



# Regional Occupational Program

## Sports Medicine 2 A-G 2025-2026

### COURSE DESCRIPTION

This course presents the full scope of Athletic Trainer Aide duties. Students acquire fundamental practical concepts of training room development; risk management; administrative and legal issues and preventions of athletic injuries. Further knowledge and skills related to body conditioning, nutrition, use of protective equipment, and awareness of environmental issues are incorporated. On-the - field and off-the- field assessment prevention and treatment of acute and non-acute injuries following standard precautions build student’s experience during practical application.

#### Course Information

Course Length: 1 Year  
 Prerequisite: None  
 Course Level: Capstone  
 UC: Yes - G Elective  
 Articulated: No  
 Industry Cert.: First Aid and CPR  
 Industry Sector: Health Science and Medical Technology  
 Pathway: Patient Care  
 CALPADS: 7922

#### O\*Net SOC Codes

29-9091 Athletic Trainers  
 29-1123 Physical Therapists  
 31-2022 Physical Therapy Aide  
 29-1125 Recreational Therapists

#### Legend

CTE - PS CTE Pathway Standards  
 CRP Career Ready Practices  
 CTE - AS CTE Anchor Standards  
 CCSS Common Core State Standards  
 ISTE International Society for Technology in Education

*Includes updates from 24/25 Health Science and Medical Technology Advisory  
[Advisory Minutes](#)*

## Sports Medicine 2

### Course Orientation

- a. Discuss objectives for this course, including competencies, teacher expectations, classroom policies, and procedures.
- b. Identify and discuss the acquisition of transferable skills (communication, collaboration, creativity, and critical thinking) and their importance to being college and career ready and for future personal and professional success.
- c. Review objectives, competencies, and course syllabus.
- d. Discuss student and teacher expectations, including behavior, class rules, appropriate dress, pre-course knowledge, and grading policies, including enrollment and attendance requirements and procedures, and classroom/school safety and disaster procedures.
- e. Discuss next steps in course sequence related to the career pathway, the need for reinforcement of basic skills, transferrable skills, and postsecondary and career options.
- f. Discuss the Big Six: Career Ready Essentials and the Standards for Career Ready Practice as they relate to this course, all aspects of the industry sector, and being college and career ready.

### Big Six: Career Ready Essentials

1. Effective Communication	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> <li>a. <b>Demonstrate effective verbal communication and conflict resolution skills.</b></li> <li>b. <b>Use the writing process to develop written communication with the appropriate tone, organization, and format for the identified audience.</b></li> <li>c. Explain the effect of interpersonal skills on one's ability to communicate effectively and develop relationships.</li> <li>d. Describe the impact of ineffective communication on business relationships.</li> <li>e. Analyze the impact of vocabulary, body language, and tone on verbal communication.</li> <li>f. Demonstrate active listening skills.</li> <li>g. Accurately interpret industry-specific written communication.</li> <li>h. Model responsible and effective use of various communication technologies.</li> <li>i. Identify valid and reliable digital reference and resource materials.</li> <li>j. Gather information from multiple digital sources to compare and contrast, synthesize, and summarize.</li> <li>k. Identify and use appropriate communication and collaboration technologies.</li> <li>l. Utilize technology to problem solve, accomplish tasks, and to produce or publish products.</li> </ol>		<u>1</u> <u>2</u> <u>11</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>7</u> <u>8</u> <u>9</u> <u>10</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>11-12.2</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	<u>1b,c</u> <u>2c</u> <u>3b,c</u> <u>5c</u> <u>6b,c,d</u>
2. Collaboration, Creativity, and Critical Thinking	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ol style="list-style-type: none"> <li>a. <b>Demonstrate critical thinking skills for a variety of purposes and in different settings.</b></li> <li>b. <b>Collaborate to reach consensus on an identical objective through the sharing of knowledge, tasks, and learning.</b></li> <li>c. Discuss the importance of the critical thinking process to real-world applications.</li> </ol>		<u>2</u> <u>4</u> <u>5</u> <u>7</u>	<u>2</u> <u>3</u> <u>4</u> <u>5</u>	<u>LS</u> <u>9-10</u> <u>11- 12.6</u>  <u>SLS</u>	<u>1c</u> <u>3c,d</u> <u>4a-d</u> <u>5c,d</u>

