VALLEY ROP COURSE OUTLINE

COURSE TITLE: Medical Terminology (A and B)

VALLEY ROP #: HSM-4226-MedTerm (A,B)
CDE #: 3147, 5570

CBEDS TITLE: PWI Health Care
CBEDS #: 4226

CTE SECTOR: Health Science & Medical Terminology
CTE PATHWAY: Support Services

JOB TITLES:

Laboratory Assistant, Blood & Plasma	29-2012.00
Medical and Clinical Laboratory Technicians	31-2012.00
Nursing Aides, Orderlies, and Attendants	31-1012.00
Physical Therapist Assistants	31-2021.00
Pharmacy Aides	31-9095.00
Health Care Support Workers, all others	31-9099.00
Home Health Aides	31-1011.00
Health Technologists and Technicians, All Other	29-2099.00
Ambulance Drivers and Attendants, Except Emergency Medical Technicians	53-3011-00
Nursing Aides, Orderlies, and Attendants	31-1012.00
Psychiatric Aides	31-1013.00
Medical Equipment Preparers	31-9093.00

COURSE DECRIPTION:
This class is taught at multiple sites as part of the Valley ROP health careers pathway. It may be offered as either a year long course or a 1 semester course taught in conjunction with First Aid & Safety. A component of the class will be to explore careers in health care through job shadowing, tours and guest speakers. The Medical Terminology course prepares students for entry level positions into numerous occupations in health care and gives the student a fundamental understanding of the human body. Students study the body systems including anatomy and physiology; pathology, diagnostics, symptomatic and therapeutic terms, numerous medical procedures, abbreviations, pharmacology terms, and medical records. Students also learn combing forms, prefixes and/or suffixes which enables them to understand and comprehend the language used in health care. CPR, choking intervention and use of AED's will also be covered.

DATE APPROVED: August 1999
REVISED DATE: January 2006; February 2008; May 2009; Nov 2009

HOURS: 90 / 180
CREDITS: 5 / 10

PREREQUISITES: None

GRADE LEVELS: 11-12

ARTICULATION: 2+2+2 articulation with Fresno City College

TEXTBOOKS: Medical Terminology: A Systems Approach.
F. A. Davis Company. Fourth Edition. 1999.

COURSE COMPETENCIES:

Upon completion of this course, the student will:

Health Science and Medical Technology Industy Sector – Foundation Standards

1. **Academics** – Students understand the academic content required for entry into postsecondary education and employment in the Health Science and Medical Technology sector.
2. **Communications** – Students understand the principles of effective oral, written, and multimedia communication in a variety of formats and contexts.
3. **Career Planning and Management** – Students understand how to make effective decisions, use career information, and manage personal career plans.
4. **Technology** – Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments.
5. **Problem Solving and Critical Thinking** – Students understand how to create alternative solutions by using critical and creative thinking skills, such as logical reasoning, analytical thinking, and problem-solving techniques.
6. **Health and Safety** – Students understand health and safety policies, procedures, regulations, and practices, including the use of equipment and handling of hazardous materials.
7. **Responsibility and Flexibility** – Students know the behaviors associated with the demonstration of responsibility and flexibility in personal, workplace, and community settings.
8. **Ethics and Legal Responsibilities** – Students understand professional, ethical, and legal behavior consistent with applicable laws, regulations, and organizational norms.
9. **Leadership and Teamwork** – Students understand effective leadership styles, key concepts of group dynamics, team and individual decision making, the benefits of workforce diversity, and conflict resolution.
10. **Technical Knowledge and Skills** – Students understand the essential knowledge and skills common to all pathways in the Health Science and Medical Technology sector.
11. **Demonstration and Application** – Students demonstrate and apply the concepts contained in the foundation and pathway standards.

Health Science and Medical Technology Pathway Standards/ Health Informatics

C1.0 Students know the process established by the facility for communicating confidential health and medical information accurately and within the legal and regulatory guidelines:

C1.1 Know the process for managing the timely transfer of information accurately and effectively to the appropriate parties.

C1.2 Know the legal and regulatory requirements for the transfer of information.

C2.0 Students understand the design and implementation of an effective health care information system, including resources, routes, and flow of information:

C2.1 Understand the information systems used by the organization, including how information is organized and integrated for timely, accurate dissemination.

