

Alabama Health Science Plans of Instruction	Applied Technologies Health Science	Health Science Foundations											Health Science Career Pathways													
		Academic Foundations	Communications	Systems	Employability Skills	Legal Responsibilities	Ethics	Safety Practices	Teamwork	Health Maintenance Practices	Technical Skills	Information Technology Skills	Alternative Medicine	Biomedical Applications	Cardiac Diagnostics	Clinical Laboratory Science	Dental Diagnostics	First Aid/CPR	Forensic Science	Imaging Diagnostics	Medical Office Technology	Optical Diagnostics	Pathogens and Disease	Pharmacology	Sports Medicine	Veterinary Medicine
<b>ADVANCED HEALTH SEMINAR</b>																										
<b>UNIT 1: Project Proposal</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Create a formal project proposal that communicates specific concepts, processes, or products related to a chosen career pathway. Examples: pathways – Diagnostic Services, Therapeutic Services, Health Informatics, Biotechnology Research and Development.																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Develop a formal project proposal that communicates specific concepts, processes, or products related to a chosen career pathway.																										
2. Select a topic focusing on a chosen career pathway which can be developed and explained with research.																										
3. Collaborate with facilitator, community partners, business partners and other outside individuals in the development of the proposal.																										
4. Formulate core questions and concerns about a topic or areas of interest and organize and conduct a process to produce a solution to an identified issue or problem.																										



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3. Use communication and technology skills to access, process, and retrieve information related to a selected health career plan.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4. Analyze and evaluate scientific explanations using empirical evidence, logical reasoning and experimental and observational testing.	✓		X											X	X	X	X	X	X	X	X	X	X	X	X		
5. Utilize critical thinking, scientific reasoning and problem solving skills to make informed decisions.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
<b>UNIT 3: Project</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Produce an original project, including conceptualization, refinement of ideas, and evaluation of the process and products.	✓			X		X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X		
6. Write a well-organized research paper related to a chosen health career.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
7. Develop a presentation using project findings and conclusions. Examples: producing a digital presentation, making a speech, creating a documentary, presenting a project model and explanation.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Develop an original project, including conceptualization, refinement of ideas, and evaluation of the process and products.	✓			X		X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X		

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2. Construct a well-organized research paper related to a chosen health career.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3. Produce a presentation using project findings and conclusions.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<b>DENTAL ASSISTING</b>																											
<b>UNIT 1: Dental Personnel</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Compare roles of the dentist, dental hygienist, and dental assistant.	✓																										
2. Describe personal characteristics required in the dental workplace. Examples: displaying positive attitudes, maintaining ethical behavior, adhering to dress code.	✓																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the roles of the dentist, dental hygienist, and dental assistant.	✓																										
2. Discuss personal characteristics required in the dental workplace.	✓																										

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<b>UNIT 2: Dental Laws</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
3. Demonstrate communication skills needed while counseling clients, documenting care, and communicating through various forms of electronic media.	✓																										
4. Recognize state laws and regulations pertaining to dentistry. Examples: confidentiality, patient information, legal rights	✓					X	X																				
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
3. Identify and perform communication skills needed while counseling clients, documenting care, and communicating through various forms of electronic media.	✓	X				X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4. Identify state laws and regulations pertaining to dentistry. Examples: confidentiality, patient information, legal rights	✓					X	X									X											
<b>UNIT 3: Dental Equipment</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Demonstrate correct use of x-ray machines, dental instruments, dental chairs, and sterilizer equipment in the dental lab.	✓																										

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6. Organize a dental treatment room, including preparing procedure trays, seating the dental client, providing chair-side assistance, and demonstrating departure procedures.																											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
5. Explain the correct use of x-ray machines, dental instruments, dental chairs, and sterilizer equipment in the dental lab.	✓																										
6. Explain the procedure for organizing a dental treatment room, including procedure tray preparation, client seating, chair-side assistance, and client departure.																											
<b>UNIT 4: Anatomy</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
7. Explain the anatomy of the head and neck, including the teeth and their surfaces.	✓																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
7. Identify the anatomy of the head and neck, including the teeth and their surfaces.	✓																										

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<b>UNIT 5: Infection Control</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
8. Apply principles of preventive oral hygiene, including brushing teeth, flossing teeth, and maintaining a healthy diet.	✓									X																
9. Demonstrate infection control procedures used in a dental office. Examples: sterilizing, disinfecting, using barrier techniques	✓																X									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
8. Discuss principles of preventive oral hygiene, including brushing teeth, flossing teeth, and maintaining a healthy diet. Examples: sterilizing, disinfecting, using barrier techniques	✓									X							X									
<b>UNIT 6: Dental Procedures</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
10. Construct impressions for diagnostic and opposing models of teeth, including preparing for an alginate dental impression and a dental impression with plaster of paris.	✓																X									

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
10. Explain the procedure for constructing impressions for diagnostic and opposing models of teeth, preparing for alginate plaster of paris dental impressions.	✓																										X
<b>EMERGENCY SERVICES</b>																											
<b>UNIT 1: Career Opportunities</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Compare roles and responsibilities of emergency medical personnel. Examples: emergency medical technician (EMT), paramedic, registered nurse	✓										X																X
2. Demonstrate workplace readiness skills in emergency medicine. Examples: well-being of the EMT, positive personal qualities and interpersonal skills, acute assessment skills to act promptly, ability to manifest leadership skills to manage a situation, demonstration of teaching skills to direct others in an emergency situation.	✓										X																X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Identify the roles and responsibilities of emergency medical personnel.	✓										X																X

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2. Describe positive personal qualities and interpersonal skills needed by the EMT.	✓										X						X										
<b>UNIT 2: Communication Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
3. Describe an initial assessment of emergency clients.	✓										X						X										
4. Describe various communication skills used in an emergency situation. Examples: documentation, interpretation of medical orders	✓										X						X										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. List the steps of performing an initial assessment of emergency clients.	✓										X						X										
2. List and describe various communication skills required in emergency situations.	✓										X						X										
<b>UNIT 3: Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Assess safe practices in emergency medical situations. Examples: evaluating scene, lifting and moving client, using standard precautions	✓										X						X										