<ul style="list-style-type: none"> <li>d. Evaluate the impact of creative thinking on problem solving and innovation in real-world applications.</li> <li>e. Compile work that demonstrates the process used to (elaborate, refine, analyze) evaluate original ideas and maximize creative efforts.</li> <li>f. Apply divergent and convergent thinking to the development of an original idea or solution.</li> <li>g. Examine real-world limits to adopting ideas.</li> <li>h. Demonstrate creative thinking (preparation, insight, evaluation, elaboration, and communication) to create a new idea or concept.</li> <li>i. Assume shared responsibility for collaborative work, and value the individual contributions made by each team member.</li> <li>j. Evaluate evidence, arguments, claims, and beliefs to identify connections.</li> <li>k. Identify bias, prejudice, propaganda, self-deception, distortion, and misinformation.</li> <li>l. Produce intellectual, informational, or material products that serve an authentic purpose.</li> <li>m. Work effectively and respectfully with those from diverse backgrounds or cultures.</li> <li>n. Demonstrate respect, trust, commitment, and the ability to compromise in collaborative projects.</li> </ul>		<u>9</u> <u>10</u> <u>11</u>	<u>7</u> <u>8</u> <u>9</u> <u>11</u>	<u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>	<u>6c</u> <u>7b,c,d</u>
<b>3. Leaders and Teams: Roles and Responsibilities</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Determine the individual and team members' roles and responsibilities.</b></li> <li>b. <b>Demonstrate leadership skills and qualities (i.e., reliability, negotiation skills, initiative, positive reinforcement, recognition of others' efforts, problem-solving skills, conflict resolution, and delegation).</b></li> <li>c. Explain the importance of technical, social, and communication skills to team success.</li> <li>d. Compare and contrast leadership styles and their effectiveness in various situations.</li> <li>e. Organize and delegate responsibilities in a team setting to encourage ideas, perspectives, and contributions from all team members.</li> <li>f. Develop a strong sense of team identity by brainstorming solutions, volunteering, assisting others, practicing respect and courtesy, and taking initiative.</li> <li>g. Examine situations in which a follower becomes the leader.</li> <li>h. Describe twenty-first-century skills required across all occupations.</li> <li>i. Identify and discuss the characteristics of a successful team (i.e., leadership, cooperation, and effective decision-making).</li> <li>j. Leverage social and cultural differences to increase innovation and quality of work.</li> </ul>		<u>7</u> <u>8</u> <u>9</u>	<u>3</u> <u>7</u> <u>8</u> <u>9</u> <u>11</u>	<u>SLS</u> <u>11-12.2</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u>  <u>WS</u> <u>11-12.6</u>	<u>7a,c</u>
<b>4. Legal, Ethical, and Environmental Considerations</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate industry specific ethical and legal practices.</b></li> <li>b. <b>Identify eco-friendly industry specific practices and resources.</b></li> <li>c. Identify local, state, and federal regulatory agencies, entities, laws, and regulations.</li> </ul>		<u>5</u> <u>7</u> <u>8</u>	<u>3</u> <u>5</u> <u>7</u>	<u>WS</u> <u>11-12.6</u> <u>11-12.7</u>	<u>2a,b</u> <u>3a,b</u> <u>5c</u>

<ul style="list-style-type: none"> <li>d. Identify discrimination based on race, nationality, religion, gender, age, disability, or sexual orientation.</li> <li>e. Summarize the ethical and legal implications of workplace discrimination and harassment.</li> <li>f. Explain the concept of corporate citizenship.</li> <li>g. Examine an employer's role in protecting the health and welfare of employees, the community, and the environment.</li> <li>h. Analyze current environmental laws and regulations and their impact on industry.</li> <li>i. Compare and contrast both society's and industry's impact on the environment.</li> </ul>		<u>12</u>	<u>8</u> <u>9</u> <u>11</u>	<u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>	<u>6c</u>
<b>5. Personal Growth and Career Planning</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate continued personal development and growth.</b></li> <li>b. <b>Develop and manage a personal growth and career plan.</b></li> <li>c. Explain the relationship between sound financial habits and financial security.</li> <li>d. Create and manage a personal financial plan.</li> <li>e. Demonstrate initiative in achieving personal and professional goals.</li> <li>f. Apply time management strategies to meet deadlines.</li> <li>g. Demonstrate a growth mindset through flexibility and a positive attitude.</li> <li>h. Select and demonstrate appropriate job-search and retention techniques.</li> <li>i. Demonstrate strategies to prepare for employment.</li> <li>j. Demonstrate interpersonal skills appropriate for the workplace.</li> <li>k. Elaborate on the importance of perseverance to personal and professional success.</li> <li>l. Discover personal career interests, aptitudes, and skills.</li> </ul>		<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>6</u>	<u>2</u> <u>3</u> <u>4</u> <u>7</u> <u>8</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u> <u>11-12.2</u>  <u>WS</u> <u>11-12.6</u>	<u>1a</u> <u>3a,c</u> <u>4d</u> <u>6a,d</u> <u>7b</u>
<b>6. Workplace Safety and Personal Wellness</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate proper industry specific safe work practices to prevent injury or illness.</b></li> <li>b. <b>Assess the potential impact of goal setting on personal and professional success.</b></li> <li>c. Describe the role of security and emergency procedures in workplace safety.</li> <li>d. Describe the effect of preventative measures on emergencies in the workplace.</li> <li>e. Identify and describe the causes, prevention, and treatment of common accidents.</li> <li>f. Identify local, state, and federal agencies that regulate workplace safety.</li> <li>g. Explain the role of the California Occupational Safety and Health Administration (Cal-OSHA) and the Environmental Protection Agency (EPA).</li> <li>h. Discuss the basics of system operations.</li> <li>i. Demonstrate the proper use of personal protective equipment (PPE).</li> <li>j. Explain the purpose of and accurately interpret a Safety Data Sheet (SDS).</li> <li>k. Identify hazardous materials and chemicals.</li> <li>l. Demonstrate proper procedures to respond to work-related accidents and injuries.</li> <li>m. Describe how ergonomics, housekeeping, and maintenance are related to accidents and injuries.</li> </ul>		<u>2</u> <u>5</u> <u>6</u> <u>8</u> <u>12</u>	<u>2</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>10</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u> <u>11-12.6</u>  <u>SLS</u> <u>9-10</u> <u>11-12.1</u> <u>11-12.1d</u>	<u>1a,d</u> <u>2a,d</u> <u>5b</u>

