



# GEORGIA MIDDLE SCHOOL

Instructional Resources  
CAREER, TECHNICAL, & AGRICULTURAL EDUCATION

## HEALTHCARE SCIENCE

**COURSE:** Healthcare Science

**UNIT 6:** Introduction to Health Informatics

### INTRODUCTION

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**Annotation:**

The Healthcare Informatics profession use information technology to benefit the healthcare and human services industry. They create and maintain the health records of the patients for the medical industry, making essential medical information as accessible as possible. Medical Informatics Specialist creates new ways for hospitals and research centers to communicate with one another. They're an essential part of streamlining the healthcare information and communications between staff members and patients.

**Grade(s):**

<input type="checkbox"/>	6 <sup>th</sup>
<input type="checkbox"/>	7 <sup>th</sup>
<input checked="" type="checkbox"/>	8 <sup>th</sup>

**Time:**

Ten 50 minute class periods

**Author:**

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**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 appropriately. 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. Many students (both with and without disabilities) who struggle with reading may benefit from the use of text reading software or other technological aids to provide access to printed materials. Many of these are available at little or no cost on the internet.

# FOCUS STANDARDS

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## **GPS Focus Standards:**

**MSHS8-HS-6**-- Students will differentiate careers available in the field of health informatics/healthcare information systems.

- a) Compare and contrast the roles and responsibilities of healthcare administrators, medical illustrators, health information technologists, medical coders, and health unit coordinators, along with their education, training requirements, salary ranges, job outlooks, and facilities in which they work.
- b) Identify what information may be kept in a patient's medical record.
- c) Recognize how technology may be used to improve the delivery of patient care and patient charting.
- d) Define the term HIPAA and recognize the importance of patient privacy.
- e) Sample tasks – Demonstrate at least one of the following:
  - Proper phone etiquette and recording of a phone message during simulated phone calls.
  - Proper filing of patient charts (e.g., alphabetically, by patient number).
  - Assigning of diagnostic and procedure codes after reviewing patients' charts.
  - Calculation of the percent increase or decrease, from year to year, of a disease or condition in a population when given appropriate sets of data.
  - Creation of a medical illustration.
  - Creation of an educational presentation about a healthcare issue or a body system.

## **GPS Academic Standards:**

**M8P4** – Students will make connections among mathematical ideas and to other disciplines.

**S8CS4** – Students will use tools and instruments for observing, measuring, and manipulating equipment and materials in scientific activities.

### **National / Local Standards / Industry / ISTE:**

- 1.31** – Apply mathematical computations related to healthcare procedures.
- 1.35** – Analyze diagrams, charts, graphs, and tables to interpret healthcare results.
- 4.31** – Compare potential health science career pathways using a variety of health careers within the diagnostic services, therapeutic services, health informatics services, support services, or biotechnology research and development.
- 4.32** – Recognize levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential for a service area.
- 5.15** – Apply procedures for accurate documentation and record keeping.
- 5.21** – Implement mandated standards for Health Insurance Portability and Accountability Act (HIPAA).
- 5.22** – Recognize common threats to confidentiality.
- 11.11** – Identify records and files common to the healthcare setting.
- 11.12** – Execute data management using electronic healthcare records.
- 11.13** – Interpret information from electronic medical documents.
- 11.14** – Understand the content and diverse uses of health information.
- 11.21** – Implement communications using technology (i.e. Fax, E-mail, and Internet) to access and distribute data and other information.
- 11.22** – Execute the use of software, hardware, and the Internet.
- 11.23** – Recognize computer applications currently being used in today's healthcare setting.

## **UNDERSTANDING & GOALS**

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### **Enduring Understandings:**

- Students will understand the services provided by the many different careers in the health informatics delivery system and how the system ensures quality healthcare.