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Describe proper procedures for evaluating the scene, lifting and moving the emergency client, and using standard precautions.	✓										X						X									
<b>UNIT 4: Legal and Ethical</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
6. Describe legal and ethical behaviors required for emergency situations.	✓				X	X				X						X									X	
7. Use mathematical concepts in emergency medical settings, including calculating fluid rates and drug dosage conversions.	✓															X										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify legal and ethical responsibilities required for workers in emergency medicine.	✓				X	X										X										
2. Apply procedures for mathematical concepts in emergency medicine.	✓															X										

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<b>UNIT 5: Anatomy</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
8. Describe human structures and functions as they relate to emergency medical procedures. Examples: respiratory system – maintaining an open airway.	✓										X							X								
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify the structures and functions of the human body as they relate to emergency medical procedures.	✓										X							X								
<b>UNIT 6: Medical Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
9. Describe various skills required in emergency medical settings, including emergency birth, poisoning, drug overdose, shock, allergic reactions, and bleeding.	✓																	X								
10. Identify common medications used in emergency situations.	✓										X							X								

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify skills required in emergency medical settings.	✓										X							X								
2. List common medications used in emergency situations.	✓										X							X								
<b>FOUNDATIONS OF HEALTH SCIENCE</b>																										
<b>UNIT 1: Career Opportunities</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Describe health science pathways and careers. Examples: Therapeutic services, Health Informatics, Support Services, Biotechnology R & D, Diagnostic Services	✓	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2. Describe roles and responsibilities of individuals as members of a health care team. Examples: Communication, Leadership, Adaptability, Diversity	✓	X		X				X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Compare and contrast the history of medicine with current trends.	✓										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

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2. Explain the roles of historical individuals and their contributions to modern health care.	✓											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3. Demonstrate knowledge of health careers encompassing the educational requirements, job descriptions, career ladder options and employment opportunities.	✓												X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4. Relate health science pathways and careers.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5. Identify roles and responsibilities of individuals as members of a health care team.	✓		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6. List personal qualities necessary for employment in health careers.	✓		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<b>UNIT 2: Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
3. Compare health care delivery systems for services, types of facilities, and access to care.	✓			X																							
4. Demonstrate safe work practices in health care, including adherence to OSHA standards, observance of emergency procedures and protocols, and knowledge of body mechanics as related to the field of ergonomics.	✓					X	X	X								X		X			X						

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the health care delivery system and its components.	✓			X																							
2. Identify existing and potential hazards to self, clients and co-workers.	✓			X			X	X			X		X	X	X	X	X			X	X	X	X	X	X	X	X
3. Identify and adhere to safe work practices.	✓							X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4. Demonstrate knowledge of appropriate emergency procedures for the work place.	✓			X			X	X			X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5. Demonstrate the use of OSHA (Occupational Safety and Health Administration) policies to maintain workplace safety.	✓					X	X	X								X		X			X						
<b>UNIT 3: Medical Terminology</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Identify basic medical symbols and terms, including pronunciations, abbreviations, prefixes, suffixes, and root words.	✓	X	X											X			X	X	X		X						X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Communicate using terminology applicable to the health care industry.	✓	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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2. Use medical dictionaries, multimedia resources, Internet and other resources to learn medical terminology.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3. Define prefixes, suffixes and word roots.	✓	X	X										X		X	X	X		X						X		
4. Make additions to new terms, symbols, abbreviations, prefixes, suffixes, and root words.	✓	X	X										X		X	X	X		X						X		
5. Spell and pronounce medical terms correctly.	✓	X	X										X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6. Apply relevant medical terminology to a simulated professional setting.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<b>UNIT 4: Anatomy Overview</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Describe basic structures and functions of the human body systems.	✓	X													X			X	X	X					X		
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Demonstrate knowledge of basic anatomy and physiology, body systems, organs and functions.	✓	X													X			X	X	X					X		
2. Identify structures and functions of the human body systems.	✓	X													X			X	X	X					X		

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3. Describe the basic functions of cells, tissues, organs and systems.	✓	X												X				X	X						X		
<b>UNIT 5: Communication Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
7. Use effective communication skills in the field of health care, including addressing clients respectfully.	✓	X			X	X					X	X	X	X	X	X		X	X	X			X	X			
8. Use information technology applications required for health science careers.	✓	X									X									X							
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Demonstrate the ability to effectively use interpersonal communication skills to meet the needs of individuals, family, peers and others.	✓	X																									
2. Identify barriers to communication and take measures to minimize their effects.	✓	X						X					X							X							
3. Demonstrate the effective use of information technology applications in communication.	✓	X									X									X							

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<b>UNIT 6: Employability Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
9. Demonstrate employability traits needed in health science careers. Examples: Personal appearance and hygiene, interpersonal skills, completion of job applications	✓	X	X	X										X	X			X	X	X						
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify employability traits needed in health science careers and explain why employers value them.	✓	X	X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2. Outline employer expectations of punctuality, attendance, time management, productive work habits and communication skills.	✓		X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3. Demonstrate the procedures necessary to seek and secure employment.	✓		X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>UNIT 7: Legal and Ethical Implications</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
10. Explain legal responsibilities, limitations and implications within the healthcare setting.	✓		X	X	X							X	X			X		X		X			X	X		

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11. Discuss ethical practices and issues required within the health care setting.	✓					X	X							X										X		X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Analyze the importance of a thorough understanding of legal responsibilities, limitations and implications within the health care delivery setting.	✓			X		X	X							X	X			X		X					X	X	
2. Examine the legal and ethical ramifications of unacceptable behaviors such as harassment, acquaintance rape and sexual abuse.	✓					X	X																				
3. Compare and contrast morals, values and ethics as they relate to their beliefs and requirements in the health care setting.	✓						X							X													
<b>UNIT 8: Health and Wellness</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
12. Describe fundamentals of health promotion and wellness.	✓			X						X				X	X	X		X	X		X	X		X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Outline fundamental concepts of health promotion and wellness.	✓			X						X				X	X	X		X	X		X	X		X	X	X	X
2. Distinguish between holistic care and disease-oriented care.	✓						X			X				X													

