



# Rehabilitation Careers

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| <b>Primary Career Cluster:</b>                          | Health Science  |
| <b>Course Contact:</b>                                  | <a href="mailto:CTE.Standards@tn.gov">CTE.Standards@tn.gov</a>  |
| <b>Course Code(s):</b>                                  | C14H08  |
| <b>Prerequisite(s):</b>                                 | <i>Health Science Education (C14H14)</i>  |
| <b>Credit:</b>  | 1   |
| <b>Grade Level:</b>                                     | 10-11   |
| <b>Focus Elective Graduation Requirements:</b>          | This course satisfies one of three credits required for an elective focus when taken in conjunction with other Health Science courses.  |
| <b>POS Concentrator:</b>                                | This course satisfies one out of two required courses to meet the Perkins V concentrator definition, when taken in sequence in the approved program of study.   |
| <b>Programs of Study and Sequence:</b>                  | This is a second or third course choice in the <i>Sport and Human Performance</i> program of study.   |
| <b>Aligned Student Organization(s):</b>                 | HOSA: <a href="http://www.tennesseehosa.org">http://www.tennesseehosa.org</a>   |
| <b>Coordinating Work-Based Learning:</b>                | Teachers are encouraged to use embedded WBL activities such as informational interviewing, job shadowing, and career mentoring. For information, visit <a href="https://www.tn.gov/education/career-and-technical-education/work-based-learning.html">https://www.tn.gov/education/career-and-technical-education/work-based-learning.html</a>  |
| <b>Promoted Tennessee Student Industry Credentials:</b> | Credentials are aligned with postsecondary and employment opportunities and with the competencies and skills that students acquire through their selected program of study. For a listing of promoted student industry credentials, visit <a href="https://www.tn.gov/education/career-and-technical-education/student-industry-certification.html">https://www.tn.gov/education/career-and-technical-education/student-industry-certification.html</a> |
| <b>Teacher Endorsement(s):</b>                          | 577, 720  |
| <b>Required Teacher Certifications/Training:</b>        | None  |
| <b>Teacher Resources:</b>                               | <a href="https://www.tn.gov/education/career-and-technical-education/career-clusters/cte-cluster-health-science.html">https://www.tn.gov/education/career-and-technical-education/career-clusters/cte-cluster-health-science.html</a><br>Best for All Central: <a href="https://bestforall.tnedu.gov/">https://bestforall.tnedu.gov/</a>  |

## Course at a Glance

CTE courses provide students with an opportunity to develop specific academic, technical, and 21<sup>st</sup> century skills necessary to be successful in career and in life. In pursuit of ensuring every student in Tennessee achieves this level of success, we begin with rigorous course standards which feed into intentionally designed programs of study.

Students engage in industry relevant content through general education integration and experiences such as career & technical student organizations (CTSO) and work-based learning (WBL). Through these experiences, students are immersed with industry standard content and technology, solve industry-based problems, meaningfully interact with industry professionals, and use/produce industry specific, informational texts.

### Using a Career and Technical Student Organization (CTSO) in Your Classroom

CTSOs are a great resource to put classroom learning into real-life experiences for your students through classroom, regional, state, and national competitions, and leadership opportunities. Below are CTSO connections for this course, note this is not an exhaustive list.

- Participate in CTSO Fall Leadership Conference to engage with peers by demonstrating logical thought processes and developing industry specific skills that involve teamwork and project management
- Participate in contests that highlight job skill demonstration; interviewing skills; community service activities, extemporaneous speaking, and job interview
- Participate in leadership activities such as Organizational Leadership, Prepared Speaking, HOSA Service Project, Creative Problem Solving, and HOSA Service Project.

For more ideas and information, visit Tennessee HOSA at <http://www.tennesseehosa.org/>

### Using Work-based Learning in Your Classroom

Sustained and coordinated activities that relate to the course content are the key to successful work-based learning. Possible activities for this course include the following. This is not an exhaustive list.

- **Standards 1.1-1.4** | Interview a rehabilitation professional to determine how HIPAA's ethical/legal tenets affect the patient's rights for all aspects of care.
- **Standards 2.1-2.4** | Invite a patient advocate to discuss communication barriers related to patient rights.
- **Standards 3.1-3.6** | Shadow a kinesiologist
- **Standards 4.1-4.6** | Participate in an abbreviated internship to focus on patient assessment and treatment modalities.
- **Standards 6.1-6.3** | Shadow the school's athletic trainer to observe taping and application of supportive devices to prevent injury or prevent exacerbation of injury.

For more ideas and information, visit <https://www.tn.gov/education/career-and-technical-education/work-based-learning.html>.

## Course Description

*Rehabilitation Careers* is an applied course designed to prepare students to pursue careers in rehabilitation services. Upon completion of this course, a proficient student will be able to identify careers in rehabilitation services, recognize diseases, disorders or injuries related to rehabilitation services and correlate the related anatomy and physiology then develop a plan of treatment with appropriate modalities.

