

# 03. Response

Content Area: **Science**  
Course(s):  
Time Period: **Marking Period**  
Length: **Ten weeks**  
Status: **Published**

## **General Overview, Course Description or Course Philosophy**

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In this semester long course, students will gain insight into the field of sports medicine and athletic training as an up and coming profession. Students will explore how physical exercise can produce many favorable changes in some anatomical structures and enhance many physiological functions. Students enrolled in this course will receive an understanding of the multidisciplinary approach to patient assessment, treatment, and care. Students will obtain an overview of the basics of exercise physiology including prevention, management, treatment and rehabilitation of athletic injuries. This course is strongly recommended for students interested in pursuing careers in medicine, sports training, kinesiology, or other health related fields.

## **OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS**

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1. Foster a strong environment of teamwork and cooperation in finding answers to problems related to this course of study.
2. Continue to develop the understanding and appreciation of the limitations of the scientific analysis and research.
3. Enable the student to continue to develop writing skills that emphasize accuracy and clarity.
4. Enable the student to develop skills in decision-making based on an understanding of the basic principles of laboratory research.
5. Enable students to use their particular learning style to understand the principles of Sports Medicine.

## **CONTENT AREA STANDARDS**

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MA.S-IC.A.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
MA.S-IC.B.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
VHEL.9-12.9.4.12.H.(1).4	Demonstrate knowledge of the process for assessing, monitoring, and reporting patient/client health status to the treatment team within scope of practice.
VHEL.9-12.9.4.12.H.(1).6	Demonstrate knowledge of how to evaluate patient/client needs, strengths, and problems within scope of practice to determine if treatment goals are being reached.
VHEL.9-12.9.4.12.H.60	Employ information management techniques and strategies to assist in decision-making.
VHEL.9-12.9.4.12.H.62	Demonstrate knowledge of technical skills required for career pathways in this cluster,

including occupational safety techniques, OSHA Standard Precautions, and safety procedures designed to protect clients, co-workers, and self.

VHEL.9-12.9.4.12.H.63

Demonstrate knowledge of technical skills required for career pathways in this cluster by obtaining related certificates, such as Cardiopulmonary Resuscitation (CPR) and First Aid.

## **RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)**

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LA.W.11-12.1.A	Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
LA.W.11-12.1.E	Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).
SCI.HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
VHEL.9-12.9.4.12.H.(3).5	Apply the quantitative and qualitative terminology and codes for a range of medical information and analyze the information for designated purposes in order to facilitate the flow of information among individuals in a healthcare environment.

## **STUDENT LEARNING TARGETS**

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### **Declarative Knowledge**

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Students will understand that:

- There are ways to improve problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.
- People of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.
- How to integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.
- There is an interrelationship between science and technology and develop a conceptual understanding of the nature and process of technology.
- There is a relationship between matter, energy, and the organization of living systems
- There is a flow of energy through living systems using examples.
- There are various signs and symptoms associated with sports injuries
- There are protocols and procedures in place to provide safety to both the provider and patient.

## **Procedural Knowledge**

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Students will be able to:

- Demonstrate knowledge of the process for assessing, monitoring, and reporting patient/client health status to the treatment team within scope of practice.
- Demonstrate knowledge of how to evaluate patient/client needs, strengths, and problems within scope of practice to determine if treatment goals are being reached.
- Demonstrate knowledge of technical skills required for career pathways in this cluster, including occupational safety techniques, OSHA Standard Precautions, and safety procedures designed to protect clients, co-workers, and self.
- Demonstrate knowledge of technical skills required for career pathways in this cluster by obtaining related certificates, such as Cardiopulmonary Resuscitation (CPR) and First Aid.
- Employ information management techniques and strategies to assist in decision-making.
- Develop short term papers on specific topics to foster research and expand learning.
- Participate in group discussion and problem solving with emphasis on communication skills.
- Self Assessments on projects and group activities to reflect on learning and understand areas for improvement.
- Cooperative learning activities to provide opportunity to reach each student's learning style.