<p>n. Demonstrate cyber ethics, cyber safety, and cybersecurity.</p> <p>o. Assess the potential impact of preventative physical and mental health measures on workplace safety.</p>					
Sports Medicine 2 Units of Instruction					
7. Orientation to Advanced Foundations of Sports Medicine	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Summarize career opportunities, education, or training requirements for the next levels of career development.</p> <p>b. Explain the history of sports medicine and athletic training.</p> <p>c. Relate current trends in the field of Sports Medicine.</p> <p>d. Give an overview of a Sports Medicine team's desirable traits and qualities.</p> <p>e. Explain the importance of professional associations such as the National Athletic Trainers Association, American Physical Therapy Association, and the International Sports Sciences Association.</p>		<p><u>1</u></p> <p><u>2</u></p> <p><u>3</u></p> <p><u>5</u></p> <p><u>11</u></p>	<p><u>1</u></p> <p><u>2</u></p> <p><u>3</u></p> <p><u>5</u></p>	<p><u>LS</u> <u>9-10</u> <u>11-12.6</u></p> <p><u>SLS</u> <u>11-12.2</u></p> <p><u>WS</u> <u>11-12.7</u></p>	
8. Ethics, Law and Liability in Sports Medicine	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Identify and review organizational legal concerns occurring in the profession of Sports Medicine.</p> <p>b. Explain the importance of the legal interaction between coaches, athletic trainers, and athletes.</p> <p>c. Define legal concepts of liability, HIPPA, negligence, torts, and assumption of risk.</p> <p>d. Discuss and apply measures to minimize litigations in Sports Medicine and athletics.</p> <p>e. Recognize elements involved in athletic equipment liability.</p> <p>f. Examine insurance requirements that protect athletes, athletic trainers, and health care providers.</p>	<p><u>B6.6</u></p> <p><u>B8.4</u></p>	<p><u>1</u></p> <p><u>2</u></p> <p><u>5</u></p> <p><u>8</u></p> <p><u>11</u></p> <p><u>12</u></p>	<p><u>1</u></p> <p><u>2</u></p> <p><u>5</u></p> <p><u>8</u></p> <p><u>11</u></p>	<p><u>LS</u> <u>9-10</u> <u>11-12.6</u></p> <p><u>WS</u> <u>11-12.7</u></p> <p><u>SLS</u> <u>11-12.1d</u></p>	
9. Athletic Training Room Management	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<p>a. Describe the function of an athletic training facility.</p> <p>b. Explain the responsibilities and tasks of a training facility manager and assistant.</p> <p>c. Explain how the scope of practice, ethics, liability, and confidentiality affect the management of a training facility.</p> <p>d. Illustrate and describe a functional, well-designed athletic training facility.</p> <p>e. Identify typical daily tasks required for each area of a training facility.</p> <p>f. Employ policies and procedures that should be enforced in an athletic training room.</p> <p>g. Explain basic budgetary concerns when ordering supplies and equipment.</p> <p>h. Demonstrate proper equipment maintenance, cleaning, and other procedures used in athletic training rooms.</p>	<p><u>B8.4</u></p> <p><u>B8.5</u></p> <p><u>B12.0</u></p> <p><u>B12.1</u></p>	<p><u>1</u></p> <p><u>2</u></p> <p><u>5</u></p> <p><u>6</u></p> <p><u>11</u></p>	<p><u>1</u></p> <p><u>2</u></p> <p><u>5</u></p> <p><u>6</u></p> <p><u>11</u></p>	<p><u>LS</u> <u>9-10</u> <u>11-12.6</u></p> <p><u>WS</u> <u>11-12.7</u></p> <p><u>RSTS</u> <u>9-10</u> <u>11-12.4</u></p>	