### Implementation options are as follows:

- Option 1: Rehabilitation Careers taught as a Level Two course
- Option 2: Rehabilitation Careers taught as a Level Three course

### Core standards are required for both options above.

Core Standards: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.1, 5.2, 5.3, 6.1, 6.2, 6.3

### Additional standards:

Option 1: 3.1, 3.5

Option 2: 13.6

## Program of Study Application

This is the second or third course in the *Sport and Human Performance* program of study. For more information on the benefits and requirements of implementing these programs in full, please visit the Health Science website at <https://www.tn.gov/education/career-and-technical-education/career-clusters/cte-cluster-health-science.html>

## Course Standards

### 1. Careers

- 1.1 Rehabilitation services careers: Research **careers within the rehabilitation career pathway** in Athletic Training, Physical Therapy, Occupational Therapy, Speech Therapy, Music Therapy, Pet Therapy, Exercise Therapy, Message Therapy, Chiropractic Medicine and Recreation Therapy. Explain in detail the **educational/credentialing requirements, professional organizations, and continuing education unit requirements** necessary for success in these fields, as well as state and national compliance guidelines required of rehabilitation professionals.
- 1.2 Rehabilitation careers skills and employment opportunities: Investigate and compare the **range of skills, competencies, and professional traits required for careers in the rehabilitation careers pathway**. Using real-time and projected labor market data, identify **local and national employment opportunities** and determine **areas of growth in rehabilitation careers**.
- 1.3 Law, ethics, and standards of practice: Compare and contrast the **specific laws and ethical issues** that impact relationships among patients/clients and the healthcare professional including issues such as **codes and standards of practice**.

- 1.4 HIPPA and patient rights: Summarize the **Health Insurance Portability and Accountability Act (HIPAA) and other legal directives** regarding medical treatment and analyze their **impact on patient rights**. Include **confidential information shared** concerning minor athletes and/or patients with someone other than parents.

## 2. Healthcare Systems

- 2.1 Health insurance coverage: Calculate the **costs of a range of health insurance plans**, including deductibles, co-pays, PPO's and HMO's. For a selected disease/disorder/injury, predict the **total cost (including but not limited to the diagnostics, procedures, and medications involved), allowable reimbursement, and actual reimbursement** under each of these plans for the course of the treatment.
- 2.2 Issues, legislation, and policy affecting rehabilitation services patients: Investigate current issues and practices surrounding **assessment and treatment of clients** seeking rehabilitation services such as athletes, military personnel, or patients recovering from surgery or trauma. Demonstrate **understanding and application of major legislation and policy affecting patient/client interaction**.
- 2.3 History and development of physical therapy: Research the **history and development of physical therapy, occupational therapy, speech therapy, and athletic training**, including but not limited to significant changes in the profession, major contributors to the field, and impactful practices that were developed.
- 2.4 Communication: Evaluate **factors that contribute to effective patient/client communication**, demonstrating sensitivity to barriers, cultural differences, and special needs individuals. Apply **effective practices** within a lab/clinical setting.

## 3. Anatomy and Physiology

- 3.1 Anatomy & physiology: Outline the gross and cellular anatomy and physiology of the musculoskeletal, neurological, and cardiovascular systems. Review the gross anatomy of the other systems studied in previous courses.
- 3.2 Basic kinesiology related to disease/disorder prevention: Investigate the **basic principles of kinesiology** and relate the connection to disease/disorder prevention. Address at minimum: movements of joints and bones, planes, directional terms, body motions, motions between joint articular surfaces, mechanisms of joints and biomechanical levers.
- 3.3 Physiological responses of patients of differing ages: Compare and contrast **physiological responses of patients of differing ages, current health status, and presence of acute and/or chronic diseases**. For example, compare the response of a healthy elderly patient with a fractured femur to an overweight adolescent with the same fracture. Explain **how one would differentiate treatment to meet varying conditions**.

3.4 Trauma, wound healing, and tissue repair: Describe the **physiological and pathological processes of trauma, wound healing, and tissue repair**, and evaluate their **implications on the development, progression, and implementation of a therapeutic exercise regimen**. For example, examine a post-operative cardiac patient undergoing cardiac rehabilitation.

