR ELECTIVE:</b>	<b>Elective</b>

**PREREQUISITES: or Corerequisites**

**Required -**

**Biology**

**Recommended -**

**Human Anatomy and Physiology**

**BOARD OF EDUCATION ADOPTION:**

**COURSE DESCRIPTION:**

This course covers the basic medical terminology for Allied Health exploratory students. It covers the most common word parts, from prefixes, word roots and combining forms and suffixes for all the human systems. The distribution of topics includes words like looks alike and sound alike. Abbreviations acronyms, antonyms, synonyms are addressed. Anatomy, Physiology, Pathology, Diagnostic and the most common therapeutic procedures are also included in this course. Prognosis and rehabilitation techniques are fully described using the correct terminology for students win non previous knowledge of these topics. Basic pharmacology for health-related careers in general is also a topic included in this course.

**COURSE PURPOSE:**

The purpose of this class is to assist the student in making educational/career decisions. The Medical Science and Terminology course prepares students with a foundation to understand and use medical terminology for a future career in the medical health field. Presentation of the vocabulary terms are organized according to the human body systems. Assignments and labs designed to expose students to the use of the language. The course follows the Health Science and Medical Technology Patient Care Pathway standards.

**COURSE OUTLINE:**

**Unit 1 – Introduction to Basic Word Structure**

This unit introduces the first three chapters of textbook. It addresses developing the early skills of identifying the word parts of combining form, suffix, and prefix. These skills are used to develop understanding of how to analyze a word to determine its meaning, begin relating terms to structure and function of human body, and awareness of spelling pronunciation. There is a brief overview about the organization, structure, and division of the body. This unit has vocabulary word related to the theme of each chapter of prefixes, suffixes, and combining form word parts.

## **Unit 2 – Digestion, Urinary and Reproductive System**

This unit has vocabulary word parts of prefixes, suffixes, and combining forms focusing on the digestive, urinary, and reproductive system. Reviews anatomy and physiology of digestive system, urinary, and reproductive. Unit begins to discuss selected pathology and treatments related to these systems. For example, it would include anorexia, flatus, dental caries, periodontal disease, kidney stones, dialysis, ovarian cancer, ectopic pregnancy, and prostate cancer.

## **Unit 3 – Skin, Nervous, Cardiovascular**

This unit has vocabulary word parts of prefixes, suffixes, and combining forms focusing on the skin, nervous, and cardiovascular systems. Reviews anatomy and physiology these systems. Discussion on selected pathology and treatments related to these systems. For example, it would include skin cancer, types of skin lesions, burn conditions, Parkinson disease, multiple sclerosis, epilepsy, Alzheimer disease, arrhythmias, congenital heart disease, congestive heart failure, hypertension. Students are introduced to electrocardiograms.

## **Unit 4 – Respiratory, Immune and Lymphatic, Musculoskeletal**

This unit has vocabulary word parts of prefixes, suffixes, and combining forms focusing on the respiratory, immune and lymphatic, and musculoskeletal systems. Reviews anatomy and physiology these systems. A short introduction to x-rays is included with the musculoskeletal system. Discussion on selected pathology and treatments related to these systems. For example, it would include asthma, tuberculosis, tracheostomy, allergies, lymphoma, osteoporosis, arthritis, carpal tunnel.

## **Unit 5 - Sensory and Endocrine**

This unit has vocabulary word parts of prefixes, suffixes, and combining forms focusing on the sensory and endocrine systems. Reviews anatomy and physiology these systems. Discussion on selected pathology and treatments related to these systems. For example, it would include astigmatism, cataract, glaucoma, macular degeneration, cochlear implants, deafness, diabetes, dwarfism, gigantism.

### **For Lab Sciences Only**

#### **LABORATORY ACTIVITIES:**

**The Urinalysis Lab** Introduces the students to basic analysis of simulated patient urine samples. They will test the samples for different characteristics. Using the data, they will determine which patient might have diabetes and explain why they made this choice.