10. Observation, Reporting and Charting	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Demonstrate the legal importance of proper documentation using medical terminology, abbreviations, and regulations.</b></li> <li>b. Identify and describe formats used for documenting information in a medical record, including computer software, (subjective findings, objective findings, assessment, and plan aka SOAP notes), and narrative charting.</li> <li>c. Demonstrate appointment scheduling, filing, and record keeping using basic computer skills.</li> <li>d. Identify and explain the patient’s physical therapy plan of care.</li> <li>e. Recognize physical variance as related to vital signs and articulate the condition of the patient to the supervisor.</li> <li>f. List the various reports found in an athletic record.</li> <li>g. Discuss the purpose of an athletic physical.</li> <li>h. Complete an athletic injury report.</li> </ul>	<u>B3.3</u> <u>B5.0</u> <u>B5.1</u> <u>B5.2</u> <u>B5.3</u> <u>B5.5</u> <u>B5.6</u> <u>B5.7</u> <u>B6.2</u> <u>B7.3</u>	<u>1</u> <u>2</u> <u>4</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>4</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.6</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
11. Kinesiology	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Discuss, demonstrate, and interpret principles involved in the mechanics of body movements.</b></li> <li>b. Explain the kinetic chain.</li> <li>c. Define and discuss agonist and antagonist.</li> <li>d. Identify methods used to determine muscle imbalances and procedures for correction.</li> <li>e. Differentiate normal and abnormal gait.</li> <li>f. Identify corrective techniques.</li> </ul>	<u>B8.1</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>	
12. Bacterial and Viral Infections	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Identify bacterial and viral infections commonly seen in Sports Medicine.</b></li> <li>b. Discuss bacterial infections.</li> <li>c. Identify signs and symptoms of bacterial infections.</li> <li>d. Identify and demonstrate proper management of bacterial infections.</li> <li>e. Cite techniques for preventing bacterial infections.</li> <li>f. Discuss viral infections.</li> <li>g. Identify signs and symptoms of viral infections.</li> <li>h. Demonstrate proper management of viral infections.</li> <li>i. Cite techniques for preventing viral infections.</li> </ul>	<u>B10.1</u> <u>B10.2</u> <u>B10.3</u> <u>B10.7</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
13. Advanced Anatomy and Physiology	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Review principles of anatomy and physiology as studied in Sports Medicine I.</b></li> <li>b. <b>Describe and demonstrate advanced procedures based on more in-depth anatomical study.</b></li> </ul>	<u>B2.0</u>	<u>1</u> <u>2</u> <u>5</u>	<u>1</u> <u>2</u> <u>5</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>	

<ul style="list-style-type: none"> <li>c. Describe structure, role, and function of skeletal muscle (muscular system).</li> <li>d. Explain sliding-filament theory of a muscular contraction.</li> <li>e. Describe the structure and function of the motor unit.</li> <li>f. Describe the structure and role of the bones identified in the skeletal system.</li> <li>g. Discuss the composition of connective tissue.</li> <li>h. Explain electrical conduction system of Motor nerves (nervous system).</li> <li>i. Describe the anatomical and physiological characteristics of the cardiovascular system.</li> <li>j. Describe the electrical conduction system of the heart and the basic electrocardiogram.</li> <li>k. Describe a mechanism that controls the circulation of blood throughout the body.</li> <li>l. Describe the anatomical and physiological characteristics of the respiratory system.</li> <li>m. Explain the exchange of gases between lungs and blood.</li> <li>n. Understand mechanisms which control respiration.</li> </ul>		<u>6</u> <u>11</u>	<u>6</u> <u>11</u>	<u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>14. Disease and Disorders</b>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Identify and discuss common diseases and disorders associated with Sports Medicine.</b></li> <li>b. Identify systemic diseases and their impact on the athletic population.</li> <li>c. Identify common neurological disorders and methods of managing them.</li> <li>d. Explain endocrine conditions associated with sports medicine.</li> <li>e. Illustrate the differences between type I and type II diabetes.</li> <li>f. Cite techniques to prevent diabetes.</li> </ul>	<u>B2.0</u> <u>B2.3</u> <u>B2.4</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>15. Internal Injuries</b>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Identify internal structures, functions and common disorders associated in Sports Medicine.</b></li> <li>b. Describe structure, role, and function of the thorax and the abdominal area.</li> <li>c. Explain anatomical implications of sports injuries to the abdomen and thorax.</li> <li>d. Recognize, evaluate, and manage sports injuries to the thorax and abdomen.</li> <li>e. Describe structures, role, and function of the cardiopulmonary system.</li> <li>f. Explain anatomical implications of sports injuries to the cardiopulmonary system.</li> <li>g. Identify, evaluate, and manage sports injuries to the cardiopulmonary system.</li> <li>h. Review norms for heart rate, blood pressure and respiration.</li> <li>i. Demonstrate proper techniques for assessing heart rate, blood pressure, and respirations.</li> </ul>	<u>B2.0</u> <u>B4.4</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>16. Medical Conditions and Illnesses</b>	CTE - PS	CRP	CTE - AS	CCSS	ISTE
<ul style="list-style-type: none"> <li>a. <b>Demonstrate knowledge of common pre-existing medical conditions and the importance of the pre-participation physical for athletes.</b></li> </ul>	<u>B2.0</u> <u>B2.1</u>	<u>1</u> <u>2</u>	<u>1</u> <u>2</u>	<u>LS</u> <u>9-10</u>	