3.5 Pathophysiology of injuries, diseases, and disorders connected to rehabilitation careers: Identify **signs and symptoms as well as pathophysiology** for the following injuries/diseases/disorders as they are connected to rehabilitation careers. Relate **who the appropriate professional would be to provide the care**:

- a. Acute inflammation related to an injury
- b. Shock
- c. Communicable diseases, such as pertussis or influenza
- d. Adverse reaction to environmental conditions, both heat and cold
- e. Open and closed wounds
- f. Asthma
- g. Neurological disorders such as stroke, dizziness, and/or vestibular disorders
- h. Orthopedic conditions
- i. Speech disorders and/or swallowing disorders
- j. Work- or sports-related injuries
- k. Ambulation or gait difficulties
- l. Concussions
- m. Soft Tissue Injuries

3.6 Normal anatomy and physiology versus pathophysiology of injuries, diseases, and disorders connected to rehabilitation careers: Identify **signs and symptoms as well as normal anatomy and physiology versus pathophysiology** for the following injuries/diseases/disorders as they are connected to rehabilitation careers. Relate who the appropriate professional would be to provide the care:

- a. Acute inflammation related to an injury
- b. Shock
- c. Communicable diseases, such as pertussis or influenza
- d. Adverse reaction to environmental conditions, both heat and cold
- e. Open and closed wounds
- f. Asthma
- g. Neurological disorders such as stroke, dizziness, and/or vestibular disorders
- h. Orthopedic conditions
- i. Speech disorders and/or swallowing disorders
- j. Work- or sports-related injuries
- k. Ambulation or gait difficulties
- l. Concussions
- m. Soft Tissue Injuries

#### 4. Evaluation and Treatment

4.1 Patient assessment/evaluation: Describe evidence-based techniques and procedures for evaluating common medical conditions, disabilities, and injuries. Discuss at minimum the procedures surrounding inspection/observation, palpation, testing of flexibility, endurance, and

strength, special evaluation techniques, and neurological testing. Role-play practicing these skills on a classmate and/or family member, or within in a lab/clinical setting.

- 4.2 Therapeutic exercise regime goals and functional progress: Define the basic components of **injury-specific rehabilitation goals, functional progress, and outcomes in a therapeutic exercise regime**. Apply these concepts to a specific case; for example, outline standard goals for a patient who is aphasic.
- 4.3 Therapeutic exercise techniques: List and define the **goals, indications, contraindications, and various techniques of therapeutic exercise**, including both general and specific exercise regimes relative to treatment of soft tissue, bony, neurological disorders/diseases, and post-surgical complications.
- 4.4 Therapeutic exercise equipment and techniques: Describe the **indications, contraindications, theory, and principles for the incorporation and application of therapeutic exercise equipment and techniques**, including but not limited to: continuous passive motion machine, aquatic therapy, manual therapy, adaptive therapeutic techniques, and/or assistive devices and mobilization.
- 4.5 Common surgical techniques: Describe **common surgical techniques and relevant anatomical alterations** that may affect the implementation of a therapeutic exercise regime.
- 4.6 Therapeutic treatment plan: Using **appropriate medical language and terminology**, interpret **objective and subjective data** obtained in standard 13 or 14 in developing an **appropriate therapeutic treatment plan** for a given injury, disease, or disorder, including determination of goals and objectives to return the patient to maximum level of performance based on level of functional outcomes.

## 5. Patient Interaction

- 5.1 Treatment modalities: Understand and successfully practice or evaluate the following treatment modalities with identification of appropriate equipment and inclusion of sanitation methods, universal precautions, and proper body mechanics.
  - a. Passive and Active Range of Motion exercises
  - b. Gait training with assistive devices
  - c. Cryotherapy, elevation, and compression
  - d. Hydrotherapy
  - e. Heat therapy
  - f. Electrostimulation (such as e-stim, TENS, or Ultrasound)
  - g. Wound care with or without external hemorrhage
  - h. Extrication and transport of athletes
  - i. Normalization of body temperature in extreme heat or cold environments

5.2 Life-threatening events: Summarize the **specific symptoms and proper responses to life-threatening events** such as shock, brain injury, and spinal cord injury in athletes.

5.3 Documentation: Adhering to industry standards and using appropriate medical terminology, **document the findings from evaluation, treatment plan, and progress in the therapeutic exercise regime** related to a disease or disorder examined in standard 20 or 21.

## 6. Prevention of Injuries

6.1 Wellness screening: Identify the basic concepts of **wellness screening** in connection to **injury prevention**. Complete an **injury prevention assessment** in a lab/clinical setting.

6.2 Supportive techniques and devices: Explain and demonstrate the **effectiveness of taping, wrapping, bracing, and use of other supportive/protective devices** in preventing exacerbation of injury, disease, or disorder in a lab/clinical setting.

6.3 Health education plan: Develop a **patient health education plan** for a real or imagined person that describes recommended **preventive measures, signs and symptoms of exacerbation of disease/disorder/injury, pharmacological needs, and support systems to ensure safe and speedy recovery**. Examples of possible topics include effective heat loss and heat illness prevention, work back injury prevention, reaching and maintaining optimal weight, safe and effective physical activity, and use of pet, recreation, or music therapy in autistic children.

### The following artifacts should be included in the student's portfolio:

- Career exploration artifacts
- Skills performance rubrics
- Documentation of job shadowing hours
- Examples of written, oral, or digital presentations

## Standards Alignment Notes

\*References to other standards include:

- P21: Partnership for 21st Century Skills [Framework for 21st Century Learning](#)
  - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.