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3. Evaluate the impact of media and technology on individual, family, community, and world health.	✓					X					X		X								X						
4. Analyze the relationship between unsafe behaviors and personal health.	✓			X			X		X			X		X										X			
5. Apply decision-making skills to health promoting skills.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6. Develop a personal wellness plan.	✓			X					X			X	X	X		X	X		X	X		X	X	X	X		
<b>UNIT 9: Technical Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
13. Demonstrate common technical skills required in the health care industry.	✓									X							X										
14. Use mathematical concepts in a health-related setting.	✓								X		X	X	X	X	X			X		X	X		X	X			
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Identify and demonstrate common technical skills required in the health care industry.	✓									X							X										
2. Explain mathematical concepts in a health-related setting.	✓								X		X	X	X	X	X			X		X	X		X	X			



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<b>UNIT 2: Technology Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
2. Determine the accuracy of electronic medical records based on organizational and external regulatory standards.	✓	X			X	X					X					X		X	X	X		X	X				
3. Interpret medical terminology used in health informatics to enter client data and to complete medical forms.	✓	X																			X		X				
4. Use technology to access, process, and retrieve medical information.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
2. Explain the importance of the accuracy of electronic records based on organizational and external regulatory standards.	✓	X			X		X				X	X						X	X	X	X	X	X	X	X		
3. Analyze medical terminology used in health informatics to enter client data and to complete medical forms.	✓	X																			X		X				
4. Demonstrate the ability to apply technology to access, process, and retrieve information.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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<b>UNIT 3: Legal and Ethical Implications</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Describe legal and ethical regulations as they relate to health informatics.	✓					X	X					X															X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
5. Describe legal and ethical regulations as they relate to health informatics.	✓					X	X					X															X
<b>UNIT 4: Medical Coding</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Utilize common informatics manuals required in health informatics for coding medical procedures and treatments.	✓											X															X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
6. Implement informatics manuals required in health informatics for coding medical procedures and treatments.	✓											X															X

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<b>UNIT 5: Safety</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
7. Apply safety principles needed in health informatics.	✓											X														X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
7. Demonstrate safety principles in health informatics.	✓											X														X
<b>UNIT 6: Employability Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
8. Demonstrate workplace readiness skills in health informatics.	✓											X														X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
8. Exhibit workplace readiness skills in health informatics.	✓											X														X

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<b>UNIT 7: Communication Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
9. Demonstrate the ability to interpret, transcribe, and communicate information, data, and observations.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10. Explain the computerized system for insurance reimbursement, including diagnostic-re-related groups (DRG) and ambulatory payment classification (APC) groups.																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
9. Apply the ability to interpret, transcribe, and communicate information, data, and observations.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10. Discuss the computerized system for insurance reimbursement, including diagnostic-related groups (DRG) and ambulatory payment classification (APC) groups.																										

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<b>HEALTH PROMOTION AND WELLNESS</b>																													
<b>UNIT 1: Health-Illness Continuum</b>																													
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																													
1. Analyze an individual's health status to determine placement on the health-illness continuum. <ul style="list-style-type: none"> <li>Comparing passive and active strategies of health promotion</li> </ul> Examples: passive – fluoridation of drinking water, fortification of homogenized milk with Vitamin D Active – smoking cessation, weight control, medical check-up <ul style="list-style-type: none"> <li>Outlining positive health promotion practices related to each body system</li> </ul> Examples: integumentary system – skin self-examination, sunscreen application cardiovascular system – healthy eating, exercise, blood pressure control, smoking cessation reproductive system – annual mammogram after age forty, prostate examination	✓	X								X																			
2. Distinguish between holistic care and disease-oriented care.	✓					X			X			X									X								
3. Differentiate between acute and chronic illnesses.	✓			X																									

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4. Analyze social and environmental concerns to determine their effect on personal health and wellness. Examples: high crime rate and quality of life, air pollution and lung disorders, secondhand smoke and respiratory illnesses, noise pollution and hearing loss, hazardous wastes and carcinogens	✓			X						X																	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Assess an individual's health status to determine placement on the health-illness continuum. ▪ Examining passive and active strategies of health promotion. ▪ Describing positive health promotion practices related to each body system.	✓			X						X			X	X	X		X	X		X	X		X	X	X	X	
2. Identify difference between holistic care and disease-oriented care.	✓					X			X			X						X									
3. Describe acute and chronic illnesses.	✓			X																							
4. Discuss social and environmental concerns to determine their effect on personal health and wellness.	✓			X					X			X	X	X								X					
<b>UNIT 2: Client Needs</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Distinguish among the levels of Maslow's hierarchy of needs to determine the priority of basic human needs.																											

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6. Identify stages of the Change Model.																											
7. Identify the components of a client's health history.	✓								X					X						X	X						
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Discuss the levels of Maslow's hierarchy of needs to determine the priority of basic human needs.																											
2. List stages of the Change Model.																											
3. Describe the components of a client's health history.	✓								X					X						X	X						
<b>UNIT 3: Health Beliefs</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
8. Describe the Health Belief Model.				X																							
9. Identify internal and external variables that influence health beliefs and practices. Examples: Internal – religion, genetics, developmental stage External – media, peers, socioeconomic background	✓			X										X													

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Explain the Health Belief Model.																										
2. List internal and external variables that influence health beliefs and practices.	✓		X	X		X			X			X								X						
<b>UNIT 4: Level of Prevention</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
10. Identify the three levels of prevention in health care delivery systems. Examples: Primary – health education programs, immunizations programs Secondary – hearing and vision screening, mammograms Tertiary – cardiac rehabilitation, diabetes management classes																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Describe the three levels of prevention in health care delivery systems.																										