### **Essential Questions:**

- Who keeps up with all that Medical Information on patient's everyday?
- What kind(s) of medical information must be kept?
- Do workers in health informatics career pathway use computers and other advanced technology today? What kinds?
- What are some of the pros and cons of a career in the health informatics pathway?
- What is HIPAA and why is it important to patients?

### **Knowledge from this Unit:**

- How health information technicians organize and code patient's records.
- How basic preparations in high school through the healthcare science career pathways and advanced technical training can help insure a successful career in health informatics.
- How the different health informatics careers compare and contrast to one another.
- How math skills are used in health informatics.
- How computer technology skills are vital in the health informatics career.
- How to use proper telephone etiquette and how to record a message.
- How to properly file patients charts alphabetically/numerically
- Students will become familiar with the purpose, scope, structure and practice of the health Informatics pathway.
- Students will analyze different occupations in the health informatics career pathway as well as their education requirements, job outlook, and average yearly earnings.

### **Skills from this Unit:**

- Application of mathematical skills: percentages; measurements; and basic math problems.
- Compare and contrast the careers of the Health Information Administrator, Health Information Technician, Medical Illustrator, and Health Unit Coordinator/Secretary/Ward Clerk.
- Complete the math applications worksheet
- Team's role plays a health informatics career of choice.
- Demonstrate the proper filing technique by filing patients folders alphabetically/numerically

# ASSESSMENTS

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**Assessment Method Type:** Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

- 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 and 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:**

Formative Assessment – daily grades  
Summative Assessment – healthcare informatics test  
Informal & Formal Assessment – skills check offs, practice quiz, daily grade

### **Assessment(s) Description/Directions:**

**Compare and Contrast Graphic Organizer-** Students will use the graphic organizers to compare and contrast careers of the healthcare administrators, medical illustrators, health information technologist, medical coders, and health unit coordinators.

**Math Worksheet** – Students will calculate the mathematical problems on the worksheet, scenario based on information that may be needed from person in the healthcare informatics profession.

**CPT and ICD Codes Worksheet** – Students will complete the worksheet using the codes provided.

**Filing Records Alphabetically/Numerically Skill Sheets** – Students will demonstrate mastery in the correct filing of medical records.

**Phone Etiquette Skills Sheet-** Utilize correct telephone techniques when using a business phone.

**Healthcare Informatics Quiz** – Students will take the Healthcare Informatics Quiz to determine if there are any areas of misunderstanding concerning the Health Informatics Profession/Pathway. (Grade Quiz in class and have student's correct areas/questions that are answered incorrectly).

**Healthcare Informatics Unit Exam-** The unit examination is used to formally assess the student's retention and mastery of the unit material.

**Unit Notebook/ File** – The Unit Direction Sheet as well as the accompanying unit work are assessed for completion and mastery of the unit material.

### **Attachments for Assessment(s):**

**Compare and Contrast Graphic Organizer**

**Health Informatics Math Activity Sheet with Answer Key**

**CPT and ICD Codes Worksheet with Answer Key**

**Filing Records Skill Sheets**

**Phone Etiquette Skill Sheet**

**Healthcare Informatics Quiz**

**Healthcare Informatics Unit Exam with Answer Key**

**Unit Direction Sheet /Notebook/File Rubric**

# LESSON PLANS

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**Lesson Plan(s):** Sequence of Instruction

## 1. Identify the Standards. Standards should be posted in the classroom for each lesson.

**MSHS8-HS-6**-- Students will differentiate careers available in the field of health informatics/healthcare information systems.

a) Compare and contrast the roles and responsibilities of healthcare administrators, medical illustrators, health information technologists, medical coders, and health unit coordinators, along with their education, training requirements, salary ranges, job outlooks, and facilities in which they work. (Show Healthcare Informatics Power Point and have students complete the Compare & Contrast Rubric on the above mentioned Health Informatics Careers.)

b) Identify what information may be kept in a patient's medical record.

c) Recognize how technology may be used to improve the delivery of patient care and patient charting.

d) Define the term HIPAA and recognize the importance of patient privacy.