C2.2 Understand the process for evaluating the effectiveness of information systems and determining improvement strategies. C2.3 Know how to organize information within the parameters of the information systems.

C3.0 Students understand the content and diverse uses of health information and the use of legal and regulatory guidelines to maintain, store, and communicate accurate and appropriate information:

C3.1 Understand the process for determining, interpreting, and accurately documenting required information.

C3.2 Understand the documentation and storage systems in use.

C3.3 Know the process for preparing and disseminating information to various audiences by using established information systems that operate within legal and regulatory guidelines.

C3.4 Formulate and report information clearly and concisely.

C3.5 Know the process for assessing information systems and making recommendations for improvement.

C4.0 Students know the quantitative and qualitative requirements that apply to health information and know how to analyze the information for designated purposes:

C4.1 Know the process for assessing whether information is reported and disseminated within legal and regulatory bounds.

C4.2 Know the process for assessing information required by patients, staff, and the community to determine the best course of action.

C4.3 Know the process for determining which data components are necessary for the successful completion of tasks.

C4.4 Know the process for determining the accuracy and completeness of data.

C5.0 Students know how to read, interpret, and extract information from medical and other documents:

C5.1 Know how to code information and develop summaries (abstracts) for use by other medical personnel by using appropriate medical terminology.

C5.2 Know how to determine the information needed to record charges and reimbursements accurately.

C5.3 Know how to assess and apply information for regulatory and legal purposes.

Key Assignments will focus on / facilitate the following:

1. Explain the technique of building medical words using basic word elements.
2. Learn about the basic structure of medical words by identifying the major categories of suffixes and prefixes.
3. Describe anatomical directions, structures, regions, body structures and functions.
4. Learn about the skin by explaining the main functions of the integumentary system, diagnostic procedures, major skin problems, surgical and therapeutic procedures.
5. Learn the main functions of the gastrointestinal system; the role of the liver and gallbladder in digestion; the various part of the gastrointestinal system by identify organs of the alimentary canal also the diagnostic, symptomatic and therapeutic terms related to the gastrointestinal system.
6. Learn about the respiratory system by differentiating between external and internal respiration; identifying the structures of the respiratory system; describing the function of the diaphragm and intercostal muscles in the breathing process; and describing the various pathological condition of the respiratory tract and other symptomatic and therapeutic terms.
7. Learn about the cardiovascular system by listing and describing the major structures and functions of the heart; the three types of blood vessels, the systolic and diastolic blood pressures, differentiating between systemic and pulmonary circulation; and by listing the structures, in sequential order, explaining how the electrical current passes through the heart during the cardiac cycle.
8. Learn about the immune system by describing the functions of blood cells the lymphatic system; and listing the components of plasma, the two major white blood cells and their functions.
9. Learn about the musculoskeletal system by describing the functions of the skeletal system, the four types of bones, division of the vertebral column, and their functions.
10. Learn about the urinary system by describing and identifying the structure and function of the nephrons, reproductive process of the male, seminal vesicle, prostate, and Cowper's diagnostic terms.
11. Learn the female reproductive system by listing and describing the organs, stages of pregnancy, identifying prefixes and suffixes that relate to the female reproductive system.
12. Learn about the endocrine system by listing the various glands and discussing their functions, differentiating between endocrine and exocrine glands, and by identifying the principal hormones secreted by endocrine glands.
13. Learn about the central nervous system by describing and listing the functions of the four major parts of the brain, the neurons, the four types of neuroglial cells, the spinal cord, and the meninges.
14. Learn about the eye and ear by identifying the structures and functions of each; explaining the physiology of hearing , and the diagnostic, symptomatic and therapeutic procedures associated with these structures.
15. Learn about various careers in the health care profession by visiting health care facilities, participation in Career Olympics (i.e. Medical Terminology), and guest speakers.
16. Demonstrate understanding of subject matter through class projects such as oral presentations, designing informational displays, and completing group assignments.
17. 180 hour class only : Demonstrate correct procedure for adult, child, and infant CPR, choking intervention strategies, and use of AED on both adults and children.

