**Course Title:** CTE Medical Pathways
**CALPADS Title:** Patient Care (Introduction)
**Sector:** Health Science and Medical Technology
**Pathway:** Patient Care
**Job Title(s):** Medical Assistant

**Course Description:** The primary purpose of this course is to provide students with the science skills necessary to be successful in a career in the health professions. There is a focus on three major pathways within the health professions that account for the majority of careers within that industry sector. Though students are exposed to the careers within each pathway, the primary goal is to provide students with the theoretical and practical science skills they will need in order to excel in those careers. It is the ultimate goal of this course to get students excited about the science behind the health professions.

This course has an investigative, hands-on focus that incorporates the knowledge of the science essential to each pathway with skills that will help students be successful in a career in the health professions.

**General Standards embedded throughout the course:**

10.0 Health Science and Technology:
10.1 Interpret and explain terminology and practices specific to the Health Science and Medical Technology sector.
10.2 Comply with the rules, regulations, and expectations of all aspects of the Health Science and Medical Technology sector.
10.3 Construct projects and products specific to the Health Science and Medical Technology sector requirements and expectations.

**Pathway Standards: Patient Care, Biotechnology, Public and Community**

**Anchor Standards**
1.0 Academics
   - Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Health Science and Medical Technology academic alignment matrix for identification of standards.

2.0 Communications
   - Acquire and accurately use Health Science and Medical Technology sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats. (Direct alignment with LS 9-10, 11-12.6)

3.0 Career Planning and Management
   - Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans. (Direct alignment with SLS 11-12.2)

4.0 Technology
   - Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Health Science and Medical Technology sector workplace environment. (Direct alignment with WS 11-12.6)

5.0 Problem Solving and Critical Thinking
Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Health Science and Medical Technology sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques. (Direct alignment with WS 11-12.7)

### 6.0 Health and Safety
Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Health Science and Medical Technology sector workplace environment. (Direct alignment with RSTS 9-10, 11-12.4)

### 7.0 Responsibility and Flexibility
Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Health Science and Medical Technology sector workplace environment and community settings. (Direct alignment with SLS 9-10, 11-12.1)

### 8.0 Ethics and Legal Responsibilities
Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms. (Direct alignment with SLS 11-12.1D)

### 9.0 Leadership and Teamwork
Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA career technical student organization. (Direct alignment with SLS 11-12.1b)

### 10.0 Technical Knowledge and Skills
Apply essential technical knowledge and skills common to all pathways in the Health Science and Medical Technology sector, following procedures when carrying out experiments or performing technical tasks. (Direct alignment with WS 11-12.6)

### 11.0 Demonstration and Application
Demonstrate and apply the knowledge and skills contained in the Health Science and Medical Technology anchor standards.

<table>
<thead>
<tr>
<th>CLASS HOURS</th>
<th>COURSE OUTLINE</th>
<th>CALIFORNIA CTE FOUNDATION OR INDUSTRY SECTOR STANDARD ALIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0 INTRODUCTION AND ORIENTATION</td>
<td><strong>Anchor Standards</strong></td>
</tr>
<tr>
<td></td>
<td>• Demonstrate awareness of course objectives and competencies.</td>
<td><strong>7.0 Responsibility and Flexibility</strong></td>
</tr>
<tr>
<td></td>
<td>• Understand course requirements and student expectations.</td>
<td>Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Health Science and Medical Technology sector workplace environment and community settings.</td>
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<tr>
<td></td>
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<td>7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.</td>
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<td>7.4 Practice time management and efficiency to fulfill responsibilities.</td>
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<td></td>
<td></td>
<td>7.7 Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession.</td>
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</table>
### PATIENT CARE

- Understand key prefixes and suffixes in medical terminology.
- Understand key root words in medical terminology.
- Understand structure and function of basic human body systems:
  - cardiovascular
  - respiratory
  - gastrointestinal
  - integumentary
  - immune systems
  - endocrine
  - nervous
  - reproductive system
- Understand the etiology of specific disorders common within each body system: e.g., atherosclerosis, chronic heart failure, myocardial infarction, stroke, COPD, asthma, ulcers, IBS, ulcerative colitis, kidney failure, kidney stones, cystitis, sprains and strains, fractures, muscular dystrophy, dermatitis, autoimmune disorders, hypo/hyperthyroid, diabetes (NIDDM and IDDM), cystic fibrosis, ectopic pregnancy.
- Demonstrate a knowledge of the interconnectedness of human body systems, including an understanding of homeostasis, and positive and negative feedback loops.
- Understand the impact on the whole body of systemic diseases, such as diabetes, alcoholism and Lupus.
- Appropriately use medical terminology of human body systems.
- Understand the careers in the patient care pathway as well as the requirements to enter each of the fields of patient care.
  - Become CPR certified.