<ul style="list-style-type: none"> <li>b. List common pre-existing medical conditions that can affect athletics.</li> <li>c. Describe methods to prevent medical conditions from becoming emergencies.</li> <li>d. Identify signs and symptoms of medical conditions that require immediate treatment.</li> <li>e. List methods of handling emergencies associated with pre-existing conditions.</li> <li>f. Describe how to control and prevent contagious diseases.</li> <li>g. Describe common signs and symptoms of contagious diseases and how they affect athletic competition.</li> </ul>	<u>B2.3</u> <u>B2.4</u> <u>B4.5</u>	<u>5</u> <u>6</u> <u>11</u>	<u>5</u> <u>6</u> <u>11</u>	<u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>17. Injury Evaluation Process</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Proper injury identification: demonstrate the methodical evaluation process and assessment methods utilized in Sports Medicine.</b></li> <li>b. Describe the systematic evaluation technique.</li> <li>c. Differentiate between acute and chronic injury.</li> <li>d. Describe overuse injuries in sports and their cause.</li> <li>e. Describe acute traumatic injuries, including fractures, dislocations and subluxations, contusion, and ligament sprains.</li> <li>f. Identify the importance of a bilateral comparison.</li> <li>g. Demonstrate clinical evaluations following the HOPS (history, observation, palpation, and stress tests) process.</li> <li>h. Demonstrate “on field “evaluations following the HOPS process.</li> <li>i. Characteristics of the different degrees of sprains and strains to various joints and their care.</li> <li>j. Identification of specific chronic conditions, their care, and preventive techniques.</li> <li>k. Proper care of blisters and open wounds.</li> <li>l. Identify ROM (range of motion), ligamentous and functional testing.</li> </ul>	<u>B4.0</u> <u>B4.1</u> <u>B4.3</u> <u>B4.4</u> <u>B4.5</u> <u>B7.0</u> <u>B7.2</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>9</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>9</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>SLS</u> <u>11-12.1b</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>18. Emergency Situations and Injury Assessment</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Demonstrate appropriate emergency response behaviors and assessment of athlete’s injuries and/or illness.</b></li> <li>b. <b>Provide first aid for life threatening and non-life-threatening emergencies.</b></li> <li>c. Explain the importance of CPR and the procedure for abdominal thrusts.</li> <li>d. Identify measures to control bleeding and shock.</li> <li>e. Demonstrate good observational skills by looking, listening, touching, and smelling.</li> <li>f. Demonstrate the correct procedure to safely transport an injured athlete.</li> <li>g. Demonstrate the steps necessary for proper evaluation of an athletic injury.</li> <li>h. Identify common blood borne pathogens and methods to prevent communicable diseases.</li> <li>i. Understand basic AED machine use and situations requiring its use.</li> <li>j. Explain procedures to use to restart breathing once it has stopped.</li> <li>k. Identify and discuss types of illnesses or injuries that may cause breathing and the heart to stop.</li> </ul>	<u>B4.0</u> <u>B4.1</u> <u>B4.3</u> <u>B4.4</u> <u>B4.5</u> <u>B7.0</u> <u>B7.1</u> <u>B7.2</u> <u>B8.0</u> <u>B8.2</u> <u>B8.3</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>10</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	

I. Design and practice an Emergency Plan.					
<b>19. Therapeutic Modalities</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Identify principles and demonstrate various techniques utilized during rehabilitation.</b></li> <li>b. Discuss legal ramifications of treating athletes with therapeutic modalities.</li> <li>c. Explain the relationship of most therapeutic modalities relative to electromagnetic energy.</li> <li>d. Describe theoretical uses of various types of modalities.</li> <li>e. Describe and demonstrate several varieties of modalities such as ice, heat, hydrotherapy, and ultrasound.</li> <li>f. Discuss the physiological basis and therapeutic uses of electrical stimulating currents.</li> <li>g. Describe how massage, intermittent compression can be used as therapeutic agents.</li> </ul>		<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>20. Rehabilitation of Lower and Upper Extremities</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Identify principles and demonstrate various techniques utilized during rehabilitation.</b></li> <li>b. Describe consequences of sudden inactivity and injury immobilization.</li> <li>c. Explain the importance of early injury mobility.</li> <li>d. Describe theoretical uses of various types of modalities.</li> <li>e. Apply several varieties of modalities.</li> <li>f. Discuss the physiological basis and therapeutic uses of electrical stimulating currents.</li> <li>g. Describe how massage, intermittent compression can be used as therapeutic agents.</li> </ul>	<u>B8.0</u> <u>B8.2</u> <u>B8.3</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>6</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>21. Psychology</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Discuss physical and emotional stressors associated with sports participation and how they can become a psychological stressor.</b></li> <li>b. Identify circumstances in sports participation that can create psychological stress.</li> <li>c. Explain aspects of overtraining that stem from major sports.</li> <li>d. Identify physiological responses to stress.</li> <li>e. Relate how an athlete may respond psychologically to injuries or illnesses.</li> <li>f. Review and apply protocols of the athletic trainer, coach, and physician when dealing with stressed athletes.</li> <li>g. Discuss and demonstrate various psychological methods to help athletes prepare for competition.</li> </ul>		<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>1</u> <u>2</u> <u>5</u> <u>11</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>  <u>WS</u> <u>11-12.7</u>  <u>RSTS</u> <u>9-10</u> <u>11-12.4</u>	
<b>22. Advanced Taping and Wrapping</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<ul style="list-style-type: none"> <li>a. <b>Using advanced techniques, practice assorted tape and wrap applications.</b></li> <li>b. Review basic taping and wrapping techniques.</li> <li>c. Demonstrate advanced techniques.</li> </ul>		<u>1</u> <u>2</u> <u>5</u>	<u>1</u> <u>2</u> <u>5</u>	<u>LS</u> <u>9-10</u> <u>11-12.6</u>	