COURSE OUTLINE:

Unit of Instruction	Estimated Hours	
Basic Elements of Medical Words • Prefixes • Suffixes • Word Roots	3	6
Suffixes • Surgical • Diagnostic • Symptomatic • Related	3	6
Suffixes • Adjective • Noun • Diminutive • Singular • Plural	3	3
Prefixes • Position • Number and Measurement • Negation • Direction • Other prefixes	3	3
Body Structure • Levels of organization • The disease process • Anatomical positions • Diagnostic imaging • The spine • Directions terms	6	6

Integumentary System
• Anatomy and physiology of the:
  ○ Skin
  ○ Hair
  ○ Glands
  ○ Nails
  ○ Breasts
	6	12

Gastrointestinal System 6 12

- Anatomy and physiology of the:
  - Mouth
  - Stomach
  - Small intestine
  - Large intestine
  - Colon
  - Accessory Organs

Respiratory System 6 12

- Anatomy and physiology of the:
  - Internal respiration
  - External respiration
  - Respiratory system

Cardiovascular 6 12

- Anatomy and physiology of the:
  - Vasculary system: arteries, capillaries, and veins
  - Heart
  - Conduction system of the heart
  - Blood pressure
  - Fetal circulations

Blood, Lymph, and Immune System 6 12

- Anatomy and physiology of the:
  - Blood: red blood cells, white cells
  - Platelets and plasma
  - Lymph
  - Immune Systems: blood groups

Musculoskeletal System 6 10

- Anatomy and physiology of the:
  - Skeletal system
  - Functions
  - Structures and types of bones
  - Divisions of the skeletal systems

Genitourinary System 6 12

- Anatomy and physiology of the:
  - Urinary system
  - Macroscopic and Microscopic structures
  - Male reproductive system

Female Reproductive System 7 12

- Anatomy and physiology of the:
  - Internal organs of reproduction
  - Ovaries
  - Fallopian tubes
  - Uterus and vagina
  - Menstrual Cycle
  - Pregnancy
  - Labor and childbirth

Endocrine System	6	12

• Anatomy and physiology of the:
  ○ Pituitary gland
  ○ Thyroid gland
  ○ Parathyroid gland
  ○ Adrenal gland		

Nervous System	7	14

• Anatomy and physiology of the:
  ○ Nervous tissue
  ○ Neurons
  ○ Neuroglia
  ○ Brain
  ○ Spinal cord
  ○ Meninges		

Special Senses	6	12

• Anatomy and physiology of the:
  ○ Eye
  ○ Ear
  ○ Hearing
  ○ Equilibrium		

Career Preparation	4	4
CPR / Choking / AED Training	0	15
Community Classroom	0	5
Total Hours	**90**	**180**

CAREER PREPARATION STANDARDS

A. PERSONAL SKILLS **-** Students will understand how personal skill development affects their employability. This skill includes positive attitudes, self-confidence, honesty, responsibility, initiative, self-discipline, personal hygiene, time management, and the capacity for lifelong learning.
   1. Demonstrate an understanding of classroom policies and procedures.
   2. Discuss importance of the following personal skills in the business environment:
      a. positive attitude
      b. self-confidence
      c. honesty
      d. perseverance
      e. self-management/work ethic
      f. pride in product/work
      g. dependability
   3. Identify acceptable work attire.
   4. Establish goals for self-improvement and further education/training.
   5. Prioritize tasks and meet deadlines.
   6. Understand the importance of initiative and leadership.
   7. Understand the importance of lifelong learning in a world of constantly changing technology.

B. INTERPERSONAL SKILLS - Students will understand key concepts on group dynamics, conflict resolution, and negotiation. This skill includes the ability to work cooperatively, accept supervision, assume leadership roles, and show respect for others. This standard includes an understanding of sexual harassment laws and an appreciation of cultural diversity in the workplace.
   1. Identify and discuss behaviors of an effective team.
   2. Explain the central importance of mutual respect in the workplace relations.
   3. Discuss and demonstrate strategies for conflict resolution and negotiation, and explain their importance within the business environment.
   4. Understand laws that apply to sexual harassment in the workplace, and identify tactics for handling harassment situations.
   5. Work cooperatively, share responsibilities, accept supervision and assume leadership roles.
   6. Demonstrate cooperative working relationships and proper etiquette across gender and cultural groups.