## **EVIDENCE OF LEARNING**

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### **Formative Assessments**

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- Help students track their individual progress toward the learning target (i.e. charts, graphs, data notebooks, etc.)
- Ask students to explain their progress toward the learning target
- Ask students to provide evidence of their progress toward the learning target
- Facilitate individual conferences regarding use of data to track progress
- Use formative measures to chart individual and/or class progress towards learning targets using a performance scale
- Use formative assessment that reflects awareness of cultural differences represented in the classroom

### **Summative Assessments**

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- Benchmarks – departmental benchmark given at the end of MP1, MP2, or MP3 & MP4 b(Semester

Based Course)

- Alternative Assessments
  - Lab inquiries and investigations
  - Lab Practicals
  - Exploratory activities based on phenomenon
  - Gallery walks of student work
  - Creative Extension Projects
  - Build a model of a proposed solution
  - Let students design their own flashcards to test each other
  - Keynote presentations made by students on a topic
  - Portfolio

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### **RESOURCES (Instructional, Supplemental, Intervention Materials)**

France, Robert, C. Introduction to Sports Medicine and Athletic Training: Third Edition, Delmar Cengage Learning, Clifton Park, New York, 2011.

France, Robert, C. Workbook to Accompany: Introduction to Sports Medicine and Athletic Training: Second Edition, Delmar Cengage Learning, Clifton Park, New York, 2011.

TI-83+ graphing calculators, Vernier LabPro Technology, and Vernier Graphical Analysis software.

Journal of Sports Medicine App.

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### **INTERDISCIPLINARY CONNECTIONS**

Technology/Multimedia	Video case studies
	Audio/visual media analysis
	Researching based writing
	Google
	Media Literacy
	Educational tech applications
English/Language Arts	Speech/debate
	Narrative Writing
	Information Writing

	Implementation of conventions of Standard English
	Language Acquisition
Math	Data collection/analysis
	Computations
	Statistics
	Financial/Economic/Business/Entrepreneurial Literacy
Science & Health	Integrate quantitative or technical information expressed in words in a text. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
	Experimentation
	Social Emotional Learning
	Geoscience
	Sustainability

**ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS**

See link to Accommodations & Modifications document in course folder.

Differentiation/Accommodations/Modifications

Gifted and Talented English Language Learners

Extension Activities Modifications for

Students with Disabilities

(appropriate accommodations,

Students at Risk of School Failure

Modifications for Classroom

<ul style="list-style-type: none"> <li>• Allow students to pursue independent projects based on their individual interests</li> <li>• Provide enrichment activities that include more advanced material</li> <li>• Allow team-teaching opportunities and collaboration</li> <li>• Set individual goals</li> <li>• Conduct research and provide a presentation of appropriate topics.</li> <li>• Design surveys to generate and analyze data to be used in a discussion.</li> <li>• Use of Higher Level Questioning Techniques</li> </ul>	<p>Classroom</p> <ul style="list-style-type: none"> <li>• Pair visual prompts with verbal presentations</li> <li>• Repetition and practice</li> <li>• Model to be mastered</li> </ul> <p>Modifications for Homework/Assignments</p> <ul style="list-style-type: none"> <li>• Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)</li> <li>• Extended time for assignment completion as needed</li> <li>• Highlight key vocabulary</li> <li>• Use graphic organizers</li> </ul> <p>Beginners:</p> <ul style="list-style-type: none"> <li>• Use graphic models and visual examples to connect important ideas</li> <li>• Pair graphic representations with content vocabulary – math journals, vocabulary cards,</li> </ul>	<p>instructional adaptations, and/or modifications as determined by the IEP or 504 teams)</p> <p>Modifications for Classroom</p> <ul style="list-style-type: none"> <li>• Pair visual prompts with verbal presentations</li> <li>• Ask students to restate information, directions, and assignments.</li> <li>• Repetition and practice</li> <li>• Model skills/techniques to be mastered.</li> <li>• Extended time to complete classwork</li> <li>• Provide a copy of class notes</li> <li>• Preferential seating to be mutually determined by the student and teacher</li> <li>• A student may request to use a computer to complete assignments.</li> <li>• Establish</li> </ul>	<ul style="list-style-type: none"> <li>• Pair visual prompts with verbal presentations</li> <li>• Ask students to restate information, directions, and assignments.</li> <li>• Repetition and practice</li> <li>• Model to be mastered.</li> <li>• Extended time to complete classwork</li> <li>• Provide a copy of class notes</li> <li>• Preferential seating to be mutually determined by the student and teacher</li> <li>• A student may request to use a computer to complete assignments</li> <li>• Establish expectations for correct spelling on assignment</li> <li>• Extra textbooks for home</li> </ul> <p>Build Students' Strengths and Multiple Intelligences</p> <ul style="list-style-type: none"> <li>• Verbal Linguistic</li> <li>• Logical – reasoning</li> <li>• Musical/ Rhythmic</li> <li>• Intrapersonal Intelligence</li> <li>• Visual Spatial Intelligence</li> <li>• Interpersonal Intelligence</li> <li>• Bodily Kinesthetic accommodations/modification sent may request</li> </ul>
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- Provide assessments at a higher level of thinking

