

**Health Science Career Cluster
Therapeutic Services and Applied Anatomy
Course Number 25.03500**

Course Description:

This course provides students with an exploratory introduction Therapeutic Services and Anatomy and Physiology to several healthcare careers and the safety procedures and interpersonal communication skills required for them. The course will enable students to receive initial exposure to healthcare science skills; attitudes applicable to healthcare including the concepts of health, wellness, and preventative care; and responsibilities of today’s healthcare provider. Mastery of skills through project-based learning, technical skills practice, and group activities will provide students with an opportunity to decide if they want to continue this course of study in high school and/or at a post-secondary institution. This course is considered broad-based with high impact.

Course Standard 1

MS-HS-TSAA-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate Employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Communicating at Work	Listening
Interacting with Your Boss	Telephone Conversations	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls	Effective Written Communication	Ways We Filter What We Hear
		Effective Nonverbal Skills	Developing a Listening Attitude
		Effective Word Use	Show You Are Listening
		Giving and Receiving Feedback	Asking Questions
			Obtaining Feedback
			Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages		One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé

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Improving Nonverbal Indicators		Large Group Communication	Terms to Use in a Résumé
Nonverbal Feedback		Making Speeches	Organizing Your Résumé
Showing Confidence Nonverbally		Answering Questions	Writing an Electronic Résumé
Showing Assertiveness		Visual and Media Aids	
		Errors in Presentation	

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Preparing Visual Aids

1.3 Exhibit critical thinking and problem-solving skills to locate, analyze and apply information in career planning and employment situations.

a. Investigate educational requirements, job responsibilities, employment trends, and opportunities within the national career clusters using credible sources.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Staying Motivated to Search
	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	
		When a Résumé Should be Used		

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	

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Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
Use Technology Ethically & Efficiently	Expressing Yourself on a Team	Staying Organized
Interact Appropriately in a Digital World	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Behavior at Conventions		Proper Use of Cell Phone	Using Good Posture
Working in a Cubicle		Proper Use in Texting	Presenting Yourself to Associates
			Accepting Criticism
			Demonstrating Leadership

Course Standard 2

MS-HS-TSAA-1

Explain and practice common Safety and Infection Control procedures found in various locations and settings.

- 2.1 Organize basic emergency procedures and protocols (fire, severe weather, etc.) for school, home and work settings.
- 2.2 Classify immunization schedules based on students' current age group and other key age groups.
- 2.3 Apply concepts to demonstrate the following skills related to Safety and Infection Control.
 - a. Develop and explain an emergency plan for a family.
 - b. Compare and contrast immunization schedules of different age groups.
 - c. Compare and Contrast virus, bacteria, and fungi, standard precautions, modes of transmission/ chain of infection, body mechanics, differentiate biosafety levels.
 - d. Demonstrate proper patient transfer (wheelchair to chair, chair to chair), handwashing, donning and doffing gloves.

Course Standard 3

MS-HS-TSAA-3

Categorize and infer characteristics of careers in Therapeutic Services.

- 3.1 Compare and contrast the roles, responsibilities, and job descriptions of registered nurses, licensed practical nurses, certified nursing assistants, professional nurses, along with the education and training requirements, salary ranges, job outlooks, and types of facilities nurses work in statewide.
 - a. Explore the personal characteristics, attitudes, and rules of appearance that apply to individuals in nursing careers.
 - b. Make observations and debate how moral and ethical issues may impact nursing careers.
 - c. Complete the AHA (American Heart Association) Heartsaver CPR in Schools curriculum or equivalent American Red Cross curriculum.
- 3.2 Compare and contrast the roles, responsibilities, and job descriptions of dentists, dental hygienists, dental assistants, and dental technicians, along with the education and training requirements, salary ranges, job outlooks, and types of facilities dentists work in statewide.
 - a. Identify the crown, root, apex, enamel, dentin, and pulp chamber of a tooth.
 - b. Define the term *caries* and describe its etiology and preventive measures.
 - c. Compare and contrast gingivitis and periodontitis.
 - d. Recognize the effects of alcohol and tobacco use on the oral tissues.
 - e. Distinguish between a bitewing, periapical, and panoramic radiograph.
- 3.3 Compare and contrast the roles, responsibilities, and job descriptions of surgeons, physical therapists, radiography, respiratory therapists, certified athletic trainers, audiologists, along with the education and training requirements, salary ranges, job outlooks, and types of facilities allied health professionals work in statewide.
 - a. Identify the parts of the respiratory system and the function of each.
 - b. Differentiate between respiration and ventilation.
 - c. Investigate and describe alternative methods of communication.
 - d. Describe speech and language problems that require the intervention of a speech-language pathologist and modalities that may be used during treatment.
 - e. Demonstrate the use of adaptive equipment (e.g., splints, slings, crutches, immobility braces, wraps) and modifications made to commonly used items in sports medicine.

Course Standard 4

MS-HS-TSAA-4

Investigate an overview of the anatomy and physiological functions of the human body using appropriate medical terminology.

- 4.1 Identify components of a human cell and basic components of homeostasis.
 - a. Explain anatomical structures and functions of a human cell.
 - b. Investigate the components that allows homeostasis within the human cell.
- 4.2 Compare and contrast mitosis and meiosis.
- 4.3 Identify the functional and structural organization of the human body.
 - a. Explain the organization of the body from the least complex to the most complex.
 - b. Explain the body planes and body cavities.

Course Standard 5

MS-HS-TSAA-5

Distinguish and organize basic structures and function of the various body systems.

- 5.1 Classify, summarize, and explain the basic structures and functions of the following body systems:
 - a. Cardiovascular System (heart, artery, vein etc.)
 - b. Digestive System (mouth, esophagus, stomach, small intestine, large intestine etc.)

- c. Skeletal System
 - d. Muscular System
 - e. Integumentary System (hair, skin, nails etc.)
 - f. Respiratory System (nose, trachea, bronchi, lungs, diaphragm etc.)
 - g. Nervous System (brain, spinal cord, nerves etc.)
- 5.2 Summarize and relate basic research results of common diseases and disorders often involved with the various systems.
- 5.3 Investigate basic research concepts regarding the impacts that common diseases and disorders have on the various systems.

Course Standard 6

MS-HS-TSAA-6

Demonstrate the following skills required for patient evaluation in a healthcare setting.

- 6.1 Assess and construct ideas around the results of measuring and recording heartrate after different everyday activities.
 - a. Explore the common sites for determining a pulse.
- 6.2 Calculate, classify, and summarize BMI (body mass index)
- 6.3 Assess and construct ideas around the results of measuring and recording body temperature after different everyday activities.
 - a. Convert collected measurements between Celsius and Fahrenheit temperatures.
 - b. Explore the different routes or methods to measuring temperature.
- 6.4 Research and determine appropriate respiratory rates by age group. Demonstrate the ability to assess respiratory rates.

Course Standard 6

MS-HS-TSAA-6 Teamwork and Leadership

Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.

- 6.1 Research the history of the state supported healthcare science CTSO (Career Technical Student Organization).
- 6.2 Discuss the mission, purpose, motto, colors, official dress and other distinguishing characteristic of the state supported healthcare science CTSO.
- 6.3 Explain how participation in the state supported healthcare science CTSO can promote lifelong responsibility for community service and professional growth and development.
- 6.4 Create a personal leadership plan to participate in programs, conferences, community service and competitive events on the local, region, state, and national level that align with the competencies, skills and knowledge of this course.