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<b>UNIT 5: Safety</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
11. Explain safety practices required in health care agencies. Examples: washing hands, wearing plastic gloves during food preparation, practicing proper disposal of hazardous materials	✓							X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Describe safety practices required in health care agencies.	✓		X	X	X	X	X	X				X	X		X	X	X	X	X		X			X	X	
<b>HEALTH SCIENCE INTERNSHIP</b>																										
<b>UNIT 1: Basic Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Demonstrate basic health care skills according to facility protocol.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2. Critique key workplace readiness skills needed in a health care setting.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify key workplace readiness skills needed in a health care career.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2. Measure and record vital signs.	✓									X				X			X			X				X	X	
3. Demonstrate emergency care skills: first aid and cardiopulmonary resuscitation (CPR).	✓									X						X										
4. Demonstrate proper body Mechanics.	✓							X					X		X	X	X	X	X	X	X		X	X		
<b>UNIT 2: Medical Terminology</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
5. Synthesize medical terminology used within the health care facility or agency.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6. Utilize electronic methods of communication within the health care facility or agency.	✓										X									X						
7. Demonstrate therapeutic communication skills in the health care facility. Examples: reporting medical information to immediate supervisor, communicating with client and family or caregiver.	✓		X			X	X						X		X		X	X		X		X		X	X	

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Define medical terminology used in health care.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2. Demonstrate methods of communication within the health care facility or agency.	✓												X		X	X		X	X	X	X	X	X	X	X	X	
3. Describe therapeutic communication skills.	✓												X		X	X		X	X	X	X	X	X	X	X	X	
<b>UNIT 3: Legal and Ethical Behaviors</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
4. Demonstrate legal and ethical behaviors in the health care setting.	✓					X	X							X							X				X		
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe legal and ethical behaviors needed in the health care setting.	✓					X	X							X							X				X		

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<b>UNIT 4: Diseases and Disorders</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
2. Identify basic treatments for selected diseases and disorders.	✓	X		X						X			X	X	X		X			X		X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify common diseases and disorders and their treatments.	✓	X								X			X	X	X	X	X			X		X	X	X		
<b>HUMAN BODY STRUCTURES AND FUNCTIONS</b>																										
<b>UNIT 1: Understanding the Human Body</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Use appropriate anatomical terminology. Examples: proximal, superficial, medial, supine, superior, inferior, anterior, posterior	✓	X																								
2. Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.	✓	X																							X	
3. Classify major types of cells, including squamous, cuboidal, columnar, simple and stratified.	✓	X																								

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4. Classify tissues as connective, muscular, nervous, or epithelial.	✓	X																									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Define anatomical terminology. Examples: Proximal, superficial, inferior, anterior, posterior	✓	X																									
2. List and define anatomical body planes, body cavities, and abdominopelvic regions of the human body.	✓	X																							X		
3. Define the major types of cells: squamous, cuboidal, columnar, simple and stratified.	✓	X																									
4. Define types of tissues: connective, muscular, nervous, or epithelial.	✓	X																									
5. Define Homeostasis.	✓	X										X	X	X											X		
<b>UNIT 2: Intake and Elimination</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Identify structures and functions of the digestive system.	✓	X								X								X	X					X			
2. Identify structures and functions of the urinary system.	✓	X													X			X									

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Trace the pathway of digestion from the mouth to the anus using diagrams.	✓	X																									
2. Identifying disorders affecting the digestive system such as ulcers, Crohn's disease, diverticulitis.	✓	X																									
3. Tracing the filtration of blood from the kidney to the urethra.	✓	X																									
4. Recognizing diseases and disorders of the urinary system such as kidney stones, urinary tract infection.	✓	X																									
<b>UNIT 3: Control, Regulation and Coordination</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
8. Identify structures of the nervous system.	✓	X											X									X					
9. Identify the endocrine glands and their functions.	✓	X																X									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Explain differences in the functions of the peripheral nervous system and the CNS.	✓	X																									

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2. Label parts of the sensory organs: eye, ear, tongue, and skin receptors.	✓	X																									
3. Recognize disease and disorders of the nervous system such as Parkinson's and meningitis.	✓	X																									
4. Describe effects of hormones produced by the endocrine glands.	✓	X																									
5. Identify common disorders of the endocrine system: diabetes, goiter, hyperthyroidism.	✓	X																									
<b>UNIT 4: Vital for Life</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Identify structures of the circulatory system.	✓	X											X	X	X	X	X								X		
2. Identify structures of the respiratory system.	✓	X							X							X						X	X				
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Trace the blood flow throughout the body.	✓	X												X													
2. Identify components of blood.	✓	X												X													

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3. Describe blood cell formation.	✓	X												X													
4. Distinguishing among human blood groups.	✓	X												X													
5. Describe common cardiovascular diseases and disorders: MI, Mitral Valve Prolapse, varicose veins, arteriosclerosis.	✓	X												X													
6. Trace pathway of O <sub>2</sub> -CO <sub>2</sub> exchange.	✓	X																									
7. Recognize common disorders of the respiratory system: asthma, bronchitis, cystic fibrosis	✓	X																									
<b>UNIT 5: Support and Movement</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Identify bones that compose the skeletal system.	✓	X								X			X					X	X						X		
7. Identify major muscles, including origins, insertions, and actions.	✓	X																									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Identify functions of skeletal system, axial and appendicular skeletons, joints, bone types, and various skeletal disorders.	✓	X																									

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2. Describe common body movements, including flexion, extension, adduction, abduction.																											
3. Classify muscles based on functions in the body, compare three types of muscles.	✓	X																									
4. List diseases and disorders of the muscular system.	✓	X																									
<b>UNIT 6: Cover, Protection and Reproduction</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Identify structures and functions of the reproductive system.	✓	X												X												X	
2. Identify physiological effects and components of the immune system.	✓	X											X	X				X			X	X	X	X			
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Differentiating between male and female reproductive system.	✓	X																									
2. Recognizing stages of pregnancy and fetal development.																											
3. Identify disorders of the reproductive system: endometriosis, sexually transmitted diseases, prostate cancer.	✓	X																									

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4. Contrasting active and passive immunity.																											
5. Evaluating the importance of vaccines.	✓	X		X						X													X				
6. Recognizing disorders and diseases of the immune system: AIDS, acute lymphocytic leukemia.	✓																					X					
<b>INTRODUCTION TO BIOTECHNOLOGY</b>																											
<b>UNIT 1: Career Opportunities</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Trace the history of biotechnology. a. Identifying the scientific fields of relevant biotechnology b. Describing both scientific and non-scientific careers, roles and responsibilities of individuals working in biotechnology	✓											X	X					X									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Define biotechnology.	✓					X					X	X						X									
2. Explore the historical stages of biotechnology.	✓					X					X	X						X									