and more

- Utilize manipulatives – pattern blocks, paper money, tangrams, etc. Use manipulatives to help students make connections between concrete and abstract concepts
- Use pictures or visuals wherever possible
- Cue students before asking a questions during class discussions
- Help students with background vocabulary
- Use graphic organizer
- Modify the length of reading passages, with extended time to complete them
- Minimize homework to essential content and learning
- Assign simplified homework with extended time to complete it
- Simplify assessments:
  - true/false
  - Multiple choice ( only two choices)

expectations for correct spelling on assignments.

- Extra textbooks for home. A student may request books on tape / CD / digital media, as available and appropriate.
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/ school communication
- Teachers will check/sign student agenda daily
- Student requires use of other assistive technology device

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#### Modifications for Homework and Assignments

- Extended time to complete assignments  
Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases
- Provide the student with clearly stated (written) expectations and grading criteria for assignments

#### Modifications for Assessments

- Extended time on

<ul style="list-style-type: none"> <li>○ Matching</li> <li>○ decreased number of questions</li> </ul>	<p>Modifications for Homework and Assignments</p>	<p>classroom tests and quizzes Student may take/complete tests in an alternate setting as needed</p>
<ul style="list-style-type: none"> <li>● Use of a bilingual dictionary</li> <li>● Focus on recognition work (listening, reading), rather than productive work (speaking and writing)</li> </ul>	<ul style="list-style-type: none"> <li>● Extended time to complete assignments</li> <li>● Student requires more complex assignments to be broken up and explained in smaller units, with work to be submitted in phases</li> </ul>	<ul style="list-style-type: none"> <li>● Restate, reread, and clarify directions/questions</li> <li>● Distribute study guide for classroom tests</li> <li>● Establish procedures for accommodations / modifications for assessments</li> </ul>
<p>Intermediate:</p>		
<ul style="list-style-type: none"> <li>● Use pictures or visuals wherever possible</li> <li>● Cue students before asking a questions during class discussions</li> <li>● Oral and written production expanded</li> <li>● Focus on main/core vocabulary only</li> <li>● Help students understand contextual terms</li> </ul>	<ul style="list-style-type: none"> <li>● Provide the student with clearly stated (written) expectations and grading criteria for assignments</li> <li>● Implement RAFT activities as they pertain to the types / modes of communication (role, audience, format, topic).</li> </ul>	
<ul style="list-style-type: none"> <li>● Extended time for assessments</li> <li>● Provide an outline of class notes so that students can focus on class discussion</li> <li>● Ask students to rephrase key ideas in their own words</li> <li>● Check comprehension of</li> </ul>	<p>Modifications for Assessments</p> <ul style="list-style-type: none"> <li>● Extended time on classroom tests and quizzes Student may take/complete tests in an alternate setting as needed</li> <li>● Restate, reread, and clarify</li> </ul>	



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directions/questi  
ons

- Distribute study  
guide for  
classroom tests
- Establish  
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s / modifications  
for assessments