**The Skin Cancer Lab:** Part one of the lab involves the students using Vernier probeware to evaluate the UV protection of sunglasses and sunscreen. Testing for the percentage passage of UVA and UVB rays through the samples. In part two, the students create a PowerPoint about skin cancer and prevention while incorporating the data they collected from the lab.

**The Electrocardiogram Lab:** Part one of the lab students will have a short activity to examine electrocardiograms that show different fibrillation conditions of a heart. In part two, the students will use Vernier probeware to examine their own electrocardiogram reading. They use the graphical read out it generates to make some measurements and evaluations of the pattern it shows.

**ELISA lab:** This lab takes the students through the basic understanding of how ELISA works to detect diseases. Using microplate and micropipet, the students are given a simulated sample to determine which patients are infected with a particular disease

**Sensory lab:** This lab involves multiple stations. Working in pairs the students evaluate their senses at each station. Stations involve the use of eye chart, depth perception, astigmatism, hot/cold sense, taste and smell, and

sound. They collect data and produce conclusions using the class data results to communicate the usefulness of this information to improve an individual's life.

## **KEY ASSIGNMENTS:**

**Unit One:** "The Skit": Students design and plan a skit that they will perform in front of the class. The students write their own script and develop necessary props. They are required to use the medical vocabulary in their skit.

**Unit Two:** The "Good Eats" brochure: Students choose selected digestive pathologies. Students research the disease using the Internet to produce a brochure using Microsoft Office Publisher. Each student at the end will print a final copy of their brochure for grading and share with class what they learned about the disease.

"The Board Game": A culminating assignment for the first two units. In groups, the students must design and create a game board based on the vocabulary words they learned in the last two units. Once completed, the students play each other's game board and each one is evaluated. This assignment is designed to prepare the student for their semester exam.

**Unit Three:** "Skin Cancer Lab": After completing the lab portion of the assignment, students will create a PowerPoint about skin cancer and prevention while incorporating the data they collected from the lab.

**Unit Four:** Respiratory disease presentation involves the students pairing up to research a respiratory disease. They present their information onto two manila folders that have been converted into a three panel presentation board. Students evaluate each presentation using a handout that asks them questions to review the information.

**Unit Five:** The Sensory Lab involves multiple stations. Working in pairs the students evaluate their senses at each station. Stations involve the use of eye chart, depth perception, astigmatism, hot/cold sense, taste and smell, and sound. They collect data and produce conclusions using the class data results to communicate the usefulness of this information to improve an individual's life.

## **INSTRUCTIONS METHODS and/or STRATEGIES:**

- Project Based Learning
- Guided Inquiry projects
- Modeling
- Direct instruction (minimal)

## **ASSESSMENTS INCLUDING METHODS and/or TOOLS**

- Project-based learning (Graded by rubric)
  - Cumulative unit presentations
  - Medical Innovations for real life medical phenomenon
- Unit exams
- End of Course Exam

## **INSTRUCTIONAL MATERIALS:**

***Textbook:*** Medical Terminology for Health Professions, 8<sup>th</sup> Ed., Ann Ehrlich

***Ancillary Textbooks:***

The Language of Medicine, Davi-Ellen Chabner

Medical Terminology: A Short Course, Davi-Ellen Chabner

**Materials:**

Human Skeleton Model and other anatomical models of various joints  
The Netter Collection of Medical Illustration  
The Language of Medicine Audio/Pronunciation Tool  
Medical Terminology for Health Professions Audio/Pronunciation Tool  
Google Classroom  
Prezi Presentation Software

**For CTE Pathway:**

**Sequence of Courses:**

Biology  
Introduction to Human Anatomy and Physiology  
Medical Science and Terminology  
Healthcare Essentials

**Committee Members:**

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| <b>1. David Pintado, CTE Teacher</b>               | <b>4. Jillian Maganito, MBTA Science Teacher</b>                                       |
| <b>2. Shawn Mietz, MBTA Lead Teacher</b>           | <b>5. Liane Cismowski, MDHS Principal</b>  |
| <b>3. Sandy Johnson Shaw, MBTA Science Teacher</b> | <b>6. Heather Fontanilla, Administrator,<br/>Career Pathways &amp; Linked Learning</b> |