d. Apply advanced techniques to field practice.			<a href="#">11</a>	<a href="#">WS</a> <a href="#">11-12.7</a>	
<b>23. Rehabilitation of Injuries</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<p>a. <b>List and describe goals and objectives of various types of rehabilitation.</b></p> <p>b. Describe and compare different phases of the rehabilitation process.</p> <p>c. List five ways to make rehabilitation an enjoyable and productive experience.</p> <p>d. Describe and demonstrate the various types of exercises and their functions in a rehabilitation program.</p> <p>e. Describe and demonstrate proprioceptive exercises in a rehabilitation program for all major areas of the body.</p> <p>f. Describe and demonstrate special rehabilitation techniques such as proprioceptive neuromuscular facilitation, joint mobilization, etc.</p> <p>g. Describe and demonstrate functional return to play criteria.</p> <p>h. Demonstrate how to use a goniometer to measure range of motion.</p>		<a href="#">1</a> <a href="#">2</a> <a href="#">5</a> <a href="#">11</a>	<a href="#">1</a> <a href="#">2</a> <a href="#">5</a> <a href="#">11</a>	<a href="#">LS</a> <a href="#">9-10</a> <a href="#">11-12.6</a>  <a href="#">WS</a> <a href="#">11-12.7</a>	
<b>24. Field Management</b>	<b>CTE - PS</b>	<b>CRP</b>	<b>CTE - AS</b>	<b>CCSS</b>	<b>ISTE</b>
<p>a. <b>Prepare specialized field setups for a variety of sports events.</b></p> <p>b. Identify supplies and equipment needed for a variety of athletic events (e.g., Baseball/Softball, Basketball, Swimming/Diving, Field Hockey, Football, Gymnastics, Racquet Sports, Soccer, Track and Field, Weightlifting, Triathlon).</p> <p>c. Demonstrate sports specific athletic event preparation for selected events (e.g., Baseball, Football, Gymnastics, Track and Field, Swimming/Diving).</p> <p>d. Review and discuss need for organizational skills and develop event checklists.</p>	<a href="#">B8.4</a>	<a href="#">1</a> <a href="#">2</a> <a href="#">5</a> <a href="#">11</a>	<a href="#">1</a> <a href="#">2</a> <a href="#">5</a> <a href="#">11</a>	<a href="#">LS</a> <a href="#">9-10</a> <a href="#">11-12.6</a>  <a href="#">WS</a> <a href="#">11-12.7</a>	

<b>A-G Approved Key Assignments</b>	
1.	Research the history of sports medicine and athletic training identify one career and one technology and create a timeline depicting how the selected career and technology has changed over time. <i>Unit(s) 7</i>
2.	Research one professional association and write and present a sales pitch to encourage professionals to become a member that association. <i>Unit(s) 7</i>
3.	In groups students will research, create, and present a digital presentation on one of the following <i>Unit(s) 8</i> : <ul style="list-style-type: none"> <li>• Insurance requirements for a variety of careers within the sports medicine field.</li> <li>• Considerations regarding equipment liability.</li> <li>• Legal concepts of liability, HIPPA, negligence, torts, and assumption of risk.</li> <li>• Interaction between coaches, athletic trainers, and athletes.</li> </ul>
4.	Athletic Training Facility - <i>Unit(s) 9</i> <ul style="list-style-type: none"> <li>• Design a floor plan for a functional athletic training facility label each area and include a description of the area's functions.</li> <li>• Develop a budget that includes equipment costs (onetime expenses) and consumable supplies costs and (monthly expenses). The budget should include a total for startup costs and a total for a proposed monthly budget.</li> <li>• Create an employee handbook that outlines daily tasks, policies, procedures, dress code, and a maintenance/cleaning schedule.</li> </ul>
5.	In a mock lab setting students will schedule appointments, file patient records, complete athletic injury reports, take vital signs, take SOAP notes, practice narrative charting, and complete electronic medical records. Assessment: Performance Rubric. <i>Unit(s) 10</i>
6.	Using scenarios or video clips, assess a patient for kinetic chain deficiencies. Identify the deficiency and develop an exercise plan to strengthen the patient's kinetic chain to correct the identified deficiencies and prevent future injury. Create an informational resource (pamphlet, webpage, etc.) that describes the patient's specific kinetic chain deficiency, possible causes, and the developed exercise plan. <i>Unit(s) 11</i>
7.	In a lab setting demonstrate techniques for the prevention of bacterial and viral infections. Assessment: performance rubric. <i>Unit(s) 12</i>
8.	In groups create presentations on the structure, role, and function of an assigned body system. Groups will present to the class and post their presentation on a website (class or school) or other approved venue to receive feedback from health care professionals. <i>Unit(s) 13</i>
9.	Research assigned disease or disorder that is associated with sports medicine. Write a 2-3 page report that includes the signs, symptoms, causes, treatments, and prevention techniques of the assigned disease or disorder. <i>Unit(s) 14</i>
10.	In a lab setting, complete demonstrations of the following for mock injuries: <ul style="list-style-type: none"> <li>• Recognize, evaluate, and manage sports injuries to the thorax and abdomen.</li> <li>• Identify, evaluate, and manage sports injuries to the cardiopulmonary system.</li> </ul> Assessment: Performance rubric <i>Unit(s) 15</i>
11.	Research assigned contagious disease and create a presentation that includes <i>Unit(s) 16</i> : <ul style="list-style-type: none"> <li>• A description of the contagious disease (how it affects the human body, the causes, how it is transmitted).</li> <li>• Methods that can be used to prevent the spread of the contagious disease.</li> <li>• Signs and symptoms the contagious disease.</li> <li>• How to handle an emergency related to the contagious disease.</li> </ul>