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3. Discuss the historical impact of genetics on society.	✓						X				X		X					X									
4. Make connections between the various scientific fields and their application to biotechnology.	✓										X		X					X									
5. Provide examples of the various science and non-science careers associated with biotechnology.	✓												X					X									
6. Explore the various roles and responsibilities of individuals working in biotechnology through hands-on lab experiences, speakers, and experience or research on a day in the life of a biotechnology professional.	✓												X					X									
<b>UNIT 2: Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
2. Exhibit appropriate safety procedures in the laboratory. Examples: demonstrating proper use of personal protection devices, maintaining a sanitary laboratory environment, handling biological and chemical hazards properly, following laboratory protocols, maintaining proper documentation, labeling, and record keeping.	✓							X					X		X			X					X				
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Demonstrate appropriate safety procedures in the laboratory.	✓							X					X		X			X					X				

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2. Demonstrate proper use of personal protection devices.	✓						X					X		X	X	X	X	X	X	X	X	X	X	X	X
3. Learn to maintain a sanitary laboratory environment and handle biological and chemical hazards properly.	✓						X						X		X			X					X		
4. Follow laboratory protocols and maintain proper documentation, labeling, and record keeping.	✓						X						X		X			X					X		
5. Explain and apply the process of the scientific method.	✓								X				X												
<b>UNIT 3: Biochemistry Concepts</b>																									
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																									
3. Explain concepts important to solution preparation. a. Explain the concepts of molecular mass, mole, and formula weight b. Calculating molecular mass of specific molecules and the molarity of a solution c. Preparing solutions of defined concentration Examples: Preparing serial dilutions of specific solutions d. Adjusting the pH of specific solutions with commonly used acids and bases																									
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																									
1. Define solution.																									

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2. Explain the concepts of molecular mass, mole, formula weight, molarity, concentration and pH.																										
3. Calculate the mass of specific molecules and the molarity of a solution.																										
4. Measure solids accurately utilizing balances.																										
5. Measure small liquid volumes utilizing the appropriate measuring device including graduated cylinders, pipettes, micropipettes.	✓												X	X								X	X			
6. Prepare solutions of defined concentration.	✓												X	X									X			
7. Understand and be able to calculate a specified dilution.	✓													X									X			
8. Prepare a specific dilution of a given concentrated solution.	✓													X									X			
9. Properly balance and run a microcentrifuge.	✓													X												
10. Define pH and explain the correlation between pH and the OH <sup>-</sup> and H <sup>+</sup> concentrations																										
11. Learn the appropriate uses of a pH meter and demonstrate proficiency by preparing a solution of a designed pH.	✓													X									X			

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<b>UNIT 4: Genetics and Cell Biology Concepts (4-5)</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
4. Correlate key cellular components to function. Examples: nucleus, chromosome, ribosome, mitochondria	✓	X																									
5. Describe the process of meiosis and the cell cycle, including the hereditary significance of each. a. Comparing typical and atypical chromosome karyotypes b. Comparing spermatogenesis and oogenesis using charts																											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Correlate key cellular components to their function.	✓	X																									
2. Describe the role of mitotic divisions during growth and repair.																											
3. Explore stem cells and their potential applications.	✓										X		X														
4. Explore the role of the cell cycle.	✓	X																									
5. Explore the role of the cell cycle as the underlying cause of cancer.	✓	X																									

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6. Describe the role of meiotic divisions in reproduction.																											
7. Understand how meiotic errors result.																											
8. Understand the relationship between meiotic errors resulting in polyploid, aneuploidy and euploidy and atypical phenotypes.																											
9. Explore karyotyping and investigate modern methods of karyotyping.																											
10. Become familiar with prenatal diagnostics.																											
11. Discuss the ethical implications of prenatal testing.																											
12. Compare and contrast spermatogenesis and oogenesis.																											
<b>UNIT 4: Genetics and Cell Biology Concepts (6-8)</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Describe the significance of Mendel's work to the development of the modern science of genetics, including the laws of segregation and independent assortment.	✓																										X

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7. Describe the inheritance patterns based on gene interactions. a. Predicting patterns of heredity using pedigree analysis b. Identifying incomplete dominance, co-dominance, multiple allelism	✓													X													
8. Describe occurrences and effects of sex linkage, autosomal linkage, crossover, multiple alleles, and polygenes.																											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Conduct monohybrid and dihybrid crosses.																											
2. Understand the laws of segregation and independent assortment.																											
3. Learn the genetic and molecular basis of inherited disorders and the patterns in which they are inherited.																											
4. Construct an accurate pedigree across multiple generations.	✓													X													
5. Predict patterns of heredity using pedigree analysis.	✓													X													
6. Understand the connection between genetic counseling, pedigrees and genetic testing.	✓													X													
7. Understand the inheritance patterns of incomplete dominance, co-dominance, multiple allelism and provide examples of each.																											
8. Identify occurrences and effects of sex linkage, autosomal linkage, crossover, multiple alleles, and polygenes.																											

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<b>UNIT 4: Genetics and Cell Biology Concepts (9-10)</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
9. Describe the structure and function of deoxyribonucleic acid (DNA), including replication, translation, and transcription. a. Applying the genetic code to predict amino acid sequence b. Describing methods cells use to regulate gene expression c. Defining the role of ribonucleic acid (RNA) in protein synthesis d. Performing DNA extraction and separation techniques e. Analyzing DNA previously amplified using polymerase chain reaction																										
10. Explain the structure of eukaryotic chromosomes, including transposons, introns, and exons.																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify the structure and function of DNA and RNA.	✓	X																								
2. Explain the structure of eukaryotic chromosomes, including transposons, introns, and exons.																										
3. Describe the mechanism for DNA replication.																										
4. Understand the process of the Polymerase Chain Reaction (PCR).																										

