

**Health Science Cluster
Healthcare IT and Biotechnology
Course Number 25.03400**

Course Description:

This course provides students with an exploratory introduction Healthcare IT and Biotechnology and to several healthcare careers and the safety procedures and interpersonal communication skills required for them. The course will enable students to receive initial exposure to healthcare science skills; attitudes applicable to healthcare including the concepts of health, wellness, and preventative care; and responsibilities of today’s healthcare provider. Mastery of skills through project-based learning, technical skills practice, and group activities will provide students with an opportunity to decide if they want to continue this course of study in high school and/or at a post-secondary institution. This course is considered broad-based with high impact.

Course Standard 1

MS-HS-HITB-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate Employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

| Person-to-Person Etiquette | Telephone and Email Etiquette | Communicating at Work | Listening |
|-------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Interacting with Your Boss | Telephone Conversations | Improving Communication Skills | Reasons, Benefits, and Barriers |
| Interacting with Subordinates | Barriers to Phone conversations | Effective Oral Communication | Listening Strategies |
| Interacting with Co-workers | Making and Returning Calls | Effective Written Communication | Ways We Filter What We Hear |
| | | Effective Nonverbal Skills | Developing a Listening Attitude |
| | | Effective Word Use | Show You Are Listening |
| | | Giving and Receiving Feedback | Asking Questions |
| | | | Obtaining Feedback |
| | | | Getting Others to Listen |

| Nonverbal Communication | Written Communication | Speaking | Applications and Effective Résumés |
|---|-----------------------|---------------------------|------------------------------------|
| Communicating Nonverbally | Writing Documents | Using Language Carefully | Completing a Job Application |
| Reading Body Language and mixed Messages | | One-on-One Conversations | Writing a Cover Letter |
| Matching Verbal and Nonverbal communication | | Small Group Communication | Things to Include in a Résumé |
| Improving Nonverbal Indicators | | Large Group Communication | Terms to Use in a Résumé |

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| Nonverbal Feedback | | Making Speeches | Organizing Your Résumé |
| Showing Confidence Nonverbally | | Answering Questions | Writing an Electronic Résumé |
| Showing Assertiveness | | Visual and Media Aids | |
| | | Errors in Presentation | |

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

| Teamwork and Problem Solving | Meeting Etiquette |
|------------------------------|---|
| Thinking Creatively | Preparation and Participation in Meetings |
| Taking Risks | Conducting Two-Person or Large Group Meetings |
| Building Team Communication | Inviting and Introducing Speakers |
| | Preparing Visual Aids |

1.3 Exhibit critical thinking and problem-solving skills to locate, analyze and apply information in career planning and employment situations.

a. Investigate educational requirements, job responsibilities, employment trends, and opportunities within the national career clusters using credible sources.

| Problem Solving | Customer Service | The Application Process | Interviewing Skills | Finding the Right Job |
|-----------------------------|--|---|---|------------------------------|
| Transferable Job Skills | Gaining Trust and Interacting with Customers | Providing Information, Accuracy and Double Checking | Preparing for an Interview | Locating Jobs and Networking |
| Becoming a Problem Solver | Learning and Giving Customers What They Want | Online Application Process | Questions to Ask in an Interview | Job Shopping Online |
| Identifying a Problem | Keeping Customers Coming Back | Following Up After Submitting an Application | Things to Include in a Career Portfolio | Job Search Websites |
| Becoming a Critical Thinker | Seeing the Customer's Point | Effective Résumés: | Traits Employers are Seeking | Staying Motivated to Search |
| | Selling Yourself and the Company | Matching Your Talents to a Job | Considerations Before Taking a Job | |
| | | When a Résumé Should be Used | | |

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

| Workplace Ethics | Personal Characteristics | Employer Expectations | Business Etiquette | Communicating at Work |
|-------------------------------|-------------------------------|-----------------------------|----------------------------------|----------------------------------|
| Demonstrating Good Work Ethic | Demonstrating a Good Attitude | Behaviors Employers Expect | Language and Behavior | Handling Anger |
| Behaving Appropriately | Gaining and Showing Respect | Objectionable Behaviors | Keeping Information Confidential | Dealing with Difficult Coworkers |
| Maintaining Honesty | Demonstrating Responsibility | Establishing Credibility | Avoiding Gossip | Dealing with a Difficult Boss |
| Playing Fair | Showing Dependability | Demonstrating Your Skills | Appropriate Work Email | Dealing with Difficult Customers |
| Using Ethical Language | Being Courteous | Building Work Relationships | Cell Phone Etiquette | Dealing with Conflict |
| Showing Responsibility | Gaining Coworkers' Trust | | Appropriate Work Texting | |
| Reducing Harassment | Persevering | | Understanding Copyright | |
| Respecting Diversity | Handling Criticism | | Social Networking | |

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| Making Truthfulness a Habit | Showing Professionalism | | |
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1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply teamwork skills.