12.	<p>Demonstrate clinical and field observations using the following techniques.</p> <ul style="list-style-type: none"> <li>• HOPS (history, observation, palpation, and stress tests) process</li> <li>• Bilateral comparison</li> <li>• ROM (range of motion) ligamentous and functional testing</li> </ul> <p>Assessment: Performance rubric. <i>Unit(s) 17</i></p>
13.	Participate in First aid and CPR training with the opportunity to earn a First aid CPR card. <i>Unit(s) 18</i>
14.	Participate in a mock emergency setting to demonstrate assessment of athlete's injury, provide first aid (as appropriate), observational skills, transport injured athlete, and methods to prevent communicable diseases. <i>Unit(s) 18</i>
15.	In groups research an assigned therapeutic modality and create a presentation that includes a description of the modality, the theory behind it, the purpose, types of injuries it is used for, success rate, and a demonstration of the modality by the students or a video clip. Students will present to the class and ask questions of the students to check for understanding. <i>Unit(s) 19</i>
16.	Continuation of Therapeutic Modalities unit- Further research their assigned modality and identify differences in the rehabilitation of upper and lower extremities. Demonstrate (hands on or video clip) the assigned modality for one upper and one lower extremity. <i>Unit(s) 19-20</i>
17.	Watch video clips and identify psychological response to stress in a sports setting. For each identified response describe the stressor, possible methods to help the athlete cope, and methods to help athletes prepare for competition. <i>Unit(s) 21</i>
18.	Demonstrate the appropriate wrap or taping for a specified injury and describe the purpose and function of wrap or taping technique used. (Students will complete this process for a variety of injuries) Assessment: Performance rubric <i>Unit(s) 22</i>
19.	Complete skills demonstrations for various types of rehabilitation and answer questions regarding the goals and objects of each type of rehabilitation. Assessment: Performance rubric <i>Unit(s) 23</i>
20.	Develop an event checklist for an assigned sporting event that includes equipment, supplies, task assignment. Work at home school sporting event (observe if not allowed) and write a reflective paper comparing their checklist to the actual preparation required for the sporting event. <i>Unit(s) 24</i>

## **Standards Alignment**

The curricula have been aligned with the CTE Model Curriculum Standards released in 2013. Each industry sector was updated to meet the increased rigor and relevancy requirements of the Common Core State Standards. The curriculum also includes the new Standards for Career Ready Practices.

### Standards for Career Ready Practice

1. *Apply appropriate technical skills and academic knowledge.*
2. *Communicate clearly, effectively, and with reason.*
3. *Develop an education and career plan aligned with personal goals.*
4. *Apply technology to enhance productivity.*
5. *Utilize critical thinking to make sense of problems and persevere in solving them.*
6. *Practice personal health and understand financial literacy.*
7. *Act as a responsible citizen in the workplace and the community.*
8. *Model integrity, ethical leadership, and effective management.*
9. *Work productively in teams while integrating cultural and global competence.*
10. *Demonstrate creativity and innovation.*
11. *Employ valid and reliable research strategies.*
12. *Understand the environmental, social, and economic impacts of decisions.*

## CTE Anchor Standards—Common Core English Language Arts Alignment

### *Anchor Standard 1: Academics*

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the industry sector alignment matrix for identification of standards. Note: alignment listed within each sector.

### *Anchor Standard 2: Communications*

Language Standard: Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the (career and college) readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. LS 9-10, 11-12.6

### *Anchor Standard 3: Career Planning and Management*

Speaking and Listening Standard: Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. SLS 11-12.2

### *Anchor Standard 4: Technology*

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information.