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5. Identify applications of PCR in biotechnology.																											
6. Apply the genetic code to predict amino acid sequence.																											
7. Define the role of RNA in protein synthesis.																											
8. Describe the mechanisms for transcription and translation.																											
9. Describe the methods cells use to regulate gene expression.																											
10. Explain the levels of protein structure and the correlation to protein function.																											
11. Explain the types of proteins and their roles.																											
<b>UNIT 4: Genetics and Cell Biology Concepts (11-12)</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
11. Describe factors such as radiation, chemicals, and chance that cause mutations. a. Describing the effects of genetic variability on adaptations b. Describing how DNA mutations impact both the organism and population	✓																										X

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12. Explain how the Hardy-Weinberg Principle provides a baseline for recognizing evolutionary changes in gene frequency due to genetic drift, gene flow, non-random mating, mutation, and natural selection.																											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the factors such as radiation, chemicals, and chance that cause mutations.	✓																			X							
2. Describe the effects of genetic variability on adaptations.																											
3. Describe how DNA mutations impact both the organism and population.																											
4. Explain how the Hardy-Weinberg Principle provides a baseline for recognizing evolutionary changes in gene frequency due to generic drift, gene flow, nonrandom mating, mutation and natural selection.																											
5. Define the variables associated with the Hardy-Weinberg association.																											

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<b>UNIT 4: Genetics and Cell Biology Concepts (13-14)</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
13. Differentiate among major areas in modern biotechnology, including plant, animal, microbial, forensic, and marine. Examples: hybridization, cloning, insulin production, DNA profiling, bioremediation a. Describing techniques used with recombinant DNA b. Demonstrating proper maintenance of bacterial cultures, including preparing a growth media and culturing microorganisms c. Demonstrating recombinant DNA techniques in bacteria, including performing a plasmid transformation and a restriction digest																										
14. Explain the development, purpose, findings, and applications of the Human Genome Project. a. Analyzing results of the Human Genome Project to predict ethical, social, and legal implications b. Describing medical uses of gene therapy, including vaccines, and tissue and antibody engineering c. Using computer bioinformatics resources to provide information regarding DNA, protein, and human genetic diseases Examples: National Center for Biotechnology Information, protein data bank, genereviews	✓					X																				

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Define genetic recombination.																											
2. Define the role of bacterial structures and bacterial reproduction.	✓												X										X				
3. Explore the role of bacteria in biotechnology today.	✓												X										X				
4. Prepare and maintain bacterial cultures.	✓																						X				
5. Demonstrate genetic recombinant DNA techniques including restriction digest and transformation.																											
6. Define the meaning of genetically modified organisms.	✓												X														
7. Explore how and why genetically modified foods are created.	✓												X														
8. Discuss ethical issues raised by recombinant DNA technology.																											
9. Explore the commercial and medical applications of biotechnology.	✓										X		X														
10. Describe methods of cloning and conduct techniques for clone characterization.	✓												X														

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11. Explain the principle and purpose of vaccination.	✓									X															X			
12. Explain the mechanism of antibody formation including the genetic recombination involved in generating distinctive antibodies.																												
13. Discuss tissue and antibody engineering and their applications.																												
14. Discuss gene therapy.																												
15. Explain the development, purpose, findings, and applications of the Hume Genome Project.	✓						X							X														
16. Analyzing results of the Human Genome Project to predict ethical, social, and legal implications.	✓						X							X														
17. Access and utilize genetic libraries.																												
18. Discuss the field of bioinformatics.																												
19. Utilize active databanks such as NCBI to obtain information.																												

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<b>UNIT 4: Genetics and Cell Biology Concepts (15)</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
15. Describe the replication of DNA and RNA viruses, including lytic and lysogenic cycles, using diagrams.																											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the replication of DNA viruses.		✓																									
2. Describe the replication of RNA (retroviruses).		✓																									
3. Compare and contrast the mutation rates between a DNA virus and an RNA virus.																											
4. Describe the linkage between the RNA viral replication mechanism and its mutation rate.																											
5. Diagram a lifecycle of a lytic virus.																											
6. Diagram a lifecycle of a lysogenic virus (Examples include: Epstein-Barr, Humanpapilloma virus HPV).																											

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<b>INTRODUCTION TO PHARMACY</b>																										
<b>UNIT 1: Career Opportunities</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Trace the development of pharmaceuticals. • Demonstrating the use of pharmaceutical resources Examples: Physicians' Desk Reference (PDR), Hospital Formulary	✓																								X	
2. Compare roles of the pharmacist and the pharmacy technician in various settings, including the hospital and retail pharmacy.	✓																								X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Research and identify the development of pharmaceuticals drug sources, drug actions and their effect on the human body.	✓																								X	
2. Identify roles of the pharmacist and the pharmacy technician as they relate to various settings.	✓																								X	
3. Identify career options related to pharmacology.	✓																								X	
4. Apply the skills necessary to interpret and understand pharmacy and medical terminology.	✓																								X	

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<b>UNIT 2: Legal and Ethical Implications</b>																												
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																												
3. Describe ethical characteristics required in the pharmacy workplace.	✓			X	X	X	X																				X	
4. Explain state laws and regulations pertaining to a career in pharmacy. • Identifying functions of pharmacy regulatory agencies such as Drug Enforcement Administration (DEA), Food and Drug Administration (FDA), and Occupational Safety and Health Administration (OSHA)																												
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																												
1. Identify ethical characteristics for the pharmacy workplace.	✓			X	X	X	X																				X	
2. Identify state laws and regulations pertaining to pharmacy careers.	✓					X																				X		
3. Analyze regulations and practices related to storage mixtures and handling of pharmaceuticals.	✓																									X		
4. Interpret unethical behaviors and effect on consumers.	✓			X		X	X						X	X	X			X	X	X		X	X	X	X	X	X	

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<b>UNIT 3: Medical Terminology</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Translate medical terms, symbols, and abbreviations from prescriptions to laymen's terms.	✓																									X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Define medical terms, symbols, and abbreviations related to prescriptions.	✓																									X	
2. Use medical terms to calculate dosages, systems of measurement and conversions from one system to another.	✓																									X	
3. Solve basic mathematical problems involving fractions, decimals, percentages, ratios and proportions.	✓										X	X		X	X		X	X		X	X		X	X		X	X
<b>UNIT 4: Technology</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Use technology to facilitate transactions in a pharmacy. Examples: computers, fax machine, cash register, scanners, etc.	✓																									X	