(Show HIPAA Power Point)

e) Sample tasks – Demonstrate at least one of the following:

- Proper phone etiquette and recording of a phone message during simulated phone calls.

(Students should Role Play using the proper phone etiquette and then complete the Skills Check Off)

- Proper filing of patient charts (e.g., alphabetically, by patient number).

(Students will demonstrate mastery by completing the Filing Skills Check Offs)

- Assigning of diagnostic and procedure codes after reviewing patients' charts.

(Students will demonstrate understanding of procedure codes by completing the CPT & ICD Codes Worksheet)

- Calculation of the percent increase or decrease, from year to year, of a disease or condition in a population when given appropriate sets of data.

(Have Students complete the Health Informatics Math Activity)

- Creation of a medical illustration.

- Creation of an educational presentation about a healthcare issue or a body system.

## 2. Review Essential Questions.

- Who keeps up with all that Medical Information on patient's everyday?
- What kind(s) of medical information must be kept?
- Do workers in health informatics career pathway use computers and other advanced technology today? What kinds?
- What are some of the pros and cons of a career in the health informatics pathway?
- What is HIPAA and why is it important to patients?

## 3. Identify and review the unit vocabulary.

Authorization	Health Informatics Technician
Consent	HIPAA
Confidential	Intranet
Consultation	Medical History
Electronic Data Interchange	Privacy Policy
Electronic Medical Record	Security Standards
Etiquette	

## 4. Assessment Activity.

[Compare and Contrast Graphic Organizer](#)

[Health Informatics Math Activity Sheet](#)

[CPT and ICD Codes Worksheet](#)

[Filing Skills Sheets](#)

[Phone Etiquette Skills Sheet](#)

[Healthcare Informatics Quiz](#)

[Healthcare Informatics Unit Exam](#)

[Unit Direction Sheet/Notebook/File](#)

### Attachments for Learning Experiences:

- Power Point Presentation on Healthcare Informatics Careers and Pathways
- Power Point Presentation on HIPAA and legal restrictions involving the Healthcare Informatics Profession
- View video clip on Healthcare Informatics/ Medical Records Technician career. Go to [www.careervoyages.gov](http://www.careervoyages.gov) then click on the Healthcare bar on the left. Then go to "in demand occupations" and click. Scroll down until you see the Medical Records/ Health Informatics Technician career and click on "View" the video clip.

### Notes & Reflections:

The web sites listed below may be used for additional learning experiences for those students who have completed assignments ahead of the majority of the class and also for those who have been absent and need additional information on Health Informatic Careers.



## CULMINATING PERFORMANCE TASK

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**Culminating Unit Performance Task Title:**

**Culminating Unit Performance Task Description/Directions/Differentiated Instruction:**

**Attachments for Culminating Performance Task:** Please list.

## UNIT RESOURCES

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**Web Resources:**

[www.careervoyages.gov](http://www.careervoyages.gov)

[www.careersolutionsgroup.com](http://www.careersolutionsgroup.com)

**Materials & Equipment:**

- Diversified Health Occupations Textbook
- Index cards
- Computer
- Projector
- Phone

**What 21st Century Technology was used in this unit?**

<input checked="" type="checkbox"/>	Slide Show Software
<input type="checkbox"/>	Interactive Whiteboard
<input type="checkbox"/>	Student Response System
<input type="checkbox"/>	Web Design Software
<input type="checkbox"/>	Animation Software
<input type="checkbox"/>	Email

<input type="checkbox"/>	Graphing Software
<input checked="" type="checkbox"/>	Calculator
<input type="checkbox"/>	Desktop Publishing
<input type="checkbox"/>	Blog
<input type="checkbox"/>	Wiki
<input checked="" type="checkbox"/>	Website

<input type="checkbox"/>	Audio File(s)
<input checked="" type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Video
<input type="checkbox"/>	Electronic Game or Puzzle Maker