



HEALTHCARE SCIENCE

COURSE: 25.552 Applications of Therapeutic Services

UNIT: 14.1 Endocrine System



INTRODUCTION

Annotation:

In this unit students will analyze the endocrine system and its basic physiology, how it assists in controlling other systems; its interdependence on the nervous system for regulation of body wellness.

Grade(s):

X	9 th
X	10 th
X	11 th
X	12 th

Time:

7 – 50 minute periods

Author:

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Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

HS-ATS-8-c

Assess the integration and coordination of body functions and their dependence on the endocrine and nervous systems to regulate physiological activities.

HS-ATS-8-d

Analyze the interdependence of the body's systems as related to wellness, disease, and disorders.

HS-ATS-8-e

Discuss the goals of therapy and care rehabilitation.

HS-ATS-8-f

Discuss the etiology of two common diseases in each body system and how to treat and/or prevent them.

GPS Academic Standards:

SAP1: Students will analyze anatomical structures in relationship to their physiological functions

SAP3: Students will assess the integration and coordination of body functions and their dependence on the endocrine and nervous systems to regulate physiological activities.

National / Local Standards / Industry / ISTE:



UNDERSTANDINGS & GOALS

Enduring Understandings:

- Anatomical structures of the endocrine system
- Common diseases and processes of the endocrine system, how these diseases are treated and how, if possible, each can be prevented.
- The glands of the endocrine system and which hormone is produced from each
- The purpose/function of each hormone and its effect on the human body
- Understand negative feedback hormonal control

Essential Questions:

- Why is the endocrine system important?
- How does the endocrine system work with the nervous system?
- What are common disorders and diseases related to the endocrine system?

Knowledge from this Unit:

- The independent functioning of the endocrine system.
- The common disease processes within the endocrine system.
- The common goal of treatment/prevention for disease processes.
- The interdependence of the endocrine system with the nervous system

Skills from this Unit:

- Describe negative feedback hormonal control
- List the glands of the endocrine system
- Identify the function of each gland/hormone produced
- Describe disorders of the endocrine system
- Demonstrate technique to monitor blood glucose level



ASSESSMENT(S)

Assessment Method Type:

- ☐ Pre-test
- ☒ Objective assessment - multiple-choice, true- false, etc.
 - ☒ Quizzes/Tests
 - ☐ Unit test
- ☐ Group project
- ☐ Individual project
- ☒ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☐ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☐ Practice quizzes/tests
- ☒ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ Observe students working with partners
 - ☐ Observe students role playing
- ☐ Peer-assessment
 - ☐ Peer editing & commentary of products/projects/presentations using rubrics
 - ☐ Peer editing and/or critiquing
- ☐ Dialogue and Discussion
 - ☐ Student/teacher conferences
 - ☐ Partner and small group discussions
 - ☐ Whole group discussions
 - ☐ Interaction with/feedback from community members/speakers and business partners
- ☐ Constructed Responses
 - ☐ Chart good reading/writing/listening/speaking habits
 - ☐ Application of skills to real-life situations/scenarios
- ☐ Post-test

Assessment(s) Title:

- Endocrine System Unit Quiz

Assessment(s) Description/Directions:

- Endocrine system review (jeopardy game) – [Review Game](#)
- Endocrine system crossword review – [crossword](#)

Attachments for Assessment(s):



LEARNING EXPERIENCES

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.
2. Review Essential Questions.
3. Identify and review the unit vocabulary.
4. Assessment Activity.

Students will:

- Define key terms
- Complete assigned worksheets
- Complete assigned endocrine system labeling at http://msjensen.cehd.umn.edu/webanatomy/endocrine/endo_glands_1_s.html or teacher provided diagram Participate in interactive lecture and take lecture notes
- Demonstrate negative feedback during interactive activity ([example here](#))
- Design review game
- Demonstrate blood glucose monitoring

Teacher will:

- Have students label online endocrine system or give diagram to label
- Present lecture from media source – (2 class periods)
- Negative feedback activity (day 2 of lecture)
- Short quiz over hormones (day 3) followed by instructions on creating a game to use for review (day 3-4)
- Demonstration of blood glucose monitoring (day 5) followed by return demonstration from students (day 5-6)
- Review of System by playing games – set up a different “stations” (day 7); give students crossword review to take home as well
- Unit exam (day 8)

Attachments for Learning Experiences:

Notes & Reflections:

- Multi-media presentation lecture notes [Endocrine system presentation](#)

- [Endocrine system multi-media review](#)

-There is a hyperlink on the multi-media lecture presentation – it comes from the www.gps.org website under video-streaming.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

- Create board game for the endocrine system using terms/information/diseases
- Hormone matching activity [Hormone activity](#)
- Negative feedback cycle [Negative feedback example](#)

Culminating Unit Performance Task Description/Directions/Differentiated

- For the negative feedback cycle activity: students are to cut 6 circles and paste on construction paper, then place the correct response from the endocrine system in the correct order. See the sample placed as a link; the activity sheet is listed in 3 columns, in random order so students just have to cut them out and put them on.

Attachments for Culminating Performance Task

- Game rubric [Making a Game Endocrine System](#)



UNIT RESOURCES

Web Resources:

Online Endocrine System Review at <http://www.zerobio.com/quiz9.htm>

Attachment(s):

Materials & Equipment:

- Textbook
- Multi-media presentation
- Worksheets
- Color plates
- Game rubric
- Negative feedback worksheet
- Construction paper/scissors/glue
- Blood glucose monitor
- Blood glucose monitor strips
- Alcohol pads
- Lancets
- Review sheets
- Diagrams online http://msjensen.cehd.umn.edu/webanatomy/endocrine/endo_glands_1_s.html
- Online Anatomy units <http://www.murrayschools.org/MHS/chartman/anatomy/resources.html>

What 21st Century Technology was used in this unit:

<input type="checkbox"/>	Slide Show Software	<input type="checkbox"/>	Graphing Software	<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Interactive Whiteboard	<input type="checkbox"/>	Calculator	<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Student Response System	<input type="checkbox"/>	Desktop Publishing	<input type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Web Design Software	<input type="checkbox"/>	Blog	<input type="checkbox"/>	Video
<input type="checkbox"/>	Animation Software	<input type="checkbox"/>	Wiki	<input type="checkbox"/>	Electronic Game or Puzzle Maker
<input type="checkbox"/>	Email	<input checked="" type="checkbox"/>	Website		