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Utilize a variety of technology related to a pharmacy setting.	✓																									X	
2. Use technology to assess, process and retrieve information with appropriate supervision.	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>UNIT 5: Mathematics Concepts</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
7. Use mathematics concepts in pharmaceutical settings. • Calculating decimals, fractions, proportions, intravenous (IV) flow, and dosages; converting units between systems	✓																									X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Apply mathematical concepts to the pharmacy setting.	✓																									X	

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<b>UNIT 6: Technical Skills</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
8. Demonstrate the procedure for filling prescriptions in a simulated pharmacy setting, including accepting medication orders, preparing prescription orders, labeling information, and dispensing drugs.	✓																								X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Describe the procedure for filling prescriptions in the pharmacy setting.	✓																								X	
2. Demonstrate use of dosage calculations, measurements and drug considerations.	✓																								X	
<b>UNIT 7: Pharmacology</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
9. Identify classifications of selected drugs.	✓																								X	
10. Explain routes used for the administration of medicine during a simulated medical case study.	✓																								X	
11. Differentiate among drug interactions, drug reactions, and side effects.	✓																								X	

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify and list classifications of selected drugs.	✓																								X	
2. Identify routes used for medication administration.	✓																								X	
3. Compare and contrast drug interactions, drug reactions, and side effects.	✓																								X	
<b>SAFETY AND HEALTH REGULATIONS</b>																										
<b>UNIT 1: Introduction</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Explain the importance of the Occupational Safety and Health Administration (OSHA), industry regulations and individual responsibilities in workplace safety and health practices.	✓					X	X	X								X		X			X					
2. Describe job-related high-hazard area risk assessment techniques and the impact of accidents on industry. • Utilizing job safety analysis worksheets																										
3. Compare federal and state child labor laws regarding hours and locations where youth may work, including required permits.	✓					X																				

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4. Explain worker rights according to the OSHA Safety and Health Regulation standards.	✓					X	X	X								X	X			X							
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Compare the industry regulations with the individual responsibilities in the workplace safety and health practices.	✓					X	X	X								X	X			X							
2. Review job safety analysis worksheets, list the risk assessment techniques in a job related high-hazard area, and describe the impact of accidents on industry.																											
3. List federal and state child labor laws, hours and locations where they can work, and required permits.	✓					X																					
4. Describe the worker rights under OSHA Safety and Health Regulation Standards.	✓					X	X	X								X	X			X							
<b>UNIT 2: Flammable and Combustible Liquids</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Describe characteristics of flammable and combustible liquids, including flash point, flammable limits, boiling point, vapor pressure, ignition temperature and specific gravity.																											
6. Demonstrate storage and handling procedures for flammable and combustible liquids.	✓							X								X											

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7. Compare classes of fire and fire extinguishers. Examples: Discussing the proper use of the fire extinguishers.	✓						X																				
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. List the characteristics of flammable and combustible liquids including flash point, flammable limits, boiling point, vapor pressure, ignition temperature and specific gravity.																											
2. Practice steps followed to store and handle the flammable and combustible liquids.	✓						X								X												
3. Describe the classes of fires and fire extinguishers. Examples: Demonstrating the proper use of fire extinguisher	✓						X																				
<b>UNIT 3: Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
8. Develop an emergency plan, including fire protection, means of egress, exit route and exits, and special concerns for confined spaces.	✓						X							X	X												
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the emergency plan, evacuation routes, means of egress, and special concerns for confined spaces for clinical areas.	✓						X							X	X												
2. Know proper use of fire protection equipment.	✓						X							X	X												

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3. Explain four classes of fire extinguishers.																											
<b>UNIT 4: Electrical Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
9. Explain assured equipment grounding programs.																											
10. Interpret environmental controls of safety color codes and specifications for accident prevention.	✓						X							X			X						X				
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe the proper use of grounding equipment.																											
2. Explain general environmental controls and safety color codes for making physical hazards and specifications for accident prevention.	✓						X							X			X						X				
<b>UNIT 5: Introduction to Industrial Hygiene and First Aid</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
13. Explain industrial health and first aid procedures, including personal protection from body fluids, skin, rash, or dermatitis incidents; and oil, gas, and chemical spills.	✓						X										X										

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Describe industrial health and first aid procedures, including personal protection from body fluids; skin, rash, or dermatitis incidents; oil, gas, and chemical spills.	✓						X										X									
2. Observe all safety standards established by OSHA to protect self and others.	✓					X	X	X								X	X			X						
<b>UNIT 6: Hazard Communication</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
14. Explain the importance of hazard communication, including signs, signals, barricades, markers, lockouts, and tags used on a site job.	✓							X							X				X					X		
15. Explain the use of Material Safety Data Sheets (MSDS).	✓							X							X											
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify the importance of hazard communications.	✓							X							X				X					X		
2. Utilize the Material Safety Data Sheets.	✓							X							X											

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<b>UNIT 7: Personal Protective Equipment</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
16. Explain the use of personal protective equipment, including eye, face, foot, and respirator protection.	✓							X					X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Demonstrate the proper donning of Personal Protective Equipment (PPE), eye shields/glasses, masks, shoe covers, and respirators.	✓							X																		
2. Explain the use of Disaster Plans.	✓									X														X		
<b>SPORTS MEDICINE</b>																										
<b>UNIT 1: Career Opportunities</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Identify roles and responsibilities of sports medicine professionals.	✓																								X	

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<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Explore therapeutic careers in the exercise science/sports profession.	✓																									X
2. Describe the roles and responsibilities of sports medicine professionals.	✓																									X
3. Identify educational requirements for a variety of exercise science/sports medicine professionals.	✓																									X
4. Discuss career settings and job descriptions.	✓																									X
<b>UNIT 2: Anatomy</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
2. Describe the structure and function of the human body systems as they relate to sports.	✓																									X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Identify the structures and function of the human body systems as they relate to sports.	✓																									X
2. Define the anatomical planes and describe the anatomical positions.	✓	X																								X