### Pathway Standards: Patient Care

<table>
<thead>
<tr>
<th>2.0</th>
<th>B1.0</th>
<th>Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B2.0</td>
<td>Understand the basic structure and function of the human body and relate normal function to common disorders.</td>
</tr>
<tr>
<td></td>
<td>B5.0</td>
<td>Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.</td>
</tr>
</tbody>
</table>

### Anchor Standards

**2.0 Communications**

Acquire and accurately use Health Science and Medical Technology sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

- 2.7 Recognize major word parts of medical terminology including roots, prefixes and suffixes.
- 2.8 Understand and use correct medical terminology for common pathologies.

**3.0 Career Planning and Management**

Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

- 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.
- 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning.

**10.0 Technical Knowledge and Skills**

Apply essential technical knowledge and skills common to all pathways in the Health Science and Medical Technology sector, following procedures when carrying out experiments or performing technical tasks.

- 10.1 Complete certification in emergency care as appropriate (CPR).
3.0 **BIOTECHNOLOGY**
- Understand the tools used in biotechnology labs.
- Demonstrate micropipetting.
- Demonstrate proficiency in mathematical conversion calculations necessary for proper lab results.
- Demonstrate the principles of solution preparation and contamination control.
- Demonstrate measurement skills.
- Understand emergency lab response procedures.
- Understand and use the equipment necessary for Polymerase Chain Reaction.
- Understand and use the equipment necessary for Western Blotting.
- Properly execute Polymerase Chain Reaction.
- Properly execute Western Blotting.
- Analyze results of Polymerase Chain Reaction and Western Blotting.
- Identify careers in the biotechnology field as well as the requirements to enter each.

**Pathway Standards: Biotechnology**
A3.0 Demonstrate competencies in the fundamentals of molecular cell biology, including deoxyribonucleic acid (DNA) and proteins and standard techniques for their purification and manipulation.
A8.0 Follow sustainable and safe practices with high regard for quality control.

**Anchor Standards**

3.0 **Career Planning and Management**
Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.
- 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.
- 3.5 Integrate changing employment trends, societal needs, and economic conditions into career planning.

5.0 **Problem Solving and Critical Thinking**
Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Health Science and Medical Technology sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.
- 5.2 Solve predictable and unpredictable work-related problems using various types of reasoning as appropriate.
- 5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions.
- 5.5 Know how to apply mathematical computations related to health care procedures.

10.0 **Technical Knowledge and Skills**
Apply essential technical knowledge and skills common to all pathways in the Health Science and Medical Technology sector, following procedures when carrying out experiments or performing technical tasks.
- 10.3 Construct projects and products specific to the Health Science and Medical Technology sector.
### PUBLIC AND ALLIED HEALTH COMPONENT

- Understand the scope of public health in improving the quality of life in personal, community, and global contexts.
- Understand the basic tenets of health and nutrition through a community health lens.
- Design, promote and implement community health programs.
- Understand the field of GIS as it applies to public health.
- Create and analyze GIS reports within a community.
- Understand the scope of careers in the public and community health fields and the requirements for entering key professions.

<table>
<thead>
<tr>
<th>Pathway Standards: Public and Community Health Pathway</th>
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<tbody>
<tr>
<td>E1.0 Understand the context and scope of public health on improving health and quality of life in personal, community, and the global population.</td>
</tr>
<tr>
<td>E2.0 Design, promote, and implement community health programs which result in health-positive behaviors among all individuals, families, groups in a community, and the global environment.</td>
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<table>
<thead>
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<th>Anchor Standards</th>
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<td>3.0 Career Planning and Management</td>
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<td>Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.</td>
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<th>4.0 Technology</th>
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<td>Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Health Science and Medical Technology sector workplace environment.</td>
</tr>
<tr>
<td>4.1 Use electronic reference materials to gather information and produce products and services.</td>
</tr>
<tr>
<td>4.3 Use information and communication technologies to synthesize, summarize, compare, and contrast information from multiple sources.</td>
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<td>Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Health Science and Medical Technology sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.</td>
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<td>5.1 Identify and ask significant questions that clarify various points of view to solve problems.</td>
</tr>
<tr>
<td>5.4 Interpret information and draw conclusions, based on the best analysis, to make informed decisions.</td>
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</table>
### EMPLOYMENT LITERACY
- Identify available positions in the industry through the use of industry publications or the Internet.
- Complete an application form correctly.
- Prepare a written resume.
- Participate in a simulated employment interview.
- Prepare a portfolio.