### *Anchor Standard 5: Problem Solving and Critical Thinking*

Writing Standard: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow, or broaden the inquiry when appropriate, and synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. WS 11-12.7

### *Anchor Standard 6: Health and Safety*

Reading Standards for Science and Technical Subjects: Determine the meaning of symbols, keywords, and other domain-specific words and phrases as they are used in a specific scientific or technical context. RSTS 9-10, 11-12.4

### *Anchor Standard 7: Responsibility and Flexibility*

Speaking and Listening Standard: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively. SLS 9-10, 11-12.1

### *Anchor Standard 8: Ethics and Legal Responsibilities*

Speaking and Listening Standard: Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the work. SLS 11-12.1d

### *Anchor Standard 9: Leadership and Teamwork*

Speaking and Listening Standard: Work with peers to promote civil, democratic discussions and decision making; set clear goals and deadlines; and establish individual roles as needed. SLS 11-12.1b

### *Anchor Standard 10: Technical Knowledge and Skills*

Writing Standard: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. WS 11-12.6

### *Anchor Standard 11: Demonstration and Application*

Demonstrate and apply the knowledge and skills contained in the industry-sector anchor standards, pathway standards, and performance indicators in the classroom, laboratory, and workplace settings, and the career technical student organization. Note: no alignment evident for this standard. WS 11-12.6

## CTE Model Curriculum Standards—Industry Sectors and Pathways

### **Health Science and Medical Technology**

#### **B. Patient Care Pathway**

*B2.0 Understand the basic structure and function of the human body and relate normal function to common disorders.*

*B2.1 Know basic human body structure and function in relationship to specific care between prevention, diagnosis, pathology, and treatment.*

*B2.3 Recognize common disease and disorders of the human body.*

*B2.4 Compare normal function of the human body to the diagnosis and treatment of disease and disorders.*

*B3.3 Record time using the 24-hour clock.*

*B4.0 Recognize and practice components of an intake assessment relevant to patient care.*

*B4.1 Conduct basic interview to acquire new knowledge (e.g., medical and family histories).*

*B4.3 Observe patient actions, interests, and behaviors while documenting responses.*

*B4.4 Collect and synthesize information or data about the patient's symptoms and vital signs.*

*B4.5 Evaluate information gathered and connect patient data to appropriate system of care.*

*B5.0 Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.*

*B5.1 Use medical terminology in patient care appropriate to communicate information and observations.*

*B5.2 Accurately spell and define occupationally specific terms related to health care.*

*B5.3 Use roots, prefixes, and suffixes to communicate information.*

*B5.4 Use medical abbreviations to communicate information.*

*B5.5 Know the basic structure of medical terms.*

*B5.6 Demonstrate the correct pronunciation of medical terms.*

*B5.7 Practice word building medical terminology skills.*

*B6.2 Use active listening skills (e.g., reflection, restatement, and clarification) and communication techniques to gather information from the patient.*

*B6.6 Maintain written guidelines of the Health Insurance Portability and Accountability Act (HIPAA) in all communications.*

*B7.0 Apply observation techniques to detect changes in the health status of patients.*

*B7.1 Demonstrate observation techniques.*

*B7.2 Differentiate between normal and abnormal patient health status.*

*B7.3 Document the patient findings and report information appropriately.*

*B8.0 Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.*

*B8.1 Explain the principles of body mechanics.*

*B8.2 Determine appropriate equipment for transportation and transfer, including the modification of equipment and techniques to accommodate the health status of the patient.*

*B8.3 Demonstrate appropriate transport and transfer methods to accommodate the health status of the patient.*

*B8.4 Evaluate equipment for possible hazards.*

*B8.5 Integrate proper body mechanics, ergonomics, safety equipment, and techniques to prevent personal injury to patients and clients.*

*B10.1 Describe the infection control cycle with consideration of the various types of microorganisms.*

*B10.2 Demonstrate use of facility policies and procedures of infection control while performing patient care.*

*B10.3 Evaluate potential causes and methods of transmitting infections and how to apply standard precautionary guidelines.*

*B10.7 Document and analyze sanitation and infection control procedures.*

*B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.*

*B12.1 Understand scope of practice and related skills within prevention, diagnosis, pathology, and treatment occupations.*

## ISTE Standards for Students

**1. Empowered Learner-** Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

- a) Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.*
- b) Students build networks and customize their learning environments in ways that support the learning process.*
- c) Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways*
- d) Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.*

**2. Digital Citizen-** Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical.

- a) Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.*
- b) Students engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices.*
- c) Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.*
- d) Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.*

**3. Knowledge Constructor-** Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.

- a) Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.*
- b) Students evaluate the accuracy, perspective, credibility, and relevance of information, media, data, or other resources.*
- c) Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.*
- d) Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.*

**4. Innovative Designer-** Students use a variety of technologies within a design process to identify and solve problems creating new, useful, or imaginative solutions.

- a) Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.*
- b) Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.*
- c) Students develop, test, and refine prototypes as part of a cyclical design process.*
- d) Students exhibit a tolerance for ambiguity, perseverance, and the capacity to work with open-ended problems.*

**5. Computational Thinker-** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

- a) Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions.*
- b) Students collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.*

*c) Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.*

*d) Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.*

**6. Creative Communicator-** Students communicate clearly and express themselves creatively for a variety of purposes using platforms, tools, styles, formats, and digital media appropriate for their goals.

*a) Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.*

*b) Students create original works or responsibly repurpose or remix digital resources into new creations.*

*c) Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.*

*d) Students publish or present content that customizes the message and medium for their intended audiences.*

**7. Global Collaborator-** Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

*a) Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.*

*b) Students use collaborative technologies to work with others, including peers, experts, or community members, to examine issues and problems from multiple viewpoints.*

*c) Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.*

*d) Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.*