C. THINKING AND PROBLEM-SOLVING SKILLS - Students will exhibit critical and creative thinking skills, logical reasoning, and problem-solving. These skills include applying basic skills in order to calculate, estimate measure; identify, locate, and organize information/data; interpret and follow directions from manuals, labels, and other sources; analyze and evaluate information and solutions.
   1. Recognize the importance of good academic skills and implement a plan for self-improvement as needed.
   2. Read, write, and give directions.
   3. Exhibit critical and creative thinking skills and logical reasoning skills, and employ these skills for problem solving.
      a. Work as a team member in solving problems.
      b. Diagnose the problem, its urgency, and its causes.
      c. Identify alternatives and their consequences.
      d. Explore possible solutions.
      e. Compare/contrast the advantages and disadvantages of alternatives.
      f. Determine appropriate action(s).
      g. Implement action(s).

h. Evaluate results of action(s) taken.

D. COMMUNICATION SKILLS - Students will understand principles of effective communication. This standard includes effective oral and written communication, listening skills, following and giving directions, requesting and giving information, asking questions.
   1. Use communication concepts in application of skills, techniques, and operations.
      a. Prepare written material.
      b. Analyze written material.
   2. Understand and implement written instructions, from technical manuals, written communications, and reference books.
   3. Present a positive image through verbal and nonverbal communication, and understand the power of body language in communication.
   4. Demonstrate active listening through oral and written feedback.
   5. Give and receive feedback.
   6. Demonstrate assertive communications (both oral and written).
   7. Demonstrate proper etiquette in workplace communications, including an awareness of requisites for international communications (languages, customs, time zones, currency and exchange rates).
   8. Demonstrate writing/editing skills as follows:
      a. Write, proofread, and edit work.
      b. Use correct grammar, punctuation, capitalization, vocabulary, and spelling.
      c. Select and use appropriate forms of technology for communication.
   9. Exhibit a proficiency in the use of reference books.
   10. Research, compose, and orally present information for a variety of business situations utilizing appropriate technology.

E. OCCUPATIONAL SAFETY - Students will understand occupational safety issues, including the avoidance of physical hazards in the work environment. This includes the safe operation of equipment, proper handling of hazardous materials, appropriate attire and safety accessories, avoidance of physical injuries, interpretation of warning and hazard signs and terminology, and following and understanding safety-related directions.
   1. Discuss and implement good safety practices, including the following (if applicable to course):
      a. personal
      b. lab
      c. fire
      d. electrical
      e. equipment
      f. tools
      g. interpretation of Material Safety Data Sheets (MSDSs)
      h. Environmental Protection Agency (EPA)
      i. Occupational Safety and Health Administration (OSHA)
      j. American Red Cross Standards (ARC)
      k. Networking Safety Standards
   2. Apply sound ergonomic principles in organizing one’s work space.

F. EMPLOYMENT LITERACY - Students will understand career paths and strategies for obtaining employment within their chosen field. This includes traditional job preparation skills, such as resumes, application forms, cover letters, sources of employment information, and interviewing skills, but also includes an overview of the industry and an understanding of labor market trends.
   1. Explore career opportunities and projected trends; investigate required education, training and experience; and develop an individual education plan.
   2. Identify steps for setting goals and writing personal goals and objectives.
   3. Examine aptitudes related to career options; relate personal characteristics and interests to educational and occupational opportunities.
   4. Develop a career portfolio, including the following documents:

a. job application
b. resume(s)
c. appropriate cover and follow-up correspondence

5. Identify and demonstrate effective interviewing techniques.

G. TECHNOLOGY LITERACY - Students will understand and adapt to changing technology by identifying, learning, and applying new skills to improve job performance. Students should understand the role of technology in their chosen field and should be able to use all appropriate technology. Students should also feel confident in their ability to learn new technology by generalizing from what they know, adapting skills to new situations, and identifying and using sources of information and of further learning.
   1. Demonstrate the ability to use personal computers for loading and retrieving data, information gathering, measurements, and writing.
   2. Identify the characteristics and explain the importance of adapting to changes, being flexible, and evaluating goals when working in the industry.
   3. Understand the importance of lifelong learning in adapting to changing technology.

H. IMPORTANCE OF ETHICS – Students will understand proper ethics in the workplace.
   1. Discuss social and ethical responsibilities in the industry.
   2. Demonstrate ethical choices in workplace situations.