| Expected Work Traits | Teamwork | Time Management |
|---|---|-------------------------------------|
| Demonstrating Responsibility | Teamwork Skills | Managing Time |
| Dealing with Information Overload | Reasons Companies Use Teams | Putting First Things First |
| Transferable Job Skills | Decisions Teams Make | Juggling Many Priorities |
| Managing Change | Team Responsibilities | Overcoming Procrastination |
| Adopting a New Technology | Problems That Affect Teams | Organizing Workspace and Tasks |
| Use Technology Ethically & Efficiently | Expressing Yourself on a Team | Staying Organized |
| Interact Appropriately in a Digital World | Giving and Receiving Constructive Criticism | Finding More Time |
| | | Managing Projects |
| | | Prioritizing Personal and Work Life |

1.6 Present a professional image through appearance, behavior and language.

| On-the-Job Etiquette | Person-to-Person Etiquette | Communication Etiquette | Presenting Yourself |
|----------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| Using Professional Manners | Meeting Business Acquaintances | Creating a Good Impression | Looking Professional |
| Introducing People | Meeting People for the First Time | Keeping Phone Calls Professional | Dressing for Success |
| Appropriate Dress | Showing Politeness | Proper Use of Work Email | Showing a Professional Attitude |
| Behavior at Conventions | | Proper Use of Cell Phone | Using Good Posture |
| Working in a Cubicle | | Proper Use in Texting | Presenting Yourself to Associates |
| | | | Accepting Criticism |
| | | | Demonstrating Leadership |

Course Standard 2

MS-HS-HITB-2

Demonstrate the correct work safety practices and infection control precautions required to ensure a safe work environment in a healthcare setting.

- 2.1 Identify the proper body mechanics for a safe healthcare work environment.
- 2.2 Compare and contrast viruses, bacteria and fungi found in a healthcare work setting.
- 2.3 List and organize standard precautions found in a healthcare work setting to protect patients and healthcare workers.
- 2.4 Develop and organize the chain of infection and modes of transmission in a healthcare work setting.
- 2.5 Differentiate the biosafety levels observed in a healthcare work setting.

Course Standard 3

MS-HS-HITB-3

Explain the strategies used in the field of Health Informatics/ Health Information Technology to protect and ensure patient privacy.

- 3.1 Make observations basic principles of patient confidentiality (HIPAA).
 - a. Identify common HIPAA violations.
 - b. Outline common HIPAA practices.
- 3.2 Discuss how technology is used in patient documentation.
 - a. Compare and contrast benefits and risks of paper versus electronic medical records.

- 3.3 Explore the field of telemedicine and uses throughout Georgia.
- 3.4 Apply concepts to demonstrate the following skills related to Health Informatics/ Health Information Technology.
 - a. Collect patient data and chart in an Electronic Health Record (EHR).
 - b. Compare and contrast benefit/ risks of paper and electronic medical records.
 - c. Demonstrate scheduling a client appointment.
 - d. Demonstrate video conferencing etiquette.
 - e. Identify common HIPAA violations and practices.

Course Standard 4

MS-HS-HITB-4

Explain and practice common Health Informatics/ Health Information Management/Medical Office procedures.

- 4.1 List and describe appropriate medical terminology used in the medical office setting.
- 4.2 Demonstrate the correct sequence of obtaining a patient history and physical data.
- 4.3 Explain how diagnostic coding is used for medical reimbursement.
- 4.4 Apply concepts to demonstrate the following skills related to Medical Office:
 - a. Effectively obtain a patient history,
 - b. Measure and document patient height and weight,
 - c. Match diagnostic codes with common diseases.

Course Standard 5

MS-HS-HITB-5

Summarize the careers, apply skills, and understand anatomy concepts used in the field of Biotechnology Research and Development.

- 5.1 Analyze the careers associated with the field of genetics, biomedical engineering, toxicology, microbiology, and forensics.
- 5.2 Explore the structure of DNA and its relationship to cells, analyze the benefits of biomedical research, ethical and legal issues of biotechnology.
- 5.3 Apply concepts to demonstrate the following skills related to Biotechnology Research and Development.
 - a. Display the ability to effectively collect fingerprints,
 - b. Describe the steps related to separating DNA,
 - c. Create and make observations about Punnett square diagrams.
 - d. Research and present a bio-ethical issue related to a current event.
 - e. Complete simulated blood typing and make observations.

Course Standard 6

MS-HS-HITB-6

Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.

- 6.1 Research the history of the state supported healthcare science CTSO (Career Technical Student Organization).
- 6.2 Discuss the mission, purpose, motto, colors, official dress and other distinguishing characteristic of the state supported healthcare science CTSO.
- 6.3 Explain how participation in the state supported healthcare science CTSO can promote lifelong responsibility for community service and professional growth and development.
- 6.4 Create a personal leadership plan to participate in programs, conferences, community service and competitive events on the local, region, state, and national level that align with the competencies, skills and knowledge of this course.