### PERSONAL SKILLS RELATED TO EMPLOYMENT
- Demonstrate promptness, attend class regularly, and follow absence notification procedures.
- Demonstrate the ability to manage time wisely.
- Demonstrate a positive and cooperative attitude.
- Demonstrate values of honesty and integrity and respect for self and others.
- Demonstrate appropriate personal hygiene/grooming and dress.
- Demonstrate responsibility by exerting a high level of effort and working toward a goal.

### Anchor Standards

#### 3.0 Career Planning and Management
Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

- 3.3 Explore how information and communication technologies are used in career planning and decision making.
- 3.4 Research the scope of career opportunities available and the requirements for education, training, certification, and licensure.

#### 11.0 Demonstration and Application
Demonstrate and apply the knowledge and skills contained in the Health Science and Medical Technology anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings and through the Cal-HOSA career technical student organization.

- 11.5 Create a portfolio, or similar collection of work, that offers evidence through assessment and evaluation of skills and knowledge competency as contained in the anchor standards, pathway standards, and performance indicators.

#### 3.0 Career Planning and Management
Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

- 3.1 Identify personal interests, aptitudes, information, and skills necessary for informed career decision making.
- 3.2 Evaluate personal character traits such as trust, respect, and responsibility and understand the impact they can have on career success.

#### 7.0 Responsibility and Flexibility
Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Health Science and Medical Technology sector workplace environment and community settings.

- 7.2 Explain the importance of accountability and responsibility in fulfilling personal, community, and workplace roles.
- 7.3 Understand the need to adapt to changing and varied roles and responsibilities.
- 7.4 Practice time management and efficiency to fulfill responsibilities.
- 7.7 Demonstrate the qualities and behaviors that
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<tr>
<th>3</th>
<th>7.0 INTERPERSONAL SKILLS AND GROUP DYNAMICS</th>
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<tbody>
<tr>
<td>•</td>
<td>Demonstrate the ability to work as a member of a team.</td>
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<td>•</td>
<td>Identify proper procedures for handling harassment.</td>
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<tr>
<td>•</td>
<td>Demonstrate leadership skills by working independently, making appropriate decisions, working well with others, and accepting constructive criticism.</td>
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<td>•</td>
<td>Demonstrate the ability to accept and work with individuals from various cultures.</td>
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</tbody>
</table>

| 8.0 Ethics and Legal Responsibilities |
|---|---|
| Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms. |
| 8.4 Explain the importance of personal integrity, confidentiality, and ethical behavior in the workplace. |

| 9.0 Leadership and Teamwork |
|---|---|
| Anchor Standards |
| 9.1 Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders. |
| 9.2 Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills as applied in groups, teams, and career technical student organization activities. |
| 9.3 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace setting. |
| 9.4 Explain how professional associations and organizations and associated leadership development and competitive career development activities enhance academic preparation, promote career choices, and contribute to employment opportunities. |
| 9.5 Understand that the modern world is an international community and requires an expanded global view. |
| 9.6 Respect individual and cultural differences and recognize the importance of diversity in the workplace. |

constitute a positive and professional work demeanor, including appropriate attire for the profession.
**THINKING AND PROBLEM SOLVING SKILLS**

- Utilize problem solving techniques.
- Demonstrate creative thinking.
- Discuss decision making.
- Demonstrate the ability to interpret information correctly.

**Anchor Standards**

**5.0 Problem Solving and Critical Thinking**

Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Health Science and Medical Technology sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

- **5.1** Identify and ask significant questions that clarify various points of view to solve problems.
- **5.2** Solve predictable and unpredictable work-related problems using various types of reasoning (inductive, deductive) as appropriate.
- **5.3** Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.
- **5.4** Interpret information and draw conclusions, based on the best analysis, to make informed decisions.
- **5.6** Read, interpret, and extract information from documents.

**COMMUNICATION SKILLS**

- Demonstrate effective verbal and written skills.
- Read technical journals, and write technical reports using appropriate terminology.
- Listen attentively, follow directions, and relay directions to others.
- Demonstrate ability to research and retrieve information.

**Anchor Standards**

**2.0 Communications**

Acquire and accurately use Health Science and Medical Technology sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

- **2.1** Interpret verbal and nonverbal communications and respond appropriately.
- **2.2** Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format.
- **2.3** Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- **2.4** Advocate and practice safe, legal, and responsible use of digital media information and communications technologies.