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3. Label general muscular and boney anatomy.	✓	X											X												X		
4. Describe the functions of skin, bone, muscle, ligament, tendon and cartilage.	✓	X																									
5. Describe the classification of joints and motions produced.	✓	X							X			X						X	X						X		
6. Utilize medical terminology, abbreviations, and root words to describe injured and disease conditions.	✓																							X			
<b>UNIT 3: Communication Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
1. Utilize effective communication skills needed in sports medicine. • Documenting injury summaries using medical terminology.	✓																								X		
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe effective communication skills needed in sports medicine. • Use medical terminology for documenting injury summaries.	✓																								X		
2. Outline communication guidelines related to sports medicine.	✓																								X		

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<b>UNIT 4: Employability Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
4. Demonstrate workplace readiness skills in sports medicine. Examples: regular attendance, efficient time management, adherence to dress code	✓																										X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Describe characteristics of workplace readiness in the field of sports medicine.	✓																										X
2. Identify the basic job-keeping skills related to sports medicine.	✓																										X
<b>UNIT 5: Safety</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
5. Demonstrate safety skills needed in sports medicine, including preventing injuries and illnesses.	✓																										X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Identify safety skills needed in the field of sports medicine in order to prevent injuries and illnesses.	✓																										X

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2. Identify common communicable diseases affecting athletes.	✓																									X	
3. Explain occupational safety standards affecting healthcare in sports medicine.	✓																									X	
4. Perform principles of infection control in sports medicine.	✓																									X	
<b>UNIT 6: Legal and Ethical Implications</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
6. Describe legal and ethical responsibilities required in sports medicine.	✓																									X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Identify legal and ethical responsibilities required of workers in the sports medicine field.	✓																									X	
2. Examine legal and ethical ramifications of behavior as a sports medicine provider.	✓																									X	
3. Outline legal and ethical standards such as Patient Bill of Rights and (HIPPA) Health Insurance Portability And Accountability Act.	✓					X	X																				

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<b>UNIT 7: Dietary Requirements</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
7. Utilize dietary guidelines including the Recommended Dietary Allowance (RDA) to plan menus that meet various nutritional needs of the athlete.																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
7. Plan menus that meet various nutritional needs of the athlete including the Recommended Dietary Allowance (RDA).																										
<b>UNIT 8: Emergency Plans</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
10. Write an emergency plan for handling a catastrophic injury or death in the athletic environment.																										
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Develop and emergency plan for handling a catastrophic injury or death in the athletic environment.		✓																								X
2. Explain the difference between primary and secondary assessment.																										

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3. Identify the ABC's of a life-threatening emergency.																											
4. Explain when cardiopulmonary resuscitation is used.	✓									X							X										
5. Recognize the signs and symptoms that require emergency medical attention.	✓									X				X			X								X		
6. Develop an emergency plan for handling a catastrophic injury or death.	✓																X										
<b>UNIT 9: Technical Skills</b>																											
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																											
8. Describe technical skills needed in sports medicine.	✓																									X	
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. Demonstrate technical skills needed in sports medicine such as taping, and strengthening.	✓																									X	

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<b>THERAPEUTIC SERVICES</b>																									
<b>UNIT 1: Career Opportunities</b>																									
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																									
1. Explain the historical perspective of selected therapeutic service careers.	✓										X	X	X	X			X	X			X	X	X	X	X
2. Compare roles and responsibilities of personnel in therapeutic service careers. Examples: job description, salary, education and training, occupational outlook	✓										X	X	X	X			X	X			X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																									
1. Describe the historical perspective of selected therapeutic service careers.	✓										X	X	X	X			X	X			X	X	X	X	X
2. Compare roles and responsibilities of personnel in therapeutic service careers. Examples: job description, salary, education and training, occupational outlook	✓										X	X	X	X			X	X			X	X	X	X	X

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<b>UNIT 2: Legal and Ethical Aspects</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
1. Apply legal and ethical behaviors necessary in therapeutic service careers.	✓				X	X				X	X	X	X		X	X		X	X	X	X	X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																										
1. Demonstrate legal and ethical behaviors necessary in therapeutic service careers.	✓				X	X				X	X	X	X		X	X		X	X	X	X	X	X	X	X	X
<b>UNIT 3: Anatomy</b>																										
<b>Content Standard(s) and Depth of Knowledge Level(s):</b>																										
4. Identify human structures and functions as they relate to therapeutic services. Examples: Respiratory system – maintaining an open airway Musculoskeletal system – range-of-motion exercises	✓	X								X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
5. Assess safe practices necessary in therapeutic services. Examples: evaluating scene, lifting and moving a client, using standard precautions	✓									X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
6. Calculate mathematical operations used in therapeutic services. Examples: metric system conversion, oxygen tank time	✓									X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X

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7. Identify common medications used in therapeutic careers. Examples: diuretics, antibiotics, bronchodilators	✓									X	X		X		X										X	X	
8. Demonstrate clinical and technical skills necessary in therapeutic services. Examples: cardiopulmonary resuscitation (CPR), vital signs, bed making, crutch walking	✓										X			X			X									X	
9. Identify diseases and disorders commonly associated with therapeutic careers. Examples: chronic obstructive pulmonary disease (COPD), asthma, congestive heart failure (CHF), diabetes	✓									X	X		X		X			X			X	X	X	X			
10. Utilize technology in a therapeutic career setting. Examples: computer, fax machine	✓											X	X		X		X	X			X	X	X	X	X	X	X
<b>Learning Objective(s) and Depth of Knowledge Level(s):</b>																											
1. List human structures and functions as they relate to therapeutic services.	✓	X									X		X		X		X	X		X		X		X	X		
2. Identify safe practices necessary in therapeutic services.	✓										X		X		X		X	X		X		X		X	X		
3. Demonstrate mathematical operations used in therapeutic services.	✓										X		X		X		X			X	X		X	X		X	X
4. List common medications used in therapeutic careers.	✓									X	X		X		X									X	X		
5. Perform clinical and technical skills necessary in therapeutic services.	✓										X		X		X		X	X		X		X		X	X		

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6. Describe diseases and disorders commonly associated with therapeutic careers.	✓												X	X		X			X		X	X	X	X	X	X
7. Use technology in a therapeutic career setting.	✓												X	X		X			X		X	